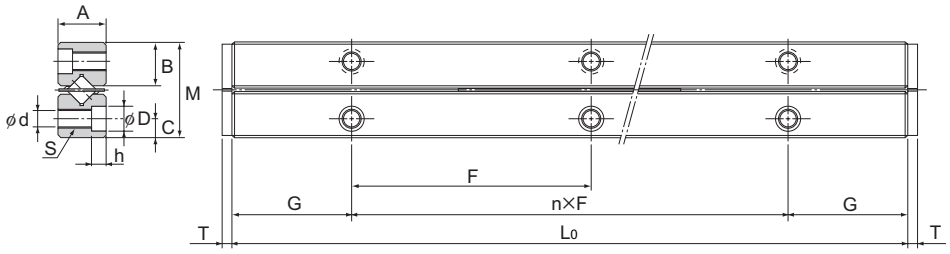
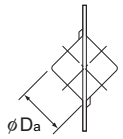
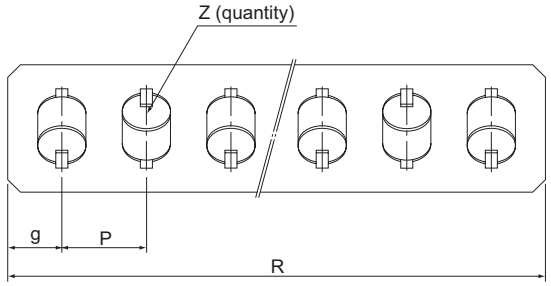
# Cross Roller Guide Model VR (VR1)




Unit: mm

| Model No. | Maximum stroke | Main dimensions | | | | | | | | | | | | | | | | | Permissible preload | Basic load rating (per roller) | | Mass (rail) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Combined dimensions | | | Mounting dimensions | | | | | | | | | | | | | No. of rollers | δ | Cz | C0z | |
| | | M | A | L0 | n×F | G | B | C | S | d | D | h | T | Da | R | g | P | Z | μm | kN | kN | kg/m |
| VR 1-20×5Z | 12 | 8.5 | 4 | 20 | 1×10 | 5 | 3.9 | 1.8 | M2 | 1.65 | 3 | 1.4 | 1.6 | 1.5 | 14 | 2 | 2.5 | 5 | −2 | 0.098 | 0.069 | 0.11 |
| VR 1-30×7Z | 22 | | | 30 | 2×10 | | | | | | | | | | 19 | | | 7 | | | | |
| VR 1-40×10Z | 27 | | | 40 | 3×10 | | | | | | | | | | 26.5 | | | 10 | | | | |
| VR 1-50×13Z | 32 | | | 50 | 4×10 | | | | | | | | | | 34 | | | 13 | | | | |
| VR 1-60×16Z | 37 | | | 60 | 5×10 | | | | | | | | | | 41.5 | | | 16 | | | | |
| VR 1-70×19Z | 42 | | | 70 | 6×10 | | | | | | | | | | 49 | | | 19 | | | | |
| VR 1-80×21Z | 52 | | | 80 | 7×10 | | | | | | | | | | 54 | | | 21 | | | | |

**Model number coding**

**VR1 -30 H × 8Z**

- VR1: Combined model number (for Ball Guide: VB)
- -30: Dedicated rail dimension in mm (example of indication for a combination of different overall lengths: 40/50)
- H: Accuracy symbol
- 8Z: Number of rollers or balls

Note) "One set" in the model No. above indicates a combination of four rails and two cages.

Note) When desiring a Ball Guide in combination with a ball cage, refer to Ball Cage Model B on B-498 and indicate the required number of balls.

(Example) VB1-50H x 12Z
Number of balls

The mass in the table indicates the value per rail/m.
Stainless steel type with high corrosion resistance is also available. (symbol M, e.g., VR1M)
To fix the dedicated rail of model VR1, use cross-recessed screws for precision equipment (No. 0 screw).

| Model No. | Type | Nominal name of screw × pitch |
|---|---|---|
| For model VR1 | No. 0 pan-head screw (class 3) | M1.4×0.3 |

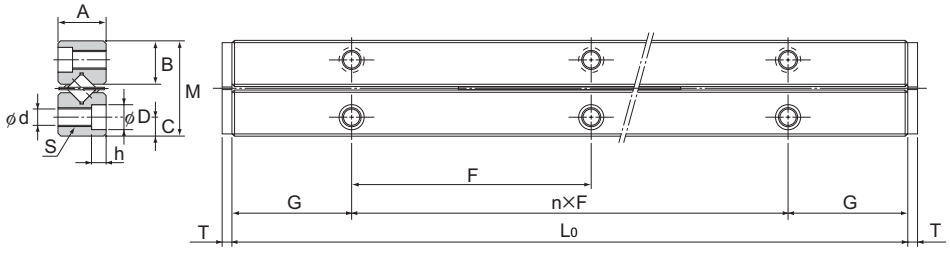
Japan Camera Industry Association Standard JCIS 10-70
Cross-recessed screw for precision equipment (No. 0 screw)

