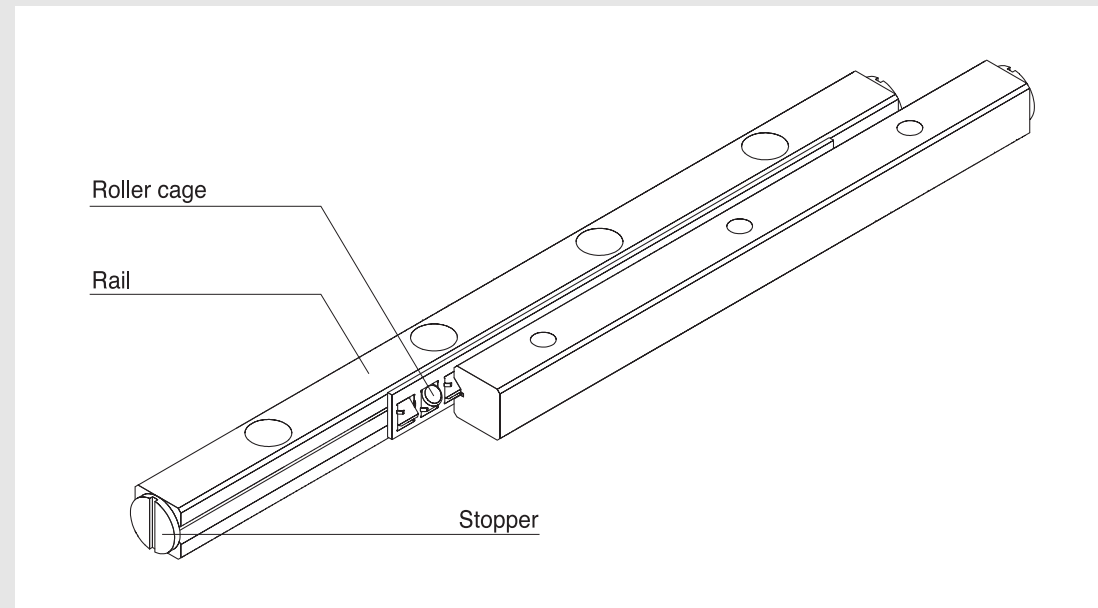


### Structure and Features



SCVR type is a liner guide where the ball cage is assembled to between the rails with “V” grooved raceway. Since the rollers are incorporated at right angles to each other, they can carry loads in all directions to form a highly rigid, high precision, compact linear motion guide.

#### [High rigidity]

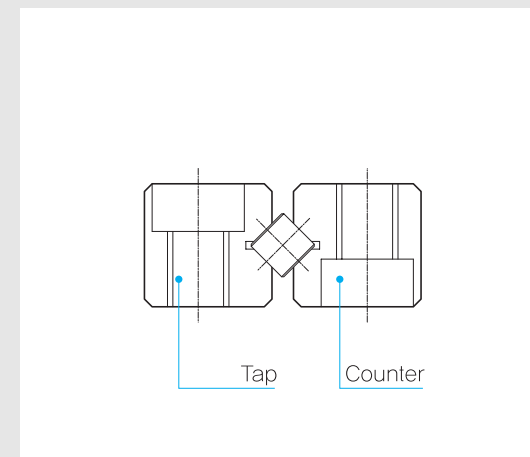
SBC cross roller guides have no clearance and can be preloaded easily. They have high rigidity due to roller’s long contact length and preload.

#### [Smooth movement]

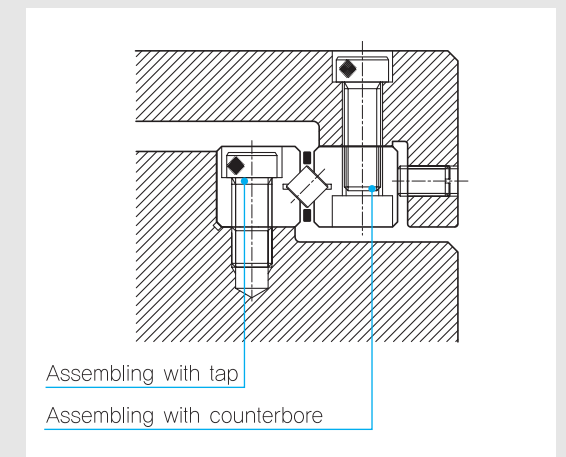
SBC cross roller guides have high precision raceways, where precision rollers are spaced apart in a roller cage creating smooth movement with a low coefficient of friction.

#### [Easy mounting]

Since mounting holes in raceways are counter bored with tapped holes, it is possible to mount the guide in both directions.



(Dedicated rail mounting hole)

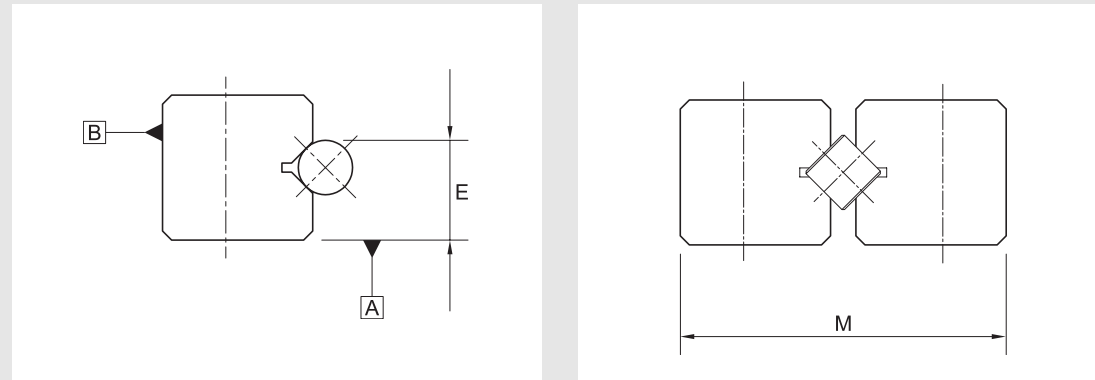


(How to mount bolts on dedicated rails)

# Cross Roller Guide

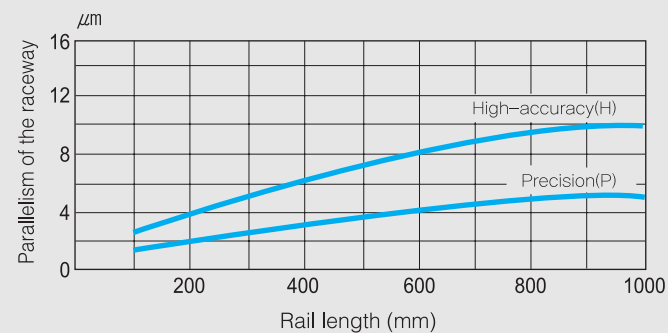
## Cross Roller Guide SCVR Type

### Accuracy Standards



| Accuracy grades                                     | H (High-accuracy) | P (Precision) |
|---|-------------------|---------------|
| Parallelism of the raceway against Surfaces A and B | See Graph         |               |
| Dimensional tolerance in height E                   | $\pm 0.02$        | $\pm 0.01$    |
| Difference in height E (*)                          | 0.01              | 0.005         |
| Dimensional tolerance in width M                    | 0 ~ -0.2          | 0 ~ -0.1      |

