

Linear Guideways

QH Series

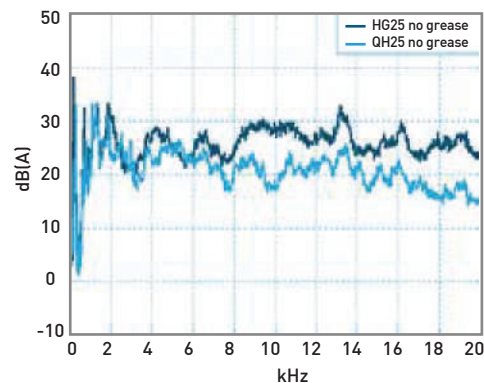
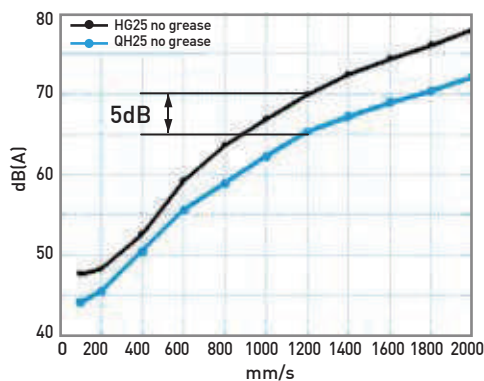
2-6 QH Series – Quiet Linear Guideway, with SynchMotion™ Technology

The development of HIWIN-QH linear guideway is based on a four-row circular-arc contact. The HIWIN-QH series linear guideway with SynchMotion™ Technology offers smooth movement, superior lubrication, quieter operation and longer running life. Therefore the HIWIN-QH linear guideway has broad industrial applicability. In the high-tech industry where high speed, low noise, and reduced dust generation is required, the HIWIN-QH series is interchangeable with the HIWIN-HG series.

2-6-1 Features

(1) Low Noise Design

With SynchMotion™ technology, rolling elements are interposed between the partitions of SynchMotion™ to provide improved circulation. Due to the elimination of contact between the rolling elements, collision noise and sound levels are drastically reduced.



(2) Self-Lubricant Design

The partition is a grouping of hollow ring-like structures formed with a through hole to facilitate circulation of the lubricant. Because of the special lubrication path design, the lubricant of the partition storage space can be refilled. Therefore, the frequency of lubricant refilling can be decreased.

The QH-series linear guideway is pre-lubricated. Performance testing at a 0.2C (basic dynamic load) shows that after running 4,000km no damage was apparent to either the rolling elements or the raceway.

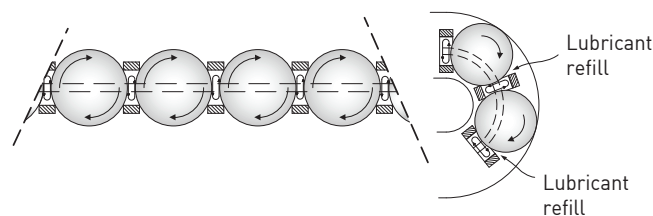

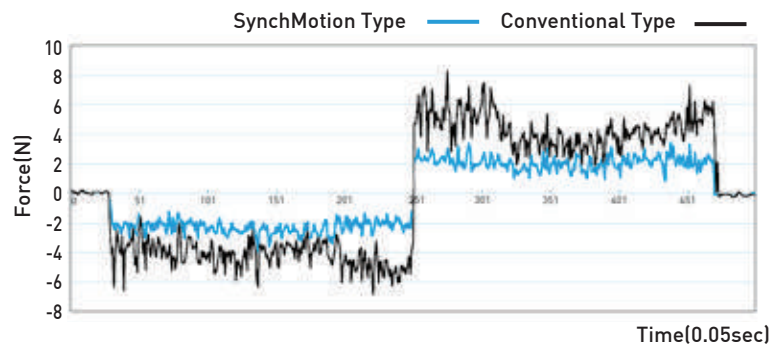


Table 2-6-1 Load Test

| Test Sample | QHH25CAZAH | Load Test |
|-----------------|---|---|
| Speed | 24m/min |  <p>Load=5,000N After 4,000km</p> |
| Lubricant | lithium soap base grease (initial lubrication only) | |
| Load | 5kN | |
| Distance travel | 4,000km | |