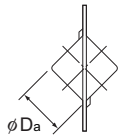


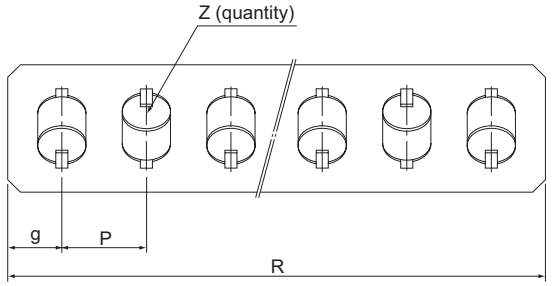


Description of Each Option⇒A-581 Dimensions⇒B-499

# Cross Roller Guide Model VR (VR2)




Unit: mm

| Model No. | Maximum stroke | Main dimensions | | | | | | | | | | | | | | | | | Permissible preload | Basic load rating (per roller) | | Mass (rail) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Combined dimensions | | | Mounting dimensions | | | | | | | | | | | | | No. of rollers | δ | Cz | C0z | |
| | | M | A | L0 | n×F | G | B | C | S | d | D | h | T | Da | R | g | P | Z | μm | kN | kN | kg/m |
| VR 2- 30×5Z | 18 | 12 | 6 | 30 | 1×15 | 7.5 | 5.6 | 2.5 | M3 | 2.55 | 4.4 | 2 | 1.5 | 2 | 21 | 2.5 | 4 | 5 | −3 | 0.176 | 0.127 | 0.23 |
| VR 2- 45×8Z | 24 | | | 45 | 2×15 | | | | | | | | | | 33 | | | 8 | | | | |
| VR 2- 60×11Z | 30 | | | 60 | 3×15 | | | | | | | | | | 45 | | | 11 | | | | |
| VR 2- 75×13Z | 44 | | | 75 | 4×15 | | | | | | | | | | 53 | | | 13 | | | | |
| VR 2- 90×16Z | 50 | | | 90 | 5×15 | | | | | | | | | | 65 | | | 16 | | | | |
| VR 2-105×18Z | 64 | | | 105 | 6×15 | | | | | | | | | | 73 | | | 18 | | | | |
| VR 2-120×21Z | 70 | | | 120 | 7×15 | | | | | | | | | | 85 | | | 21 | | | | |
| VR 2-135×23Z | 84 | | | 135 | 8×15 | | | | | | | | | | 93 | | | 23 | | | | |
| VR 2-150×26Z | 90 | | | 150 | 9×15 | | | | | | | | | | 105 | | | 26 | | | | |
| VR 2-165×29Z | 96 | | | 165 | 10×15 | | | | | | | | | | 117 | | | 29 | | | | |
| VR 2-180×32Z | 102 | | | 180 | 11×15 | | | | | | | | | | 129 | | | 32 | | | | |

**Model number coding**

**VR2 -30 H × 6Z**

- 6Z: Number of rollers or balls
- H: Accuracy symbol
- -30: Dedicated rail dimension in mm (example of indication for a combination of different overall lengths: 90/105)
- VR2: Combined model number (for Ball Guide: VB)

Note) "One set" in the model No. above indicates a combination of four rails and two cages.

Note) When desiring a Ball Guide in combination with a ball cage, refer to Ball Cage Model B on B-498 and indicate the required number of balls.

(Example) VB2-90H x 15Z
Number of balls

The mass in the table indicates the value per rail/m.
Stainless steel type with high corrosion resistance is also available. (symbol M, e.g., VR2M)
To fix the dedicated rail of model VR2, use cross-recessed screws for precision equipment (No. 0 screw).

| Model No. | Type | Nominal name of screw × pitch |
|---|---|---|
| For model VR2 | Pan Head Screw | M2×0.4 |

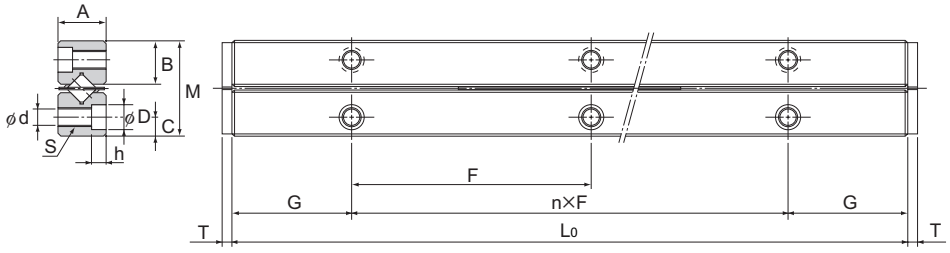
Cross-recessed screw JIS B 1111 (pan head screw)