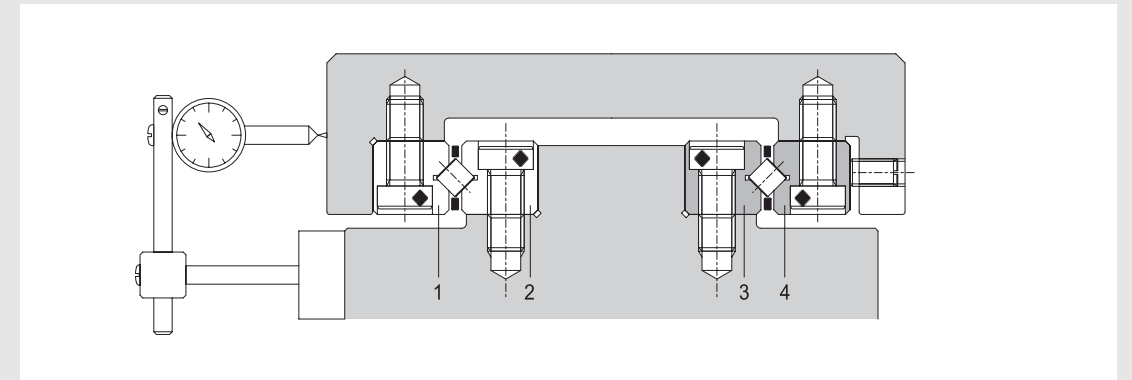
(\*The difference in height E applies to four rails used on the same plane.)



# Cross Roller Guide

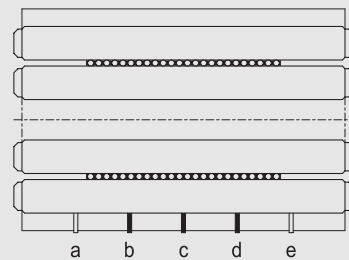
## Cross Roller Guide SCVR Type

### Mounting Method

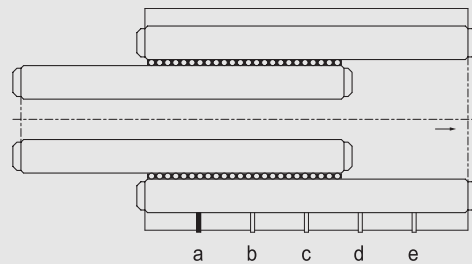


- 1 Install the rails 2 and 3 to base and rail 1 to table. Tighten the rail-mounting bolts ensuring the rails are firmly against the mounting surfaces.
- 2 Temporarily mount the rail 4 to the table.  
(※ When designing the system, please remember that the rail must be mounted and tightened after assembly)
- 3 Set the base and table according to G-8 and insert the roller cages. If the cages will not fit due to clearance, move the rail 4 slightly to create more clearance and insert cages.
- 4 Set a dial gauge like G-8. While moving the table slowly back and forth, set all preloading bolts until there is no clearance.
- 5 Install end stops in the ends of the rails.
- 6 Reset the cage position to get required stroke while moving table.

- ⑦ Position roller cage in the center of the rail as in G-9. Tighten the preload bolts b, c, d evenly with a torque wrench within the area of roller until dial gauge shows desired value.  
 (※ The value of dial gauge is same as the preload of one roller.)



- ⑧ Move table like G-9 and tighten the rest of the adjusting bolts a,e the same as adjusting bolts b,c,d.

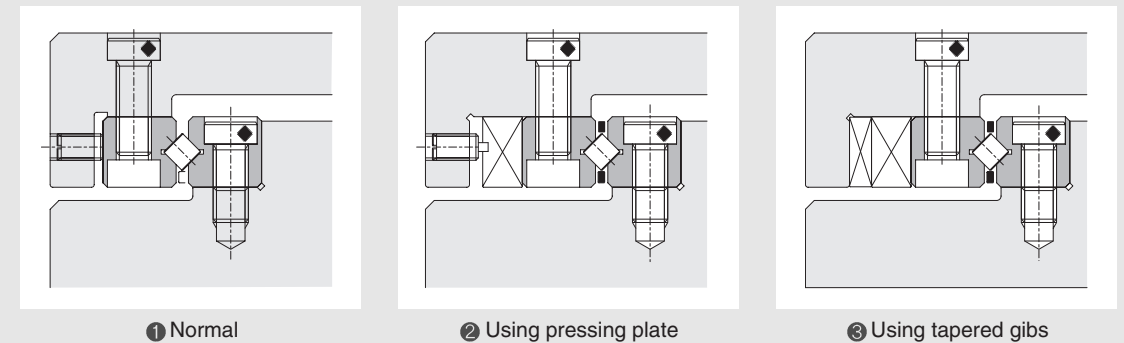


### [Assembling two or more units]

When mounting two or more units, first gauge the tightening torque of the adjustment bolts for the first unit or the sliding resistance of the first unit. And then, install the second unit so that their tightening torques or sliding resistances equal that of the first unit. In this method, almost the same preload can be provided.

### Clearance adjusting

Design the preload method to uniformly preload the rail over the entire length.



- ① Normal : Most common method of preloading using a setscrew to push the rail.
- ② Press plate : A press plate should be used when higher precision and smoothness is needed
- ③ Tapered gibs : Use tapered gibs when high rigidity and precision is needed.

### Preload

Too much preload may cause indentation (brinelling) and reduce the service life. The acceptable preload per roller is shown in the specification table. Tighten the adjustment bolts while watching the displacement of the roller contact area.

### Accuracy of the Mounting Surface

To acquire a high level of running accuracy a high level of parallelism and straightness is required in the mounting surfaces. The parallelism and flatness of the rail mounting surface should be completed by grinding to at least the same precision as the rail (See page no. ⑩/10)

Additionally, the rails must be securely mounted up against the mounting surfaces.

### Precautions

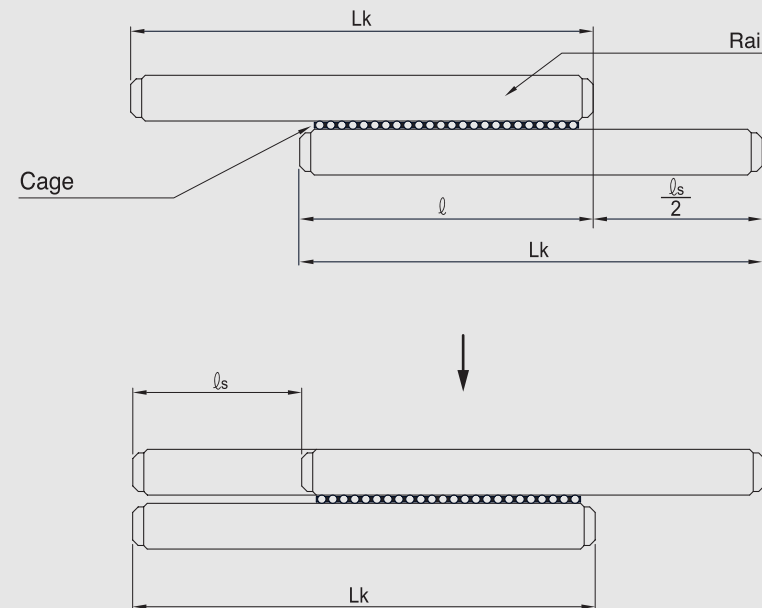
※ When using a cross roller guide, please follow these precautions.

#### [Rail length]

The roller cage move the half the travel distance of the table in the same direction.