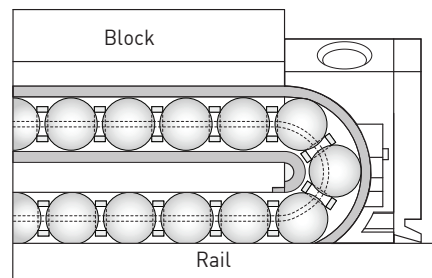
(3) Smooth Movement

In standard linear guideways, rolling elements on the load side of the guide block begin rolling and push their way through the raceway. When they contact other rolling elements they create counter-rotational friction. This results in a great variation of rolling resistance. The QH linear guideway, with SynchMotion™ technology prevents this condition. As the block starts to move, the rolling elements begin rolling consecutively and remain separated to prevent contact with one another thus keeping the element's kinetic energy extremely stable in order to effectively reduce fluctuations in rolling resistance.



(4) High Speed Performance

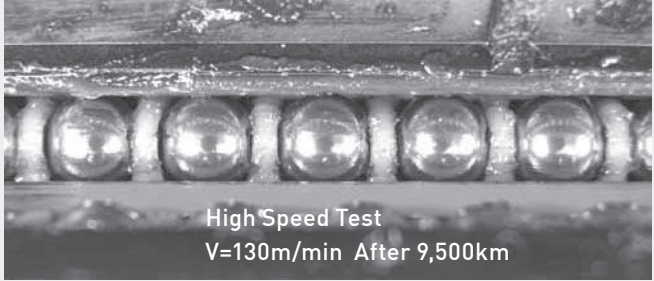
The Hiwin-QH series offers excellent high-speed performance due to the partitions of the SynchMotion™ structure. They are employed to separate the adjacent balls thereby resulting in low rolling traction and the metallic friction between adjacent balls is eliminated.



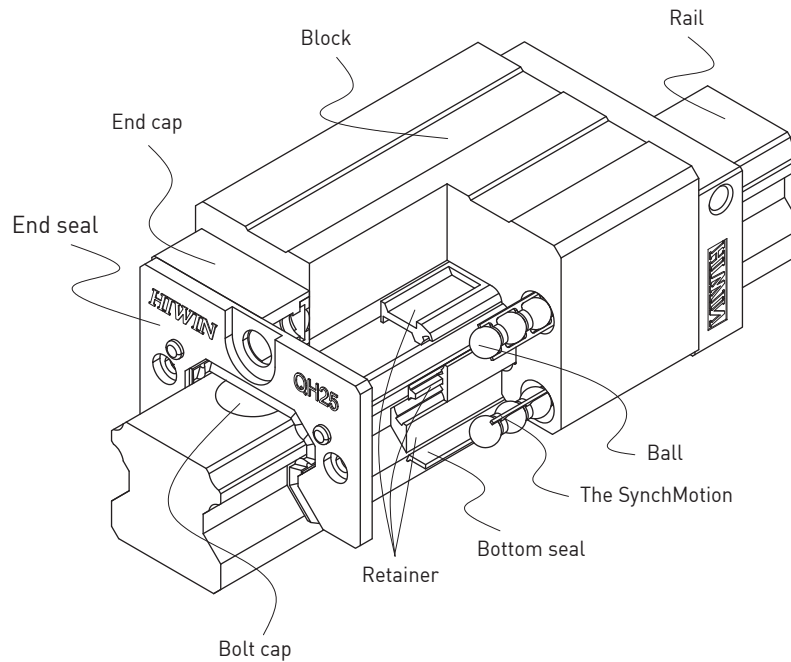
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Table 2-6-2

| Test Sample | QHW25CAZAH | High Speed Test |
|-----------------|---|--|
| Speed | 130m/min |  |
| Lubricant | lithium soap base grease (initial lubrication only) | |
| Distance travel | 9,500km | |