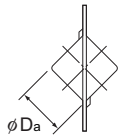


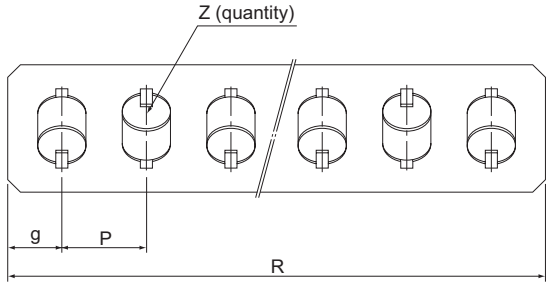


Description of Each Option⇒A-581 Dimensions⇒B-499

# Cross Roller Guide Model VR (VR3)




Unit: mm

| Model No. | Maximum stroke | Main dimensions: Combined dimensions M | A | L0 | Mounting dimensions n×F | G | B | C | S | d | D | h | T | Da | No. of rollers Z | Permissible preload δ µm | R | g | P | Basic load rating (per roller) Cz kN | C0z kN | Mass (rail) kg/m |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| VR 3- 50×7Z | 28 | 18 | 8 | 50 | 1×25 | 12.5 | 8.3 | 3.5 | M4 | 3.3 | 6 | 3.1 | 2 | 3 | 7 | −4 | 36 | 3 | 5 | 0.363 | 0.275 | 0.45 |
| VR 3- 75×10Z | 48 | | | 75 | 2×25 | | | | | | | | | | 10 | | 51 | | | | | |
| VR 3-100×14Z | 58 | | | 100 | 3×25 | | | | | | | | | | 14 | | 71 | | | | | |
| VR 3-125×17Z | 78 | | | 125 | 4×25 | | | | | | | | | | 17 | | 86 | | | | | |
| VR 3-150×21Z | 88 | | | 150 | 5×25 | | | | | | | | | | 21 | | 106 | | | | | |
| VR 3-175×24Z | 108 | | | 175 | 6×25 | | | | | | | | | | 24 | | 121 | | | | | |
| VR 3-200×28Z | 118 | | | 200 | 7×25 | | | | | | | | | | 28 | | 141 | | | | | |
| VR 3-225×31Z | 138 | | | 225 | 8×25 | | | | | | | | | | 31 | | 156 | | | | | |
| VR 3-250×35Z | 148 | | | 250 | 9×25 | | | | | | | | | | 35 | | 176 | | | | | |
| VR 3-275×38Z | 168 | | | 275 | 10×25 | | | | | | | | | | 38 | | 191 | | | | | |
| VR 3-300×42Z | 178 | | | 300 | 11×25 | | | | | | | | | | 42 | | 211 | | | | | |

**Model number coding**

**VR3 -75 H × 9Z**

- 9Z: Number of rollers or balls
- H: Accuracy symbol
- -75: Dedicated rail dimension in mm (example of indication for a combination of different overall lengths: 100/125)
- VR3: Combined model number (for Ball Guide: VB)

Note) "One set" in the model No. above indicates a combination of four rails and two cages.

Note) When desiring a Ball Guide in combination with a ball cage, refer to Ball Cage Model B on B-498 and indicate the required number of balls.

(Example) VB3-150H x 20Z
Number of balls

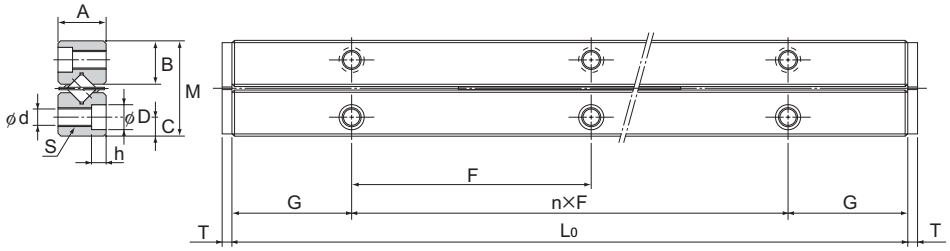
The mass in the table indicates the value per rail/m.
Stainless steel type with high corrosion resistance is also available. (symbol M, e.g., VR3M)