If the cage length is  $l_s$ , the rail length (Lk) must match the following equation to prevent the cage from crashing into the end of the rail.

$$Lk \leq l + \frac{l_s}{2}$$



#### [Cage Creep]

The roller cage moves accurately but it may drift off center over time (cage creep) due to vibrations, inertia or impact.

Please mount an external stop for the table. Do not depend on the rail end stops to control the travel.

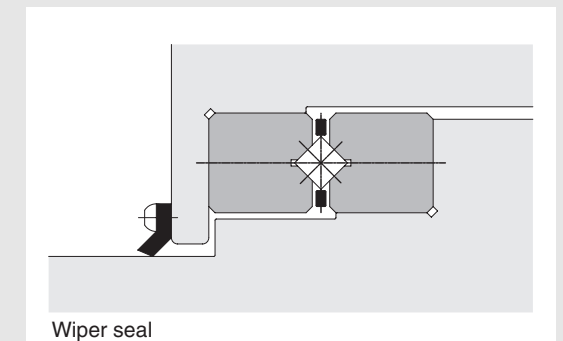
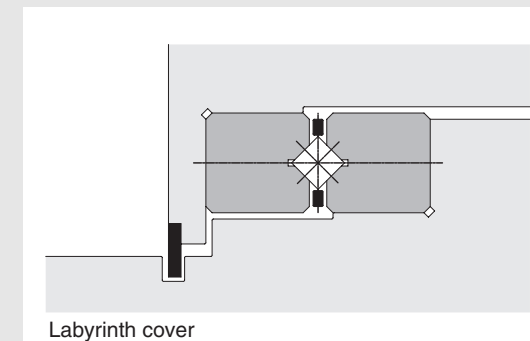
#### [Rail End Stops]

The purpose of Rail End Stops is to prevent the roller cage from coming outside of the rail. The rail end stops are attached to the end of the rails.

If the cages frequently bump into the rail end stops, they may become damaged or loosen the rail end stops.

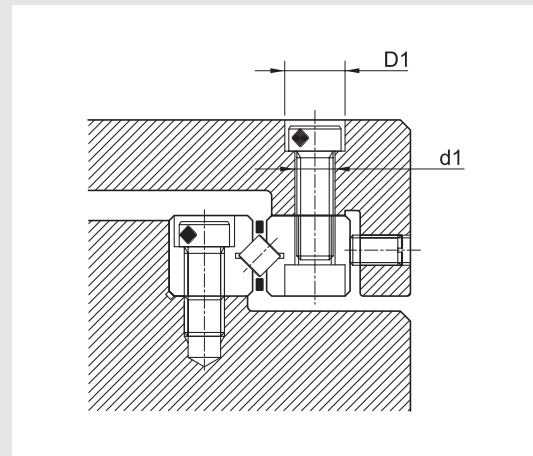
#### [Protection against dust]

To prevent the cross roller guide from dust and debris, side dust protections as shown in figure G-13 are available. For the other part of guide, consider using bellows or telescopic cover.



### Design Mounting Bolt

The holes of the bolt(D1, d1) should be designed carefully for the preload adjustment.



### Ordering Example

[Cross roller guide]

**SCVR 2 P - 75 x 13Z - R**  
 [1] [2] [3] [4] [5]

- [1] Model No. : SCVR 1, 2, 3, 4, 6, 9 type
- [2] Accuracy Grade : H(High), P(Precision)
- [3] Rail Length
- [4] Number of Rollers
- [5] Surface treatment : No Symbol (Standard), R (Surface treatment)

- ※ A combination of four rails and two cages.
- ※ When ordering surface treatment, please fill out Symbols for surface treatment.
- ① Standard (no treatment), Black Chrome coating (Raydent treatment ), Fluorocarbon resin coating, Hard Chrome plating
- ② Contact SBC for special surface treatment.

[Roller Cage]

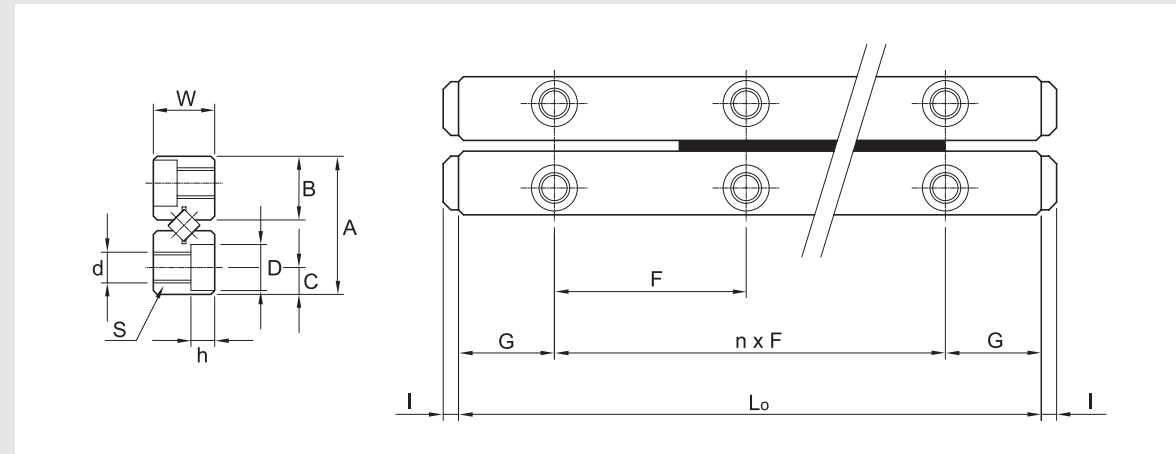
**SCVR 2 x 13Z**  
 [1] [2]