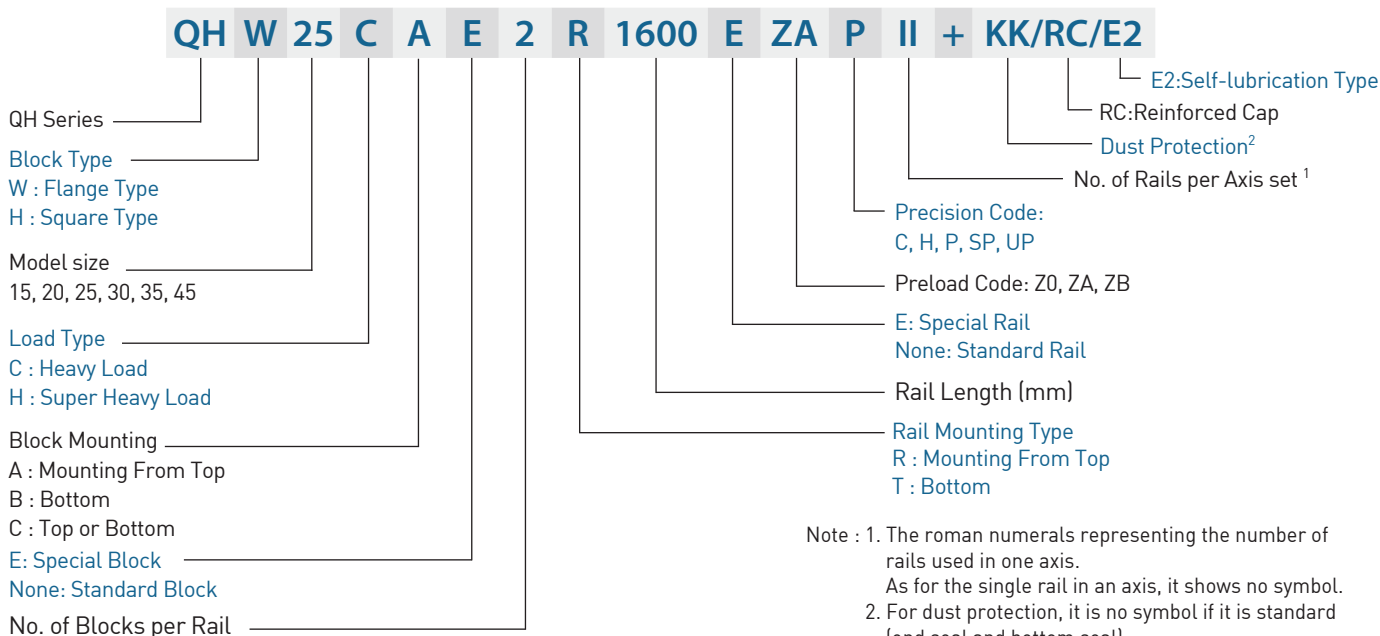
2-6-2 Construction



2-6-3 Model Number of QH Series

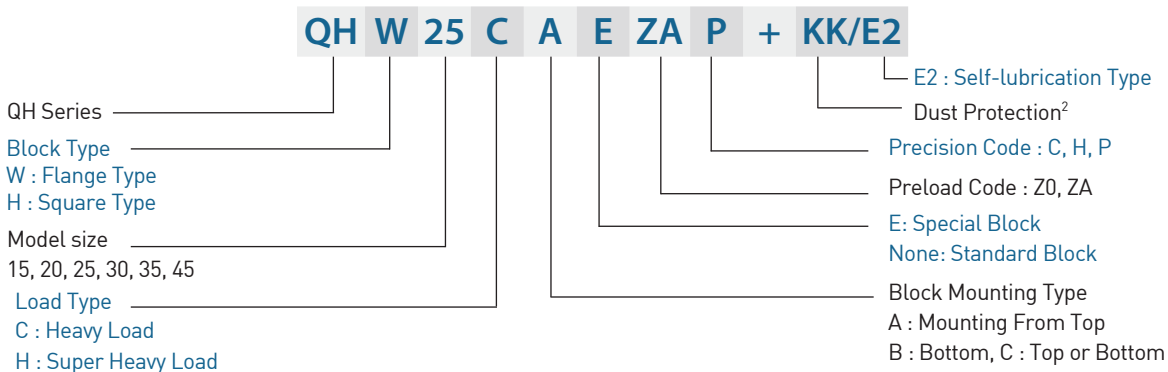
HIWIN-QH series guideway can be classified into non-interchangeable and interchangeable types. The sizes are identical. The main difference is that the interchangeable blocks and rails can be freely exchanged. Because of dimensional control, the interchangeable type linear guideway is a perfect choice for the client when rails do not need to be paired for an axis. And since the QH and HG share the identical rails, the customer does not need to redesign when choosing the QH series. Therefore the HIWIN-QH linear guideway has increased applicability.