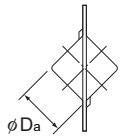


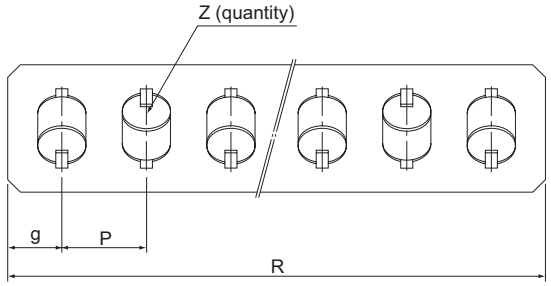


Description of Each Option⇒A-581 Dimensions⇒B-499

# Cross Roller Guide Model VR (VR4)




Unit: mm

| Model No. | Maximum stroke | Main dimensions: Combined dimensions M | A | L₀ | Mounting dimensions n×F | G | B | C | S | d | D | h | T | Da | R | g | P | No. of rollers Z | Permissible preload δ µm | Basic load rating (per roller) Cz kN | C0z kN | Mass (rail) kg/m |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| VR 4- 80×7Z | 58 | | | 80 | 1×40 | | | | | | | | | | 51 | | | 7 | | | | |
| VR 4-120×11Z | 82 | | | 120 | 2×40 | | | | | | | | | | 79 | | | 11 | | | | |
| VR 4-160×15Z | 106 | | | 160 | 3×40 | | | | | | | | | | 107 | | | 15 | | | | |
| VR 4-200×19Z | 130 | | | 200 | 4×40 | | | | | | | | | | 135 | | | 19 | | | | |
| VR 4-240×23Z | 154 | | | 240 | 5×40 | | | | | | | | | | 163 | | | 23 | | | | |
| VR 4-280×27Z | 178 | 22 | 11 | 280 | 6×40 | 20 | 10.2 | 4.5 | M5 | 4.3 | 8 | 4.2 | 2 | 4 | 191 | 4.5 | 7 | 27 | −5 | 0.764 | 0.637 | 0.8 |
| VR 4-320×31Z | 202 | | | 320 | 7×40 | | | | | | | | | | 219 | | | 31 | | | | |
| VR 4-360×35Z | 226 | | | 360 | 8×40 | | | | | | | | | | 247 | | | 35 | | | | |
| VR 4-400×39Z | 250 | | | 400 | 9×40 | | | | | | | | | | 275 | | | 39 | | | | |
| VR 4-440×43Z | 274 | | | 400 | 10×40 | | | | | | | | | | 303 | | | 43 | | | | |
| VR 4-480×47Z | 298 | | | 480 | 11×40 | | | | | | | | | | 331 | | | 47 | | | | |

**Model number coding**

**VR4 -80 P × 9Z**

- VR4: Combined model number (for Ball Guide: VB)
- -80: Dedicated rail dimension in mm (example of indication for a combination of different overall lengths: 120/160)
- P: Accuracy symbol
- 9Z: Number of rollers or balls

Note) "One set" in the model No. above indicates a combination of four rails and two cages.

Note) When desiring a Ball Guide in combination with a ball cage, refer to Ball Cage Model B on B-498 and indicate the required number of balls.

(Example) VB4-200H x 17Z
Number of balls

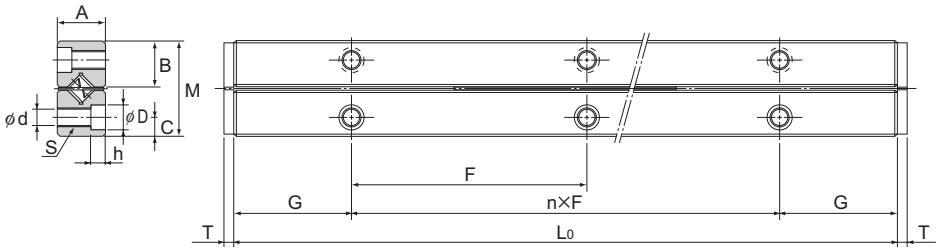
The mass in the table indicates the value per rail/m.
Stainless steel type with high corrosion resistance is also available. (symbol M, e.g., VR4M)

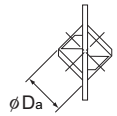


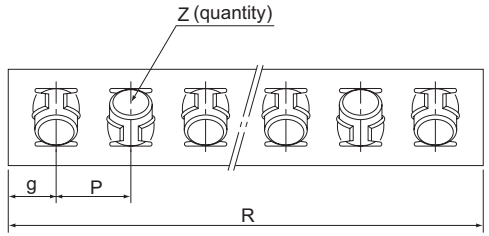


Description of Each Option⇒A-581 Dimensions⇒B-499

# Cross Roller Guide Model VR (VR6)




Unit: mm

| Model No. | Maximum stroke | Main dimensions | | | | | | | | | | | | | | | | | Permissible preload | Basic load rating (per roller) | | Mass (rail) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Combined dimensions | | | Mounting dimensions | | | | | | | | | | | | | No. of rollers | δ | $C_z$ | $C_{0z}$ | |
| | | M | A | $L_0$ | n×F | G | B | C | S | d | D | h | T | $D_a$ | R | g | P | Z | μm | kN | kN | kg/m |
| VR 6-100×7Z | 56 | 30 | 15 | 100 | 1×50 | 25 | 14.4 | 6 | M6 | 5.2 | 9.5 | 5.2 | 3.2 | 6 | 72 | 6 | 10 | 7 | −7 | 1.91 | 1.76 | 1.5 |
| VR 6-150×10Z | 96 | | | 150 | 2×50 | | | | | | | | | | 102 | | | 10 | | | | |
| VR 6-200×13Z | 136 | | | 200 | 3×50 | | | | | | | | | | 132 | | | 13 | | | | |
| VR 6-250×17Z | 156 | | | 250 | 4×50 | | | | | | | | | | 172 | | | 17 | | | | |
| VR 6-300×20Z | 196 | | | 300 | 5×50 | | | | | | | | | | 202 | | | 20 | | | | |
| VR 6-350×24Z | 216 | | | 350 | 6×50 | | | | | | | | | | 242 | | | 24 | | | | |
| VR 6-400×27Z | 256 | | | 400 | 7×50 | | | | | | | | | | 272 | | | 27 | | | | |
| VR 6-450×31Z | 276 | | | 450 | 8×50 | | | | | | | | | | 312 | | | 31 | | | | |
| VR 6-500×34Z | 316 | | | 500 | 9×50 | | | | | | | | | | 342 | | | 34 | | | | |
| VR 6-550×38Z | 336 | | | 550 | 10×50 | | | | | | | | | | 382 | | | 38 | | | | |
| VR 6-600×41Z | 376 | | | 600 | 11×50 | | | | | | | | | | 412 | | | 41 | | | | |

**Model number coding**

VR6 -100 P × 6Z

- 6Z: Number of rollers or balls
- P: Accuracy symbol
- -100: Dedicated rail dimension in mm (example of indication for a combination of different overall lengths: 300/400)
- VR6: Combined model number (for Ball Guide: VB)

Note) "One set" in the model No. above indicates a combination of four rails and two cages.