- [1] Model No. : SCVR 1, 2, 3, 4, 6, 9 type
- [2] Number of Rollers

# Cross Roller Guide

## Cross Roller Guide SCVR Type

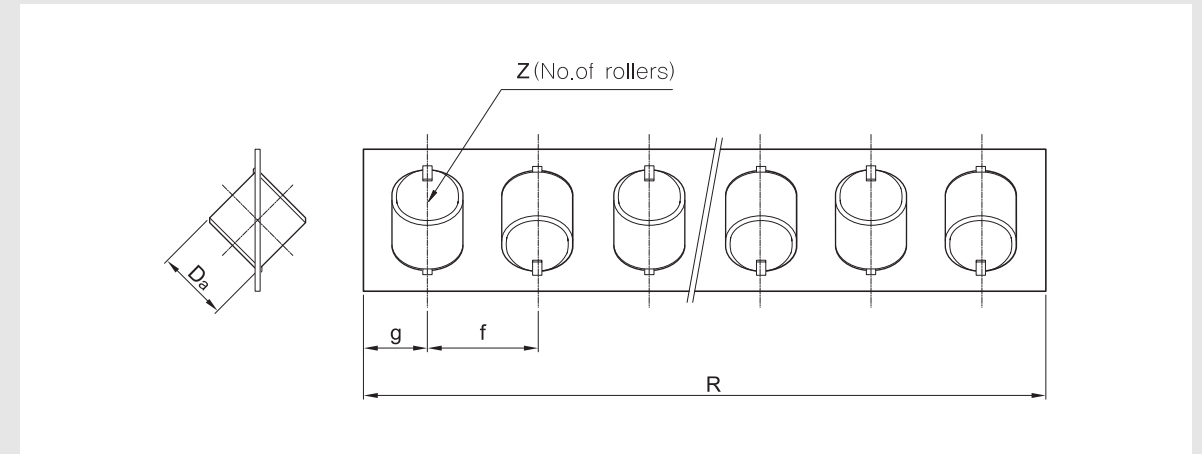
### SCVR1 Type



| Model No.    | Max Stroke | Combined Dimensions |   |    | Assembled Dimensions |   |     |     |    |      |
|--------------|------------|---------------------|---|----|----------------------|---|-----|-----|----|------|
|              |            | A                   | W | Lo | nxF                  | G | B   | C   | S  | d    |
| SCVR1-20x5Z  | 12         | 8.5                 | 4 | 20 | 1x10                 | 5 | 3.9 | 1.8 | M2 | 1.65 |
| SCVR1-30x7Z  | 22         |                     |   | 30 | 2x10                 |   |     |     |    |      |
| SCVR1-40x10Z | 27         |                     |   | 40 | 3x10                 |   |     |     |    |      |
| SCVR1-50x13Z | 32         |                     |   | 50 | 4x10                 |   |     |     |    |      |
| SCVR1-60x16Z | 37         |                     |   | 60 | 5x10                 |   |     |     |    |      |
| SCVR1-70x19Z | 42         |                     |   | 70 | 6x10                 |   |     |     |    |      |
| SCVR1-80x21Z | 52         |                     |   | 80 | 7x10                 |   |     |     |    |      |

# Cross Roller Guide

## Cross Roller Guide SCVR Type



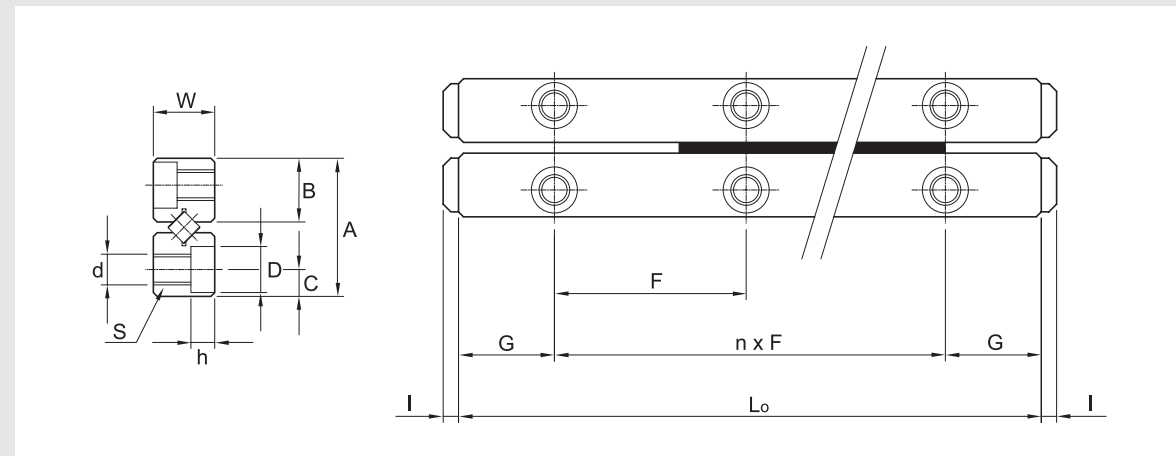
(Unit : mm)

| Assembled Dimensions |     |     | Roller Cage Dimensions |      |   |     | No. of Rollers Z | Permissible Preload | Basic Load Rating (per roller) |         | Mass (Rail) [Kg/m] |   |    |    |    |    |
|----------------------|-----|-----|------------------------|------|---|-----|------------------|---------------------|--------------------------------|---------|--------------------|---|----|----|----|----|
| D                    | h   | I   | Da                     | R    | g | f   |                  |                     | Cz[kN]                         | Coz[kN] |                    |   |    |    |    |    |
| 3                    | 1.4 | 1.6 | 1.5                    | 14   | 2 | 2.5 | 5                | -0.002              | 0.098                          | 0.069   | 0.11               |   |    |    |    |    |
|                      |     |     |                        | 19   |   |     |                  |                     |                                |         |                    | 7 |    |    |    |    |
|                      |     |     |                        | 26.5 |   |     |                  |                     |                                |         |                    |   | 10 |    |    |    |
|                      |     |     |                        | 34   |   |     |                  |                     |                                |         |                    |   |    | 13 |    |    |
|                      |     |     |                        | 41.5 |   |     |                  |                     |                                |         |                    |   |    |    | 16 |    |
|                      |     |     |                        | 49   |   |     |                  |                     |                                |         |                    |   |    |    |    | 19 |
|                      |     |     |                        | 54   |   |     |                  |                     |                                |         |                    |   |    |    |    |    |

# Cross Roller Guide

## Cross Roller Guide SCVR Type

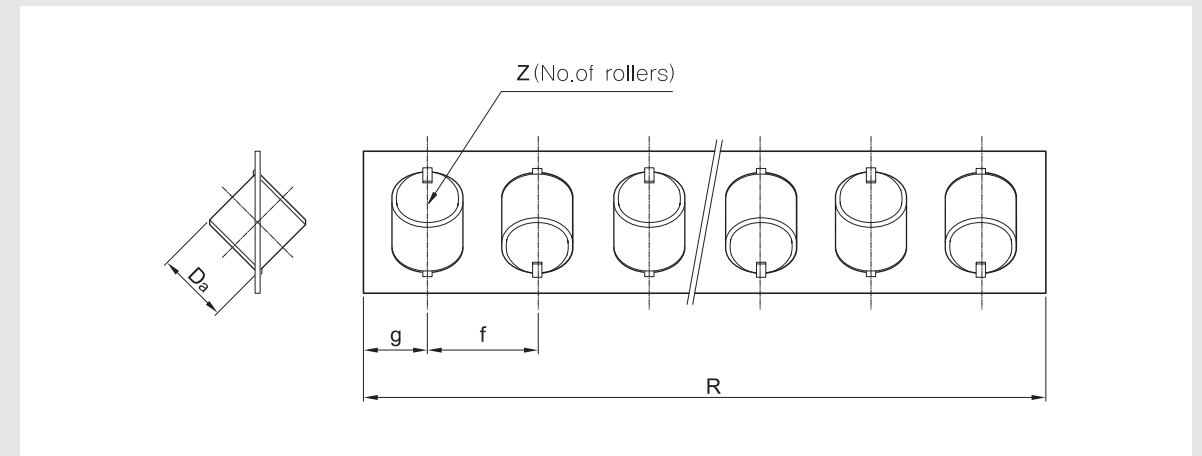
### SCVR2 Type



| Model No.     | Max Stroke | Combined Dimensions |       |     | Assembled Dimensions |     |     |     |    |      |
|---------------|------------|---------------------|-------|-----|----------------------|-----|-----|-----|----|------|
|               |            | A                   | W     | Lo  | nxF                  | G   | B   | C   | S  | d    |
| SCVR2-30x5Z   | 18         | 12                  | 6     | 30  | 1x15                 | 7.5 | 5.6 | 2.5 | M3 | 2.55 |
| SCVR2-45x8Z   | 24         |                     |       | 45  | 2x15                 |     |     |     |    |      |
| SCVR2-60x11Z  | 30         |                     |       | 60  | 3x15                 |     |     |     |    |      |
| SCVR2-75x13Z  | 44         |                     |       | 75  | 4x15                 |     |     |     |    |      |
| SCVR2-90x16Z  | 50         |                     |       | 90  | 5x15                 |     |     |     |    |      |
| SCVR2-105x18Z | 64         |                     |       | 105 | 6x15                 |     |     |     |    |      |
| SCVR2-120x21Z | 70         |                     |       | 120 | 7x15                 |     |     |     |    |      |
| SCVR2-135x23Z | 84         |                     |       | 135 | 8x15                 |     |     |     |    |      |
| SCVR2-150x26Z | 90         |                     |       | 150 | 9x15                 |     |     |     |    |      |
| SCVR2-165x29Z | 96         |                     |       | 165 | 10x15                |     |     |     |    |      |
| SCVR2-180x32Z | 102        | 180                 | 11x15 |     |                      |     |     |     |    |      |