(1) Non-interchangeable type

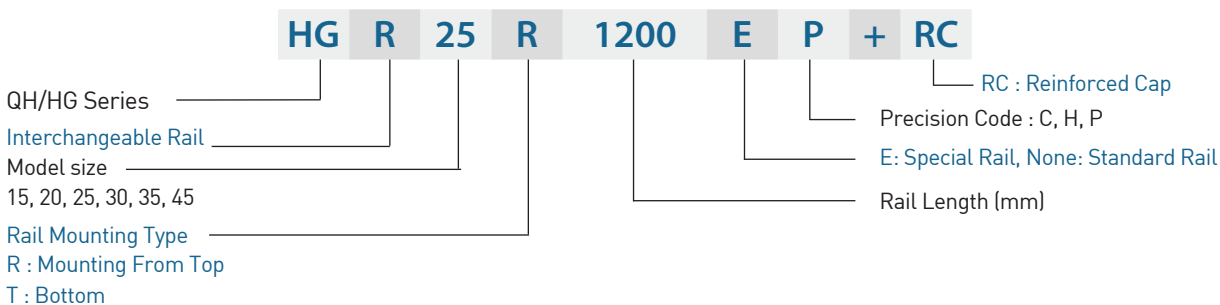


(2) Interchangeable type

○ Model Number of QH Block



○ Model Number of QH Rail (QH and HG share the identical rails)

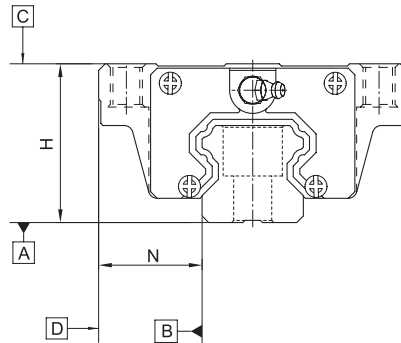


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2-6-4 Accuracy Classes

The accuracy of QH series can be classified into normal (C), high (H), precision (P), super precision (SP), ultra precision (UP), five classes. Please choose the class by referring the accuracy of applied equipment.



(1) Accuracy of non-interchangeable

Table 2-6-3 Accuracy Standards

Unit: mm

| Item | QH - 15, 20 | | | | |
|---|-----------------|-------------|------------------|-------------------------|-------------------------|
| | Normal (C) | High (H) | Precision (P) | Super Precision (SP) | Ultra Precision (UP) |
| Dimensional tolerance of height H | ± 0.1 | ± 0.03 | 0 - 0.03 | 0 - 0.015 | 0 - 0.008 |
| Dimensional tolerance of width N | ± 0.1 | ± 0.03 | 0 - 0.03 | 0 - 0.015 | 0 - 0.008 |
| Variation of height H | 0.02 | 0.01 | 0.006 | 0.004 | 0.003 |
| Variation of width N | 0.02 | 0.01 | 0.006 | 0.004 | 0.003 |
| Running parallelism of block surface C to surface A | See Table 2-6-9 | | | | |
| Running parallelism of block surface D to surface B | See Table 2-6-9 | | | | |

Table 2-6-4 Accuracy Standards

Unit: mm

| Item | QH - 25, 30, 35 | | | | |
|---|-----------------|-------------|------------------|-------------------------|-------------------------|
| | Normal (C) | High (H) | Precision (P) | Super Precision (SP) | Ultra Precision (UP) |
| Dimensional tolerance of height H | ± 0.1 | ± 0.04 | 0 - 0.04 | 0 - 0.02 | 0 - 0.01 |
| Dimensional tolerance of width N | ± 0.1 | ± 0.04 | 0 - 0.04 | 0 - 0.02 | 0 - 0.01 |
| Variation of height H | 0.02 | 0.015 | 0.007 | 0.005 | 0.003 |
| Variation of width N | 0.03 | 0.015 | 0.007 | 0.005 | 0.003 |
| Running parallelism of block surface C to surface A | See Table 2-6-9 | | | | |
| Running parallelism of block surface D to surface B | See Table 2-6-9 | | | | |