Note) When desiring a Ball Guide in combination with a ball cage, refer to Ball Cage Model B on B-498 and indicate the required number of balls.

(Example) VB6-300H x18Z
Number of balls

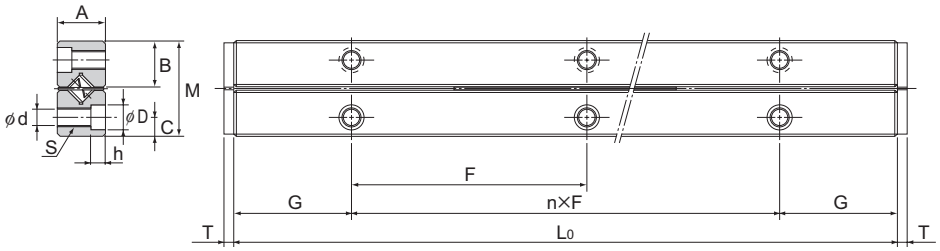
The mass in the table indicates the value per rail/m.
Stainless steel type with high corrosion resistance is also available. (symbol M, e.g., VR6M)

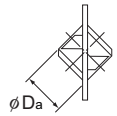


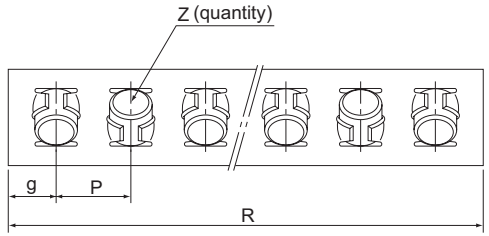


Description of Each Option⇒A-581 Dimensions⇒B-499

# Cross Roller Guide Model VR (VR9)




Unit: mm

| Model No. | Maximum stroke | Main dimensions: Combined dimensions M | A | L0 | Mounting dimensions n×F | G | B | C | S | d | D | h | T | Da | No. of rollers Z | R | g | P | Permissible preload δ µm | Basic load rating (per roller) Cz kN | C0z kN | Mass (rail) kg/m |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| VR 9- 200×10Z | 118 | 40 (40.74) | 20 | 200 | 1×100 | 50 | 19.2 | 8 | M8 | 6.8 | 10.5 | 6.2 | 4 | 9 (9.525) | 10 | 141 | 7.5 | 14 | −10 | 4.31 | 4.36 | 3.2 |
| VR 9- 300×15Z | 178 | | | 300 | 2×100 | | | | | | | | | | 15 | 211 | | | | | | |
| VR 9- 400×20Z | 238 | | | 400 | 3×100 | | | | | | | | | | 20 | 281 | | | | | | |
| VR 9- 500×25Z | 298 | | | 500 | 4×100 | | | | | | | | | | 25 | 351 | | | | | | |
| VR 9- 600×30Z | 358 | | | 600 | 5×100 | | | | | | | | | | 30 | 421 | | | | | | |
| VR 9- 700×35Z | 418 | | | 700 | 6×100 | | | | | | | | | | 35 | 491 | | | | | | |
| VR 9- 800×40Z | 478 | | | 800 | 7×100 | | | | | | | | | | 40 | 561 | | | | | | |
| VR 9- 900×45Z | 538 | | | 900 | 8×100 | | | | | | | | | | 45 | 631 | | | | | | |
| VR 9-1000×50Z | 598 | | | 1000 | 9×100 | | | | | | | | | | 50 | 701 | | | | | | |
| VR 9-1100×55Z | 658 | | | 1100 | 10×100 | | | | | | | | | | 55 | 771 | | | | | | |
| VR 9-1200×60Z | 718 | | | 1200 | 11×100 | | | | | | | | | | 60 | 841 | | | | | | |

**Model number coding**

**VR9 -600 H × 30Z**

- VR9: Combined model number (for Ball Guide: VB)
- -600: Dedicated rail dimension in mm (example of indication for a combination of different overall lengths: 300/400)
- H: Accuracy symbol
- 30Z: Number of rollers or balls

Note) "One set" in the model No. above indicates a combination of four rails and two cages.

Note) The dimensions in the parentheses above indicate the dimensions of the Ball Guide. When desiring a Ball Guide in combination with a ball cage, refer to Ball Cage Model B on B-498 and indicate the required number of balls.