# Cross Roller Guide

## Cross Roller Guide SCVR Type



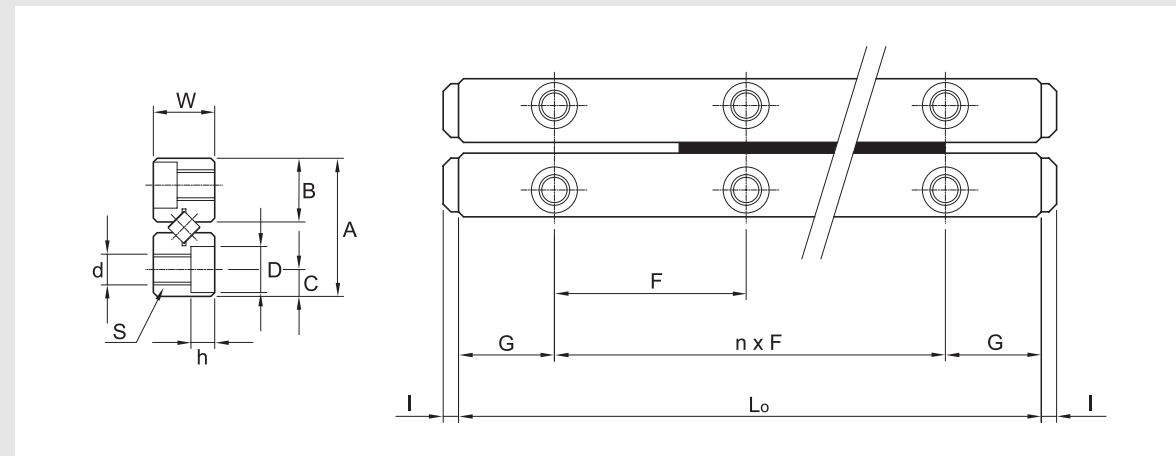
(Unit : mm)

| Assembled Dimensions |   |     | Roller Cage Dimensions |    |     |   | No. of Rollers | Permissible Preload | Basic Load Rating (per roller) |         | Mass (Rail) [Kg/m] |     |    |
|----------------------|---|-----|------------------------|----|-----|---|----------------|---------------------|--------------------------------|---------|--------------------|-----|----|
| D                    | h | I   | Da                     | R  | g   | f |                |                     | Cz[kN]                         | Coz[kN] |                    |     |    |
| 4.4                  | 2 | 1.5 | 2                      | 21 | 2.5 | 4 | 5              | -0.003              | 0.176                          | 0.127   | 0.23               |     |    |
|                      |   |     |                        |    |     |   |                |                     |                                |         |                    | 33  | 8  |
|                      |   |     |                        |    |     |   |                |                     |                                |         |                    | 45  | 11 |
|                      |   |     |                        |    |     |   |                |                     |                                |         |                    | 53  | 13 |
|                      |   |     |                        |    |     |   |                |                     |                                |         |                    | 65  | 16 |
|                      |   |     |                        |    |     |   |                |                     |                                |         |                    | 73  | 18 |
|                      |   |     |                        |    |     |   |                |                     |                                |         |                    | 85  | 21 |
|                      |   |     |                        |    |     |   |                |                     |                                |         |                    | 93  | 23 |
|                      |   |     |                        |    |     |   |                |                     |                                |         |                    | 105 | 26 |
|                      |   |     |                        |    |     |   |                |                     |                                |         |                    | 117 | 29 |
|                      |   |     |                        |    |     |   |                |                     |                                |         |                    | 129 | 32 |

# Cross Roller Guide

## Cross Roller Guide SCVR Type

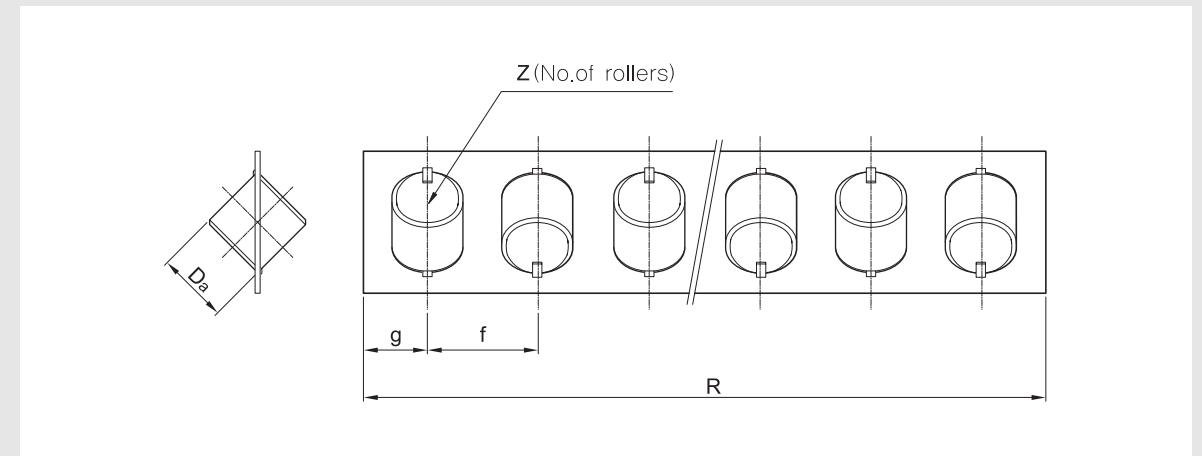
### SCVR3 Type



| Model No.     | Max Stroke | Combined Dimensions |   |     | Assembled Dimensions |      |     |     |    |     |
|---------------|------------|---------------------|---|-----|----------------------|------|-----|-----|----|-----|
|               |            | A                   | W | Lo  | nxF                  | G    | B   | C   | S  | d   |
| SCVR3-50x7Z   | 28         | 18                  | 8 | 50  | 1x25                 | 12.5 | 8.3 | 3.5 | M4 | 3.8 |
| SCVR3-75x10Z  | 48         |                     |   | 75  | 2x25                 |      |     |     |    |     |
| SCVR3-100x14Z | 58         |                     |   | 100 | 3x25                 |      |     |     |    |     |
| SCVR3-125x17Z | 78         |                     |   | 125 | 4x25                 |      |     |     |    |     |
| SCVR3-150x21Z | 88         |                     |   | 150 | 5x25                 |      |     |     |    |     |
| SCVR3-175x24Z | 108        |                     |   | 175 | 6x25                 |      |     |     |    |     |
| SCVR3-200x28Z | 118        |                     |   | 200 | 7x25                 |      |     |     |    |     |
| SCVR3-225x31Z | 138        |                     |   | 225 | 8x25                 |      |     |     |    |     |
| SCVR3-250x35Z | 148        |                     |   | 250 | 9x25                 |      |     |     |    |     |
| SCVR3-275x38Z | 168        |                     |   | 275 | 10x25                |      |     |     |    |     |
| SCVR3-300x42Z | 178        |                     |   | 300 | 11x25                |      |     |     |    |     |