Table 2-6-5 Accuracy Standards

Unit: mm

| Item | QH - 45 | | | | |
|---|-----------------|-------------|------------------|-------------------------|-------------------------|
| | Normal (C) | High (H) | Precision (P) | Super Precision (SP) | Ultra Precision (UP) |
| Dimensional tolerance of height H | ± 0.1 | ± 0.05 | 0 - 0.05 | 0 - 0.03 | 0 - 0.02 |
| Dimensional tolerance of width N | ± 0.1 | ± 0.05 | 0 - 0.05 | 0 - 0.03 | 0 - 0.02 |
| Variation of height H | 0.03 | 0.015 | 0.007 | 0.005 | 0.003 |
| Variation of width N | 0.03 | 0.02 | 0.01 | 0.007 | 0.005 |
| Running parallelism of block surface C to surface A | See Table 2-6-9 | | | | |
| Running parallelism of block surface D to surface B | See Table 2-6-9 | | | | |

(2) Accuracy of interchangeable

Table 2-6-6 Accuracy Standards

Unit: mm

| Item | QH - 15, 20 | | |
|---|-----------------|----------|---------------|
| Accuracy Classes | Normal (C) | High (H) | Precision (P) |
| Dimensional tolerance of height H | ± 0.1 | ± 0.03 | ± 0.015 |
| Dimensional tolerance of width N | ± 0.1 | ± 0.03 | ± 0.015 |
| Variation of height H | 0.02 | 0.01 | 0.006 |
| Variation of width N | 0.02 | 0.01 | 0.006 |
| Running parallelism of block surface C to surface A | See Table 2-6-9 | | |
| Running parallelism of block surface D to surface B | See Table 2-6-9 | | |

Table 2-6-7 Accuracy Standards

Unit: mm

| Item | QH - 25, 30, 35 | | |
|---|-----------------|----------|---------------|
| Accuracy Classes | Normal (C) | High (H) | Precision (P) |
| Dimensional tolerance of height H | ± 0.1 | ± 0.04 | ± 0.02 |
| Dimensional tolerance of width N | ± 0.1 | ± 0.04 | ± 0.02 |
| Variation of height H | 0.02 | 0.015 | 0.007 |
| Variation of width N | 0.03 | 0.015 | 0.007 |
| Running parallelism of block surface C to surface A | See Table 2-6-9 | | |
| Running parallelism of block surface D to surface B | See Table 2-6-9 | | |

Table 2-6-8 Accuracy Standards

Unit: mm

| Item | QH - 45 | | |
|---|-----------------|----------|---------------|
| Accuracy Classes | Normal (C) | High (H) | Precision (P) |
| Dimensional tolerance of height H | ± 0.1 | ± 0.05 | ± 0.025 |
| Dimensional tolerance of width N | ± 0.1 | ± 0.05 | ± 0.025 |
| Variation of height H | 0.03 | 0.015 | 0.007 |
| Variation of width N | 0.03 | 0.02 | 0.01 |
| Running parallelism of block surface C to surface A | See Table 2-6-9 | | |
| Running parallelism of block surface D to surface B | See Table 2-6-9 | | |

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(3) Accuracy of running parallelism

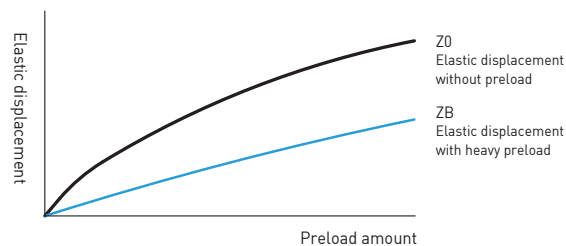
Table 2-6-9 Accuracy of Running Parallelism