(Example) VB9-700H x 33Z
Number of balls

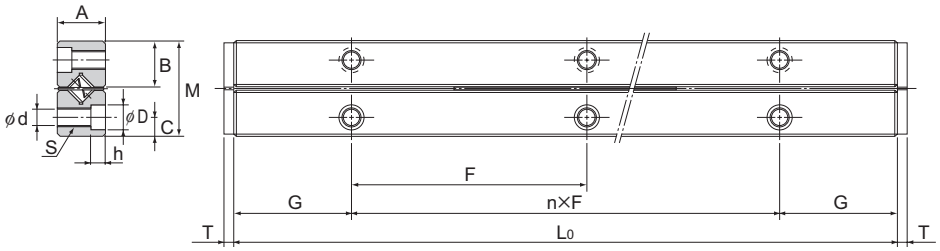
The mass in the table indicates the value per rail/m.
Stainless steel type with high corrosion resistance is also available. (symbol M, e.g., VR9M)

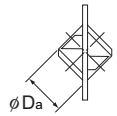


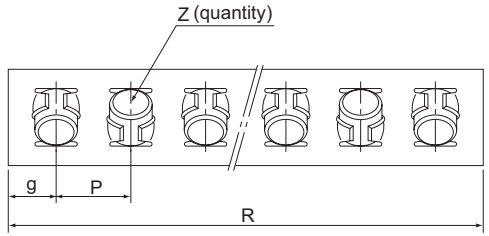


Description of Each Option⇒A-581 Dimensions⇒B-499

# Cross Roller Guide Model VR (VR12)




Unit: mm

| Model No. | Maximum stroke | Main dimensions: Combined dimensions M | A | L0 | Mounting dimensions n×F | G | B | C | S | d | D | h | T | Da | No. of rollers Z | Permissible preload δ µm | R | g | P | Basic load rating (per roller) Cz kN | C0z kN | Mass (rail) kg/m |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| VR12- 200× 7Z | 110 | 58 (57.86) | 28 | 200 | 1×100 | 50 | 28 | 12 | M10 | 8.5 | 14 | 8.2 | 5 | 12 (11.906) | 7 | −13 | 145 | 12.5 | 20 | 7.25 | 7.65 | 5.3 |
| VR12- 300×10Z | 190 | | | 300 | 2×100 | | | | | | | | | | 10 | | 205 | | | | | |
| VR12- 400×14Z | 230 | | | 400 | 3×100 | | | | | | | | | | 14 | | 285 | | | | | |
| VR12- 500×17Z | 310 | | | 500 | 4×100 | | | | | | | | | | 17 | | 345 | | | | | |
| VR12- 600×21Z | 350 | | | 600 | 5×100 | | | | | | | | | | 21 | | 425 | | | | | |
| VR12- 700×24Z | 430 | | | 700 | 6×100 | | | | | | | | | | 24 | | 485 | | | | | |
| VR12- 800×28Z | 470 | | | 800 | 7×100 | | | | | | | | | | 28 | | 565 | | | | | |
| VR12- 900×31Z | 550 | | | 900 | 8×100 | | | | | | | | | | 31 | | 625 | | | | | |
| VR12-1000×34Z | 630 | | | 1000 | 9×100 | | | | | | | | | | 34 | | 685 | | | | | |
| VR12-1100×38Z | 670 | | | 1100 | 10×100 | | | | | | | | | | 38 | | 765 | | | | | |
| VR12-1200×41Z | 750 | | | 1200 | 11×100 | | | | | | | | | | 41 | | 825 | | | | | |

**Model number coding**

**VR12 -200 P × 9Z**

- 9Z: Number of rollers or balls
- P: Accuracy symbol
- -200: Dedicated rail dimension in mm (example of indication for a combination of different overall lengths: 300/400)
- VR12: Combined model number (for Ball Guide: VB)

Note) "One set" in the model No. above indicates a combination of four rails and two cages.

Note) The dimensions in the parentheses above indicate the dimensions of the Ball Guide. When desiring a Ball Guide in combination with a ball cage, refer to Ball Cage Model B on B-498 and indicate the required number of balls.

(Example) VB12-700H x 20Z
Number of balls

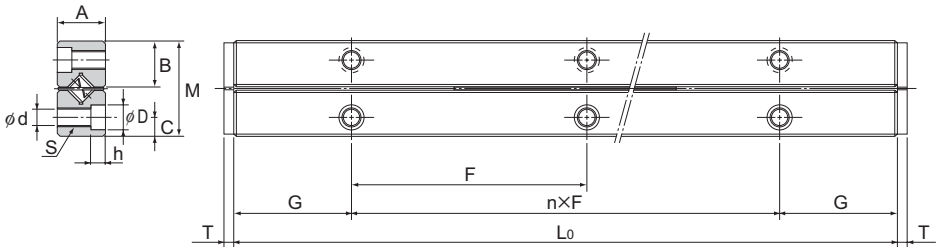
The mass in the table indicates the value per rail/m.
Stainless steel type with high corrosion resistance is also available. (symbol M, e.g., VR12M)