# Cross Roller Guide

## Cross Roller Guide SCVR Type



(Unit : mm)

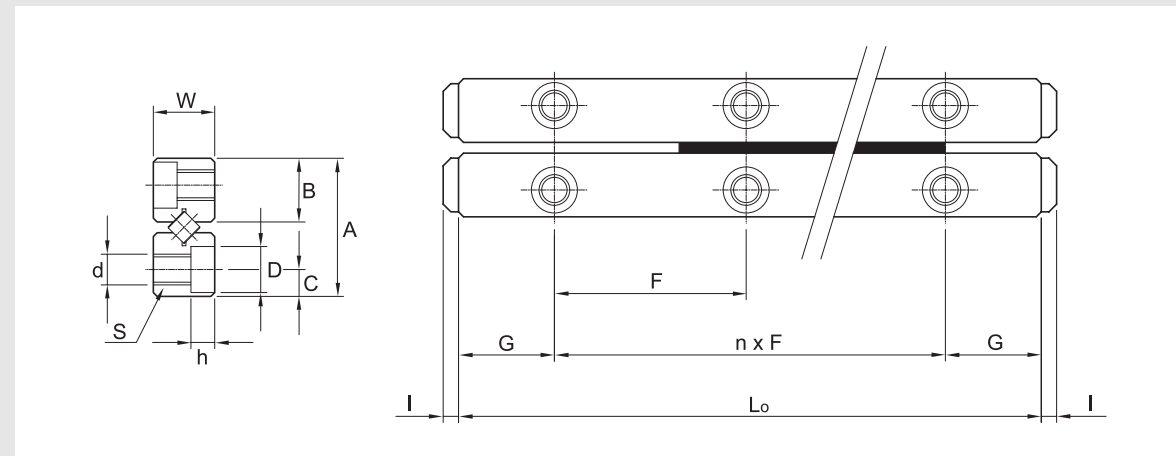
| Assembled Dimensions |     |   | Roller Cage Dimensions |     |   |   | No. of Rollers | Permissible Preload | Basic Load Rating (per roller) |          | Mass (Rail) [Kg/m] |
|----------------------|-----|---|------------------------|-----|---|---|----------------|---------------------|--------------------------------|----------|--------------------|
| D                    | h   | I | Da                     | R   | g | f |                |                     | Cz [kN]                        | Coz [kN] |                    |
| 6                    | 3.1 | 2 | 3                      | 36  | 3 | 5 | 7              | -0.004              | 0.363                          | 0.275    | 0.45               |
|                      |     |   |                        | 51  |   |   | 10             |                     |                                |          |                    |
|                      |     |   |                        | 71  |   |   | 14             |                     |                                |          |                    |
|                      |     |   |                        | 86  |   |   | 17             |                     |                                |          |                    |
|                      |     |   |                        | 106 |   |   | 21             |                     |                                |          |                    |
|                      |     |   |                        | 121 |   |   | 24             |                     |                                |          |                    |
|                      |     |   |                        | 141 |   |   | 28             |                     |                                |          |                    |
|                      |     |   |                        | 156 |   |   | 31             |                     |                                |          |                    |
|                      |     |   |                        | 176 |   |   | 35             |                     |                                |          |                    |
|                      |     |   |                        | 191 |   |   | 38             |                     |                                |          |                    |
|                      |     |   |                        | 211 |   |   | 42             |                     |                                |          |                    |



# Cross Roller Guide

## Cross Roller Guide SCVR Type

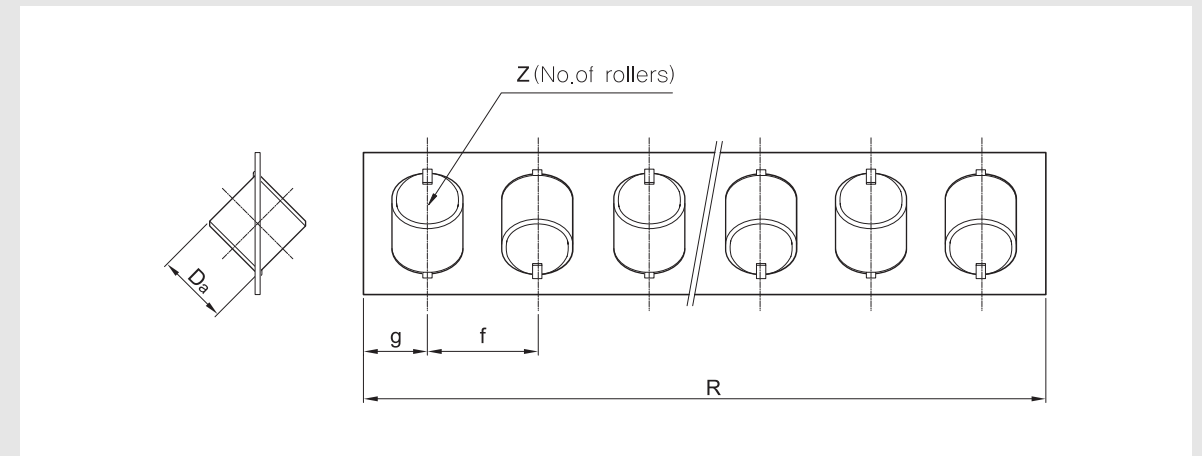
### SCVR4 Type



| Model No.     | Max Stroke | Combined Dimensions |       |     | Assembled Dimensions |    |      |     |    |     |
|---------------|------------|---------------------|-------|-----|----------------------|----|------|-----|----|-----|
|               |            | A                   | W     | Lo  | nxF                  | G  | B    | C   | S  | d   |
| SCVR4-80x7Z   | 58         | 22                  | 11    | 80  | 1x40                 | 20 | 10.2 | 4.5 | M5 | 4.3 |
| SCVR4-120x11Z | 82         |                     |       | 120 | 2x40                 |    |      |     |    |     |
| SCVR4-160x15Z | 106        |                     |       | 160 | 3x40                 |    |      |     |    |     |
| SCVR4-200x19Z | 130        |                     |       | 200 | 4x40                 |    |      |     |    |     |
| SCVR4-240x23Z | 154        |                     |       | 240 | 5x40                 |    |      |     |    |     |
| SCVR4-280x27Z | 178        |                     |       | 280 | 6x40                 |    |      |     |    |     |
| SCVR4-320x31Z | 202        |                     |       | 320 | 7x40                 |    |      |     |    |     |
| SCVR4-360x35Z | 226        |                     |       | 360 | 8x40                 |    |      |     |    |     |
| SCVR4-400x39Z | 250        |                     |       | 400 | 9x40                 |    |      |     |    |     |
| SCVR4-440x43Z | 274        |                     |       | 400 | 10x40                |    |      |     |    |     |
| SCVR4-480x47Z | 298        | 480                 | 11x40 |     |                      |    |      |     |    |     |