| Rail Length (mm) | Accuracy (μm) | | | | | |
|------------------|---------------|----|----|----|----|--|
| | C | H | P | SP | UP | |
| ~ 100 | 12 | 7 | 3 | 2 | 2 | |
| 100 ~ 200 | 14 | 9 | 4 | 2 | 2 | |
| 200 ~ 300 | 15 | 10 | 5 | 3 | 2 | |
| 300 ~ 500 | 17 | 12 | 6 | 3 | 2 | |
| 500 ~ 700 | 20 | 13 | 7 | 4 | 2 | |
| 700 ~ 900 | 22 | 15 | 8 | 5 | 3 | |
| 900 ~ 1,100 | 24 | 16 | 9 | 6 | 3 | |
| 1,100 ~ 1,500 | 26 | 18 | 11 | 7 | 4 | |
| 1,500 ~ 1,900 | 28 | 20 | 13 | 8 | 4 | |
| 1,900 ~ 2,500 | 31 | 22 | 15 | 10 | 5 | |
| 2,500 ~ 3,100 | 33 | 25 | 18 | 11 | 6 | |
| 3,100 ~ 3,600 | 36 | 27 | 20 | 14 | 7 | |
| 3,600 ~ 4,000 | 37 | 28 | 21 | 15 | 7 | |

2-6-5 Preload

(1) Definition

A preload can be applied to each guideway. Oversized balls are used. Generally, a linear motion guideway has a negative clearance between groove and balls in order to improve stiffness and maintain high precision. The figure shows the load is multiplied by the preload, the rigidity is doubled and the deflection is reduced by one half. The preload not larger than ZA would be recommended for the model size under QH20 to avoid an over-preload affecting the guideway's life.



(2) Preload classes

HIWIN offers three classes of standard preload for various applications and conditions.

Table 2-6-10 Preload Classes

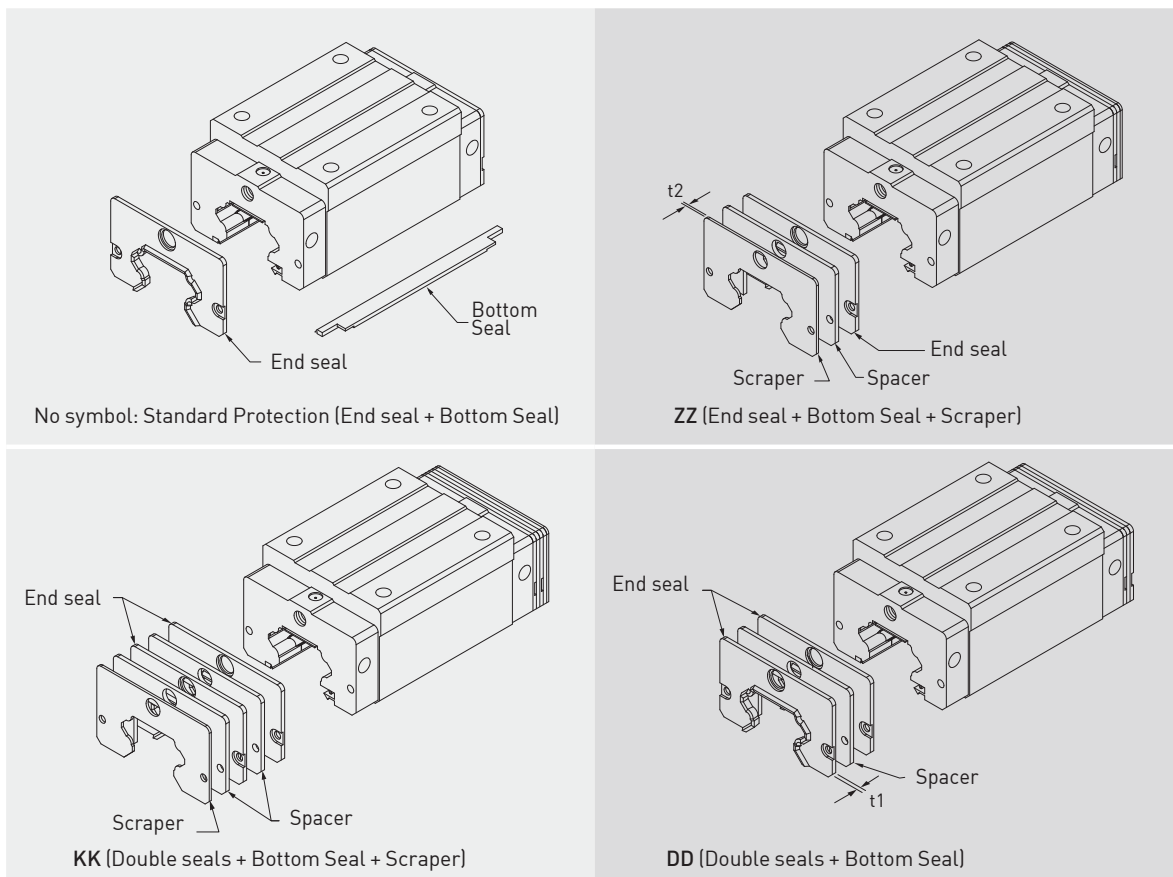
| Class | Code | Preload | Condition | Examples of Application |
|-----------------|--------------------------|--------------|--|--|
| Light Preload | Z0 | 0~ 0.02C | Certain load direction, low impact, low precision required | Transportation devices, auto-packing machines, X-Y axis for general industrial machines, welding machines, welders |
| Medium Preload | ZA | 0.05C~0.07C | High precision required | Machining centers, Z axis for general industrial machines, EDM, NC lathes, Precision X-Y tables, measuring equipment |
| Heavy Preload | ZB | 0.10C~ 0.12C | High rigidity required, with vibration and impact | Machining centers, grinding machines, NC lathes, horizontal and vertical milling machines, Z axis of machine tools, Heavy cutting machines |
| Class | Interchangeable Guideway | | Non-Interchangeable Guideway | |
| Preload classes | Z0, ZA | | Z0, ZA, ZB | |