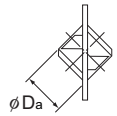


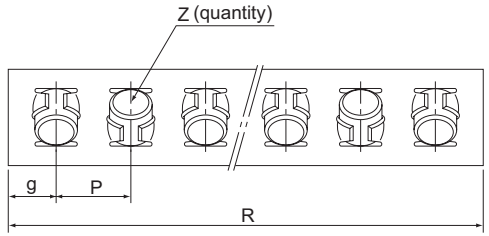


Description of Each Option⇒A-581 Dimensions⇒B-499

# Cross Roller Guide Model VR (VR15)




Unit: mm

| Model No. | Maximum stroke | Main dimensions: Combined dimensions M | A | L0 | Mounting dimensions n×F | G | B | C | S | d | D | h | T | Da | No. of rollers Z | R | g | P | Permissible preload δ µm | Basic load rating (per roller) Cz kN | C0z kN | Mass (rail) kg/m |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| VR15- 300× 8Z | 190 | 71 (71.11) | 36 | 300 | 2×100 | 50 | 34.4 | 14 | M12 | 10.5 | 17.5 | 10.2 | 6 | 15 (15.081) | 8 | 205 | 15 | 25 | −16 | 11.3 | 12.4 | 8.3 |
| VR15- 400×11Z | 240 | | | 400 | 3×100 | | | | | | | | | | 11 | 280 | | | | | | |
| VR15- 500×13Z | 340 | | | 500 | 4×100 | | | | | | | | | | 13 | 330 | | | | | | |
| VR15- 600×16Z | 390 | | | 600 | 5×100 | | | | | | | | | | 16 | 405 | | | | | | |
| VR15- 700×19Z | 440 | | | 700 | 6×100 | | | | | | | | | | 19 | 480 | | | | | | |
| VR15- 800×22Z | 490 | | | 800 | 7×100 | | | | | | | | | | 22 | 555 | | | | | | |
| VR15- 900×25Z | 540 | | | 900 | 8×100 | | | | | | | | | | 25 | 630 | | | | | | |
| VR15-1000×27Z | 640 | | | 1000 | 9×100 | | | | | | | | | | 27 | 680 | | | | | | |
| VR15-1100×30Z | 690 | | | 1100 | 10×100 | | | | | | | | | | 30 | 755 | | | | | | |
| VR15-1200×33Z | 740 | | | 1200 | 11×100 | | | | | | | | | | 33 | 830 | | | | | | |

**Model number coding**

**VR15 -300 H × 10Z**

- VR15: Combined model number (for Ball Guide: VB)
- -300: Dedicated rail dimension in mm (example of indication for a combination of different overall lengths: 300/400)
- H: Accuracy symbol
- 10Z: Number of rollers or balls

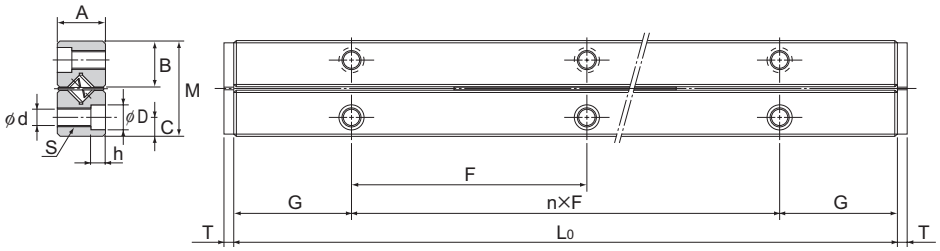
Note) "One set" in the model No. above indicates a combination of four rails and two cages.

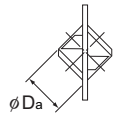
Note) The dimensions in the parentheses above indicate the dimensions of the Ball Guide. When desiring a Ball Guide in combination with a ball cage, refer to Ball Cage Model B on B-498 and indicate the required number of balls.

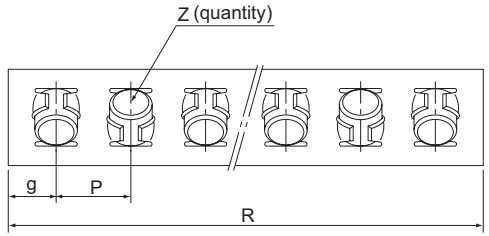
(Example) VB15-800H x 20Z
Number of balls

The mass in the table indicates the value per rail/m.
Stainless steel type with high corrosion resistance is also available. (symbol M, e.g., VR15M)