# Cross Roller Guide

## Cross Roller Guide SCVR Type



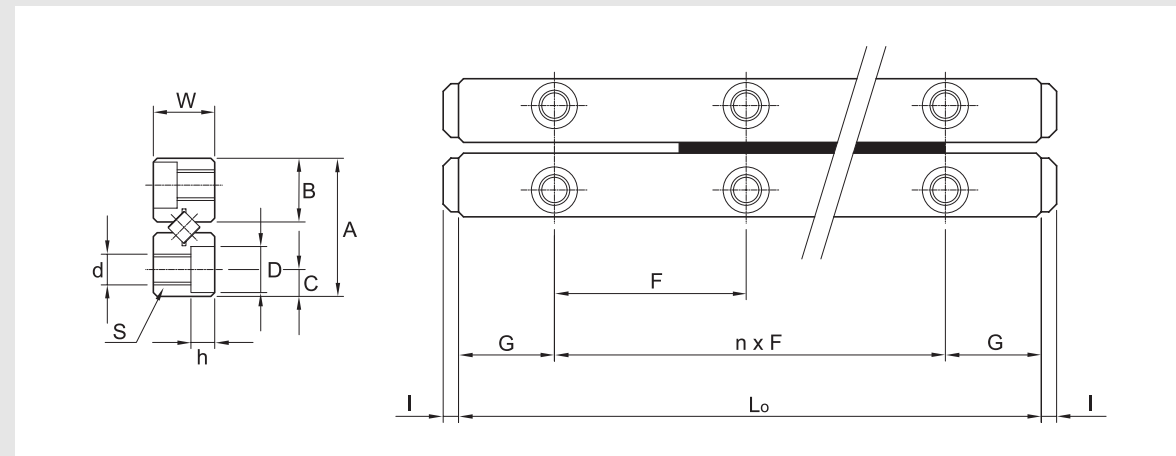
(Unit : mm)

| Assembled Dimensions |     |   | Roller Cage Dimensions |     |     |   | No. of Rollers<br>Z | Permissible Preload | Basic Load Rating (per roller) |         | Mass (Rail)<br>[Kg/m] |
|----------------------|-----|---|------------------------|-----|-----|---|---------------------|---------------------|--------------------------------|---------|-----------------------|
| D                    | h   | I | Da                     | R   | g   | f |                     |                     | Cz[kN]                         | Coz[kN] |                       |
| 8                    | 4.2 | 2 | 4                      | 51  | 4.5 | 7 | -0.005              | 0.764               | 0.637                          | 0.8     |                       |
|                      |     |   |                        | 79  |     |   |                     |                     |                                |         | 11                    |
|                      |     |   |                        | 107 |     |   |                     |                     |                                |         | 15                    |
|                      |     |   |                        | 135 |     |   |                     |                     |                                |         | 19                    |
|                      |     |   |                        | 163 |     |   |                     |                     |                                |         | 23                    |
|                      |     |   |                        | 191 |     |   |                     |                     |                                |         | 27                    |
|                      |     |   |                        | 219 |     |   |                     |                     |                                |         | 31                    |
|                      |     |   |                        | 247 |     |   |                     |                     |                                |         | 35                    |
|                      |     |   |                        | 275 |     |   |                     |                     |                                |         | 39                    |
|                      |     |   |                        | 303 |     |   |                     |                     |                                |         | 43                    |
|                      |     |   |                        | 331 |     |   |                     |                     |                                |         | 47                    |

# Cross Roller Guide

## Cross Roller Guide SCVR Type

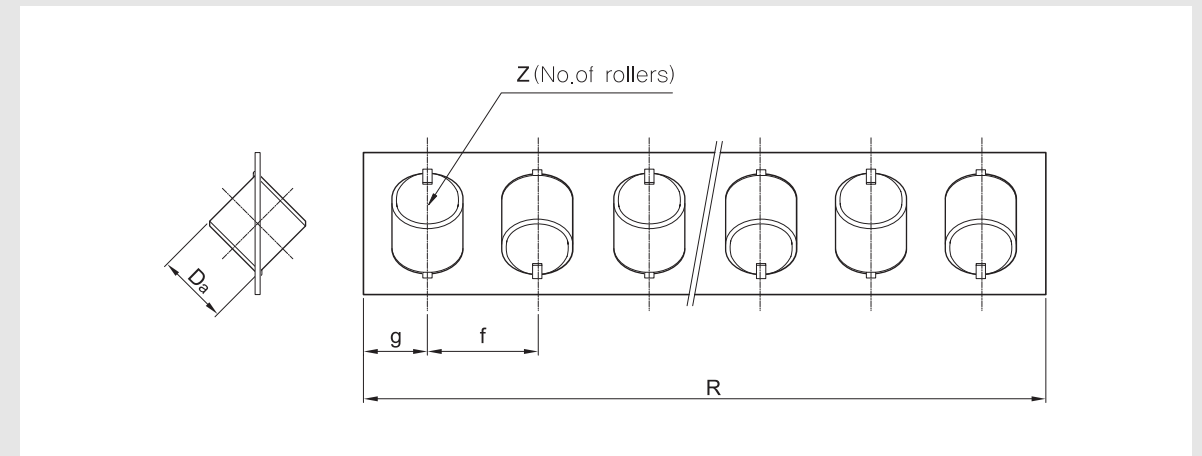
### SCVR6 Type



| Model No.     | Max Stroke | Combined Dimensions |       |     | Assembled Dimensions |    |      |   |    |     |
|---------------|------------|---------------------|-------|-----|----------------------|----|------|---|----|-----|
|               |            | A                   | W     | Lo  | nxF                  | G  | B    | C | S  | d   |
| SCVR6-100x7Z  | 56         | 30                  | 15    | 100 | 1x50                 | 25 | 14.4 | 6 | M6 | 5.2 |
| SCVR6-150x10Z | 96         |                     |       | 150 | 2x50                 |    |      |   |    |     |
| SCVR6-200x13Z | 136        |                     |       | 200 | 3x50                 |    |      |   |    |     |
| SCVR6-250x17Z | 156        |                     |       | 250 | 4x50                 |    |      |   |    |     |
| SCVR6-300x20Z | 196        |                     |       | 300 | 5x50                 |    |      |   |    |     |
| SCVR6-350x24Z | 216        |                     |       | 350 | 6x50                 |    |      |   |    |     |
| SCVR6-400x27Z | 256        |                     |       | 400 | 7x50                 |    |      |   |    |     |
| SCVR6-450x31Z | 276        |                     |       | 450 | 8x50                 |    |      |   |    |     |
| SCVR6-500x34Z | 316        |                     |       | 500 | 9x50                 |    |      |   |    |     |
| SCVR6-550x38Z | 336        |                     |       | 550 | 10x50                |    |      |   |    |     |
| SCVR6-600x41Z | 376        | 600                 | 11x50 |     |                      |    |      |   |    |     |