Note: The "C" in the preload column denotes basic dynamic load rating.

2-6-6 Dust Proof Accessories

(1) Codes of accessories

If the following accessories are needed, please add the code followed by the model number.



(2) End seal and bottom seal

To prevent life reduction caused by iron chips or dust entering the block.

(3) Double seals

Enhances the wiping effect, foreign matter can be completely wiped off.

Table 2-6-11 Dimensions of end seal

| Size | Thickness (t1) (mm) | Size | Thickness (t1) (mm) |
|---------|---------------------|---------|---------------------|
| QH15 ES | 3 | QH30 ES | 3.2 |
| QH20 ES | 2.5 | QH35 ES | 2.5 |
| QH25 ES | 2.5 | QH45 ES | 3.6 |

(4) Scraper

The scraper removes high-temperature iron chips and larger foreign objects.

Table 2-6-12 Dimensions of scraper

| Size | Thickness (t2) (mm) | Size | Thickness (t2) (mm) |
|---------|---------------------|---------|---------------------|
| QH15 SC | 1.5 | QH30 SC | 1.5 |
| QH20 SC | 1.5 | QH35 SC | 1.5 |
| QH25 SC | 1.5 | QH45 SC | 1.5 |

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(5) Dimensions of block equipped with the dustproof parts

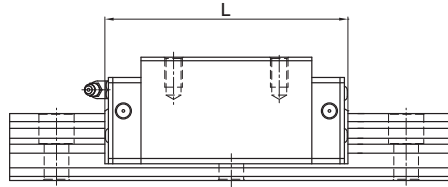


Table 2-6-13 Overall block length

unit: mm

| Size | Overall block length (L) | | | |
|-------|--------------------------|-------|-------|-------|
| | Standard | ZZ | DD | KK |
| QH15C | 61.4 | 68.4 | 68 | 75 |
| QH20C | 76.7 | 81.9 | 81.7 | 86.9 |
| QH20H | 91.4 | 96.6 | 96.4 | 101.6 |
| QH25C | 83.4 | 89.4 | 88.4 | 94.4 |
| QH25H | 104 | 110 | 109 | 115 |
| QH30C | 97.4 | 104.8 | 104.8 | 112.2 |
| QH30H | 120.4 | 127.8 | 127.8 | 135.2 |
| QH35C | 113.6 | 119 | 118.6 | 124 |
| QH35H | 139.4 | 144.8 | 144.4 | 149.8 |
| QH45C | 139.4 | 147.2 | 146.6 | 154.4 |
| QH45H | 171.2 | 179 | 178.4 | 186.2 |

2-6-7 Friction

The maximum value of seal resistance per block are shown in the table.

Table 2-6-14 Seal Resistance

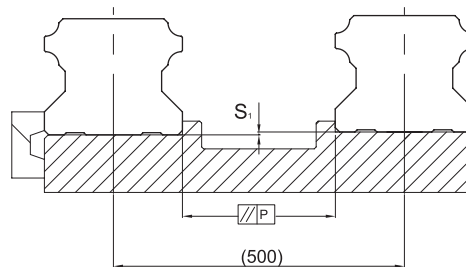
| Size | Resistance N (kgf) |
|------|--------------------|
| QH15 | 1.2 (0.12) |
| QH20 | 1.6 (0.16) |
| QH25 | 2.0 (0.2) |
| QH30 | 2.7 (0.27) |
| QH35 | 3.1 (0.31) |
| QH45 | 5.3 (0.53) |

2-6-8 The Accuracy Tolerance of Mounting Surface

(1) The accuracy tolerance of rail-mounting surface

Because of the Circular-arc contact design, the QH linear guideway can compensate for some surface-error on installation and still maintain smooth linear motion.

As long as the accuracy requirements for the mounting surface are followed, high accuracy and rigidity of linear motion of the guideway can be obtained without any difficulty. In order to satisfy the needs of fast installation and smooth movement, HIWIN offers the normal clearance type of preload to customers of its high absorption ability of the deviation in mounting surface accuracy.



(2) The parallelism tolerance of reference surface

Table 2-6-15 Max. Parallelism Tolerance (P)

unit: μm

| Size | Preload classes | | |
|------|-----------------|----|----|
| | Z0 | ZA | ZB |
| QH15 | 25 | 18 | - |
| QH20 | 25 | 20 | 18 |
| QH25 | 30 | 22 | 20 |
| QH30 | 40 | 30 | 27 |
| QH35 | 50 | 35 | 30 |
| QH45 | 60 | 40 | 35 |

(3) The accuracy tolerance of reference surface height

Table 2-6-16 Max. Tolerance of Reference Surface Height (S_1)

unit: μm

| Size | Preload classes | | |
|------|-----------------|-----|-----|
| | Z0 | ZA | ZB |
| QH15 | 130 | 85 | - |
| QH20 | 130 | 85 | 50 |
| QH25 | 130 | 85 | 70 |
| QH30 | 170 | 110 | 90 |
| QH35 | 210 | 150 | 120 |
| QH45 | 250 | 170 | 140 |

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2-6-9 Cautions for Installation

(1) Shoulder heights and fillets

Improper shoulder heights and fillets of mounting surfaces will cause a deviation in accuracy and the interference with the chamfered part of the rail or block. As long as the recommended shoulder heights and fillets are followed, installation inaccuracies should be eliminated.

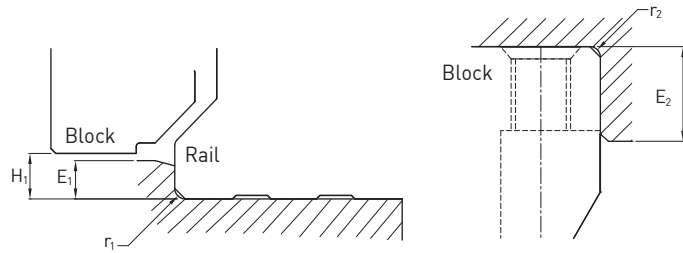


Table 2-6-17 Shoulder Heights and Fillets

| Size | Max. radius of fillets r_1 (mm) | Max. radius of fillets r_2 (mm) | Shoulder height of the rail E_1 (mm) | Shoulder height of the block E_2 (mm) | Clearance under block H_1 (mm) |
|------|-----------------------------------|-----------------------------------|--|---|----------------------------------|
| QH15 | 0.5 | 0.5 | 3.0 | 4.0 | 4.0 |
| QH20 | 0.5 | 0.5 | 3.5 | 5.0 | 4.6 |
| QH25 | 1.0 | 1.0 | 5.0 | 5.0 | 5.5 |
| QH30 | 1.0 | 1.0 | 5.0 | 5.0 | 6.0 |
| QH35 | 1.0 | 1.0 | 6.0 | 6.0 | 7.5 |
| QH45 | 1.0 | 1.0 | 8.0 | 8.0 | 9.5 |

(2) Tightening Torque of Bolts for Installation