# Cross Roller Guide Model VR (VR18)




Unit: mm

| Model No. | Maximum stroke | Main dimensions | | | | | | | | | | | | | | | | | Permissible preload | Basic load rating (per roller) | | Mass (rail) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Combined dimensions | | | Mounting dimensions | | | | | | | | | | | | | No. of rollers | δ | Cz | C0z | |
| | | M | A | L0 | n×F | G | B | C | S | d | D | h | T | Da | R | g | P | Z | μm | kN | kN | kg/m |
| VR18- 300× 6Z | 228 | 83 | 40 | 300 | 2×100 | 50 | 40.2 | 18 | M14 | 12.5 | 20 | 12.2 | 6 | 18 | 186 | 18 | 30 | 6 | −18 | 15.9 | 17.8 | 10.5 |
| VR18- 400× 9Z | 248 | | | 400 | 3×100 | | | | | | | | | | 276 | | | 9 | | | | |
| VR18- 500×11Z | 328 | | | 500 | 4×100 | | | | | | | | | | 336 | | | 11 | | | | |
| VR18- 600×13Z | 408 | | | 600 | 5×100 | | | | | | | | | | 396 | | | 13 | | | | |
| VR18- 700×16Z | 428 | | | 700 | 6×100 | | | | | | | | | | 486 | | | 16 | | | | |
| VR18- 800×18Z | 508 | | | 800 | 7×100 | | | | | | | | | | 546 | | | 18 | | | | |
| VR18- 900×20Z | 588 | | | 900 | 8×100 | | | | | | | | | | 606 | | | 20 | | | | |
| VR18-1000×23Z | 608 | | | 1000 | 9×100 | | | | | | | | | | 696 | | | 23 | | | | |
| VR18-1100×25Z | 688 | | | 1100 | 10×100 | | | | | | | | | | 756 | | | 25 | | | | |
| VR18-1200×27Z | 768 | | | 1200 | 11×100 | | | | | | | | | | 816 | | | 27 | | | | |

Note) The mass in the table indicates the value per rail/m.
Stainless steel type with high corrosion resistance is also available. (symbol M, e.g., VR18M)

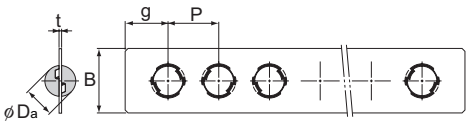
**Model number coding**

**VR18 -400 H × 10Z**

- VR18: Combined model number (for Ball Guide: VB)
- -400: Dedicated rail dimension in mm (example of indication for a combination of different overall lengths: 300/400)
- H: Accuracy symbol
- 10Z: Number of rollers or balls

Note) "One set" in the model No. above indicates a combination of four rails and two cages.

# Ball Cage Model B




Unit: mm

| Model No. | Main dimensions | | | | | Basic load rating (per ball) | | Combined rail |
|---|---|---|---|---|---|---|---|---|
| | $D_a$ | t | B | P | g | $C_z$ N | $C_{oz}$ N | |
| B 1 | 1.5 | 0.2 | 3.5 | 2.5 | 2 | 7.84 | 21.6 | V1 |
| B 2 | 2 | 0.3 | 5 | 4 | 3 | 12.7 | 39.2 | V2 |
| B 3 | 3 | 0.4 | 7 | 6 | 4.5 | 27.5 | 87.3 | V3 |
| B 4 | 4 | 0.5 | 9 | 7 | 4.5 | 45.1 | 155 | V4 |
| B 6 | 6 | 0.6 | 13.5 | 10 | 6 | 98 | 353 | V6 |
| B 9 | 9.525 | 1 | 19 | 14 | 8.5 | 216 | 784 | V9 |
| B 12 | 11.906 | 1 | 25 | 20 | 12.5 | 324 | 1420 | V12 |
| B 15 | 15.081 | 1.2 | 31 | 25 | 15 | 490 | 2160 | V15 |

## Dedicated Mounting Bolt

To mount the rail where normal clearance is to be adjusted, use the screw hole drilled on the rail as shown in Fig.1. The holes of the bolt ($d_1$ and $D_1$) must be machined so that they are greater by the adjustment allowance.

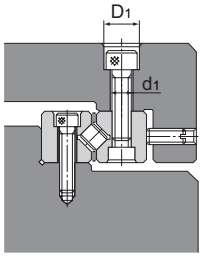



Fig.1

If it is inevitable to adopt a mounting method like the one shown in Fig.2 for a structural reason, use the dedicated mounting bolt (S) indicated in Fig.3.

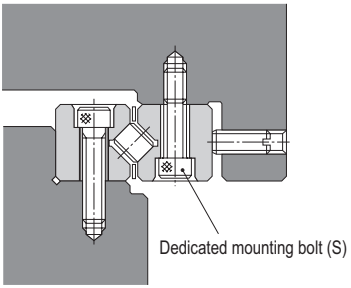



Fig.2

Table1 Dedicated Mounting Bolt

Unit: mm

| Model No. | S | d | D | H | L | B | Supported rail |
|---|---|---|---|---|---|---|---|
| S 3 | M3 | 2.3 | 5 | 3 | 12 | 2.5 | V3 |
| S 4 | M4 | 3.1 | 5.8 | 4 | 15 | 3 | V4 |
| S 6 | M5 | 3.9 | 8 | 5 | 20 | 4 | V6 |
| S 9 | M6 | 4.6 | 8.5 | 6 | 30 | 5 | V9 |
| S 12 | M8 | 6.25 | 11.3 | 8 | 40 | 6 | V12 |
| S 15 | M10 | 7.9 | 13.9 | 10 | 45 | 8 | V15 |
| S 18 | M12 | 9.6 | 15.8 | 12 | 50 | 10 | V18 |

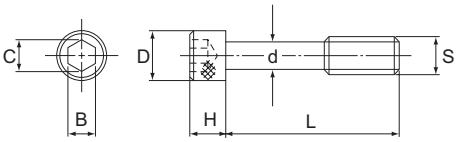



Fig.3 Dedicated Mounting Bolt