# Cross Roller Guide

## Cross Roller Guide SCVR Type



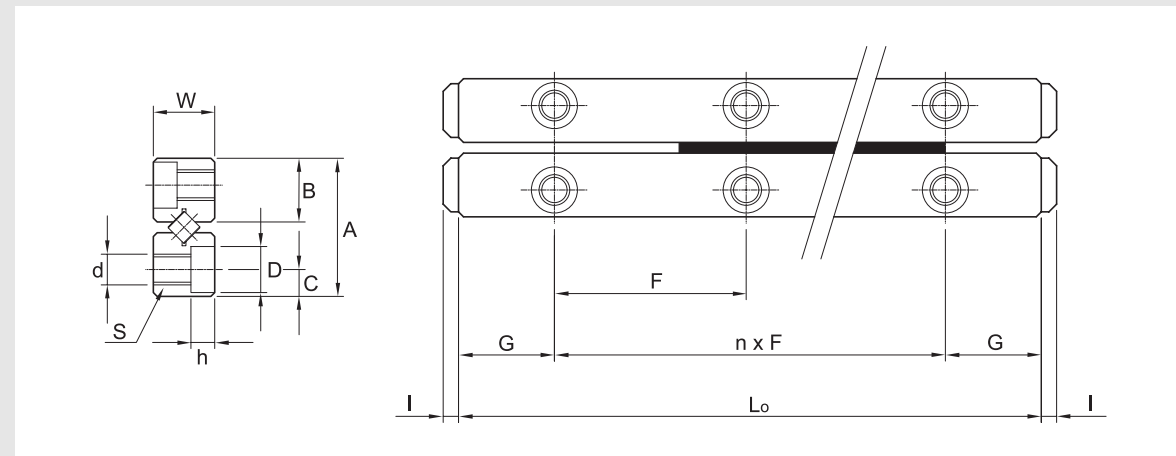
(Unit : mm)

| Assembled Dimensions |     |     | Roller Cage Dimensions |     |   |    | No. of Rollers | Permissible Preload | Basic Load Rating (per roller) |         | Mass (Rail) [Kg/m] |    |
|----------------------|-----|-----|------------------------|-----|---|----|----------------|---------------------|--------------------------------|---------|--------------------|----|
| D                    | h   | I   | Da                     | R   | g | f  |                |                     | Cz[kN]                         | Coz[kN] |                    |    |
| 9.5                  | 5.2 | 3.2 | 6                      | 72  | 6 | 10 | 24             | -0.007              | 1.91                           | 1.76    | 1.5                |    |
|                      |     |     |                        | 102 |   |    |                |                     |                                |         |                    | 20 |
|                      |     |     |                        | 132 |   |    |                |                     |                                |         |                    | 13 |
|                      |     |     |                        | 172 |   |    |                |                     |                                |         |                    | 17 |
|                      |     |     |                        | 202 |   |    |                |                     |                                |         |                    | 20 |
|                      |     |     |                        | 242 |   |    |                |                     |                                |         |                    | 24 |
|                      |     |     |                        | 272 |   |    |                |                     |                                |         |                    | 27 |
|                      |     |     |                        | 312 |   |    |                |                     |                                |         |                    | 31 |
|                      |     |     |                        | 342 |   |    |                |                     |                                |         |                    | 34 |
|                      |     |     |                        | 382 |   |    |                |                     |                                |         |                    | 38 |
| 412                  | 41  |     |                        |     |   |    |                |                     |                                |         |                    |    |

# Cross Roller Guide

## Cross Roller Guide SCVR Type

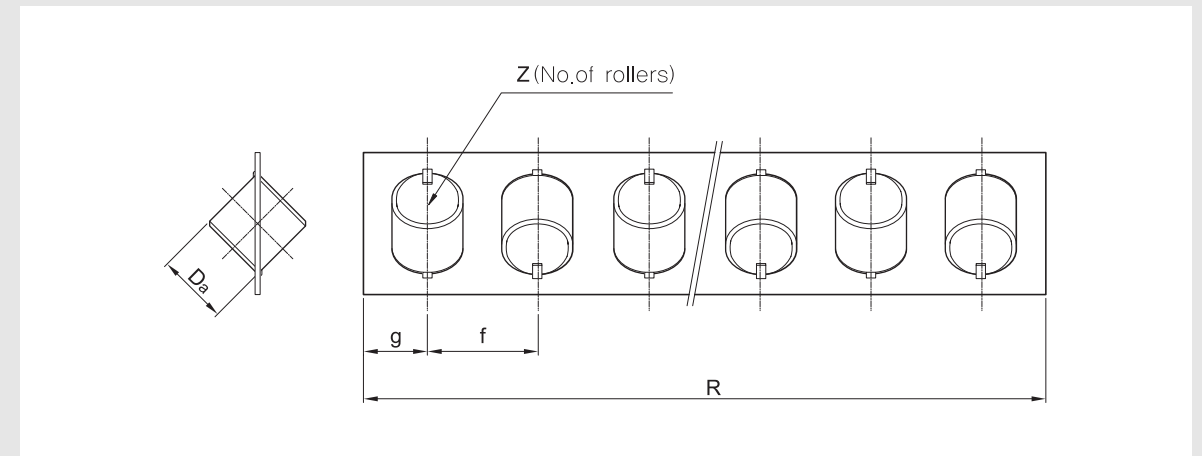
### SCVR9 Type



| Model No.      | Max Stroke | Combined Dimensions |    |      | Assembled Dimensions |    |      |   |    |     |
|----------------|------------|---------------------|----|------|----------------------|----|------|---|----|-----|
|                |            | A                   | W  | Lo   | nxF                  | G  | B    | C | S  | d   |
| SCVR9-200x10Z  | 118        | 40                  | 20 | 200  | 1x100                | 50 | 19.2 | 8 | M8 | 6.8 |
| SCVR9-300x15Z  | 178        |                     |    | 300  | 2x100                |    |      |   |    |     |
| SCVR9-400x20Z  | 138        |                     |    | 400  | 3x100                |    |      |   |    |     |
| SCVR9-500x25Z  | 298        |                     |    | 500  | 4x100                |    |      |   |    |     |
| SCVR9-600x30Z  | 358        |                     |    | 600  | 5x100                |    |      |   |    |     |
| SCVR9-700x35Z  | 418        |                     |    | 700  | 6x100                |    |      |   |    |     |
| SCVR9-800x40Z  | 478        |                     |    | 800  | 7x100                |    |      |   |    |     |
| SCVR9-900x45Z  | 538        |                     |    | 900  | 8x100                |    |      |   |    |     |
| SCVR9-1000x50Z | 598        |                     |    | 1000 | 9x100                |    |      |   |    |     |
| SCVR9-1100x55Z | 658        |                     |    | 1100 | 10x100               |    |      |   |    |     |
| SCVR9-1200x60Z | 718        |                     |    | 1200 | 11x100               |    |      |   |    |     |

# Cross Roller Guide

## Cross Roller Guide SCVR Type



(Unit : mm)

| Assembled Dimensions |     |   | Roller Cage Dimensions |     |     |    | No. of Rollers<br>Z | Permissible Preload | Basic Load Rating (per roller) |         | Mass (Rail)<br>[Kg/m] |
|----------------------|-----|---|------------------------|-----|-----|----|---------------------|---------------------|--------------------------------|---------|-----------------------|
| D                    | h   | I | Da                     | R   | g   | f  |                     |                     | Cz[kN]                         | Coz[kN] |                       |
| 10.5                 | 6.2 | 4 | 9                      | 141 | 7.5 | 14 | -0.010              | 4.31                | 4.36                           | 3.2     |                       |
|                      |     |   |                        |     |     |    |                     |                     |                                |         | 211                   |
|                      |     |   |                        |     |     |    |                     |                     |                                |         | 281                   |
|                      |     |   |                        |     |     |    |                     |                     |                                |         | 351                   |
|                      |     |   |                        |     |     |    |                     |                     |                                |         | 421                   |
|                      |     |   |                        |     |     |    |                     |                     |                                |         | 491                   |
|                      |     |   |                        |     |     |    |                     |                     |                                |         | 561                   |
|                      |     |   |                        |     |     |    |                     |                     |                                |         | 631                   |
|                      |     |   |                        |     |     |    |                     |                     |                                |         | 701                   |
|                      |     |   |                        |     |     |    |                     |                     |                                |         | 771                   |
|                      |     |   |                        |     |     |    |                     |                     |                                |         | 841                   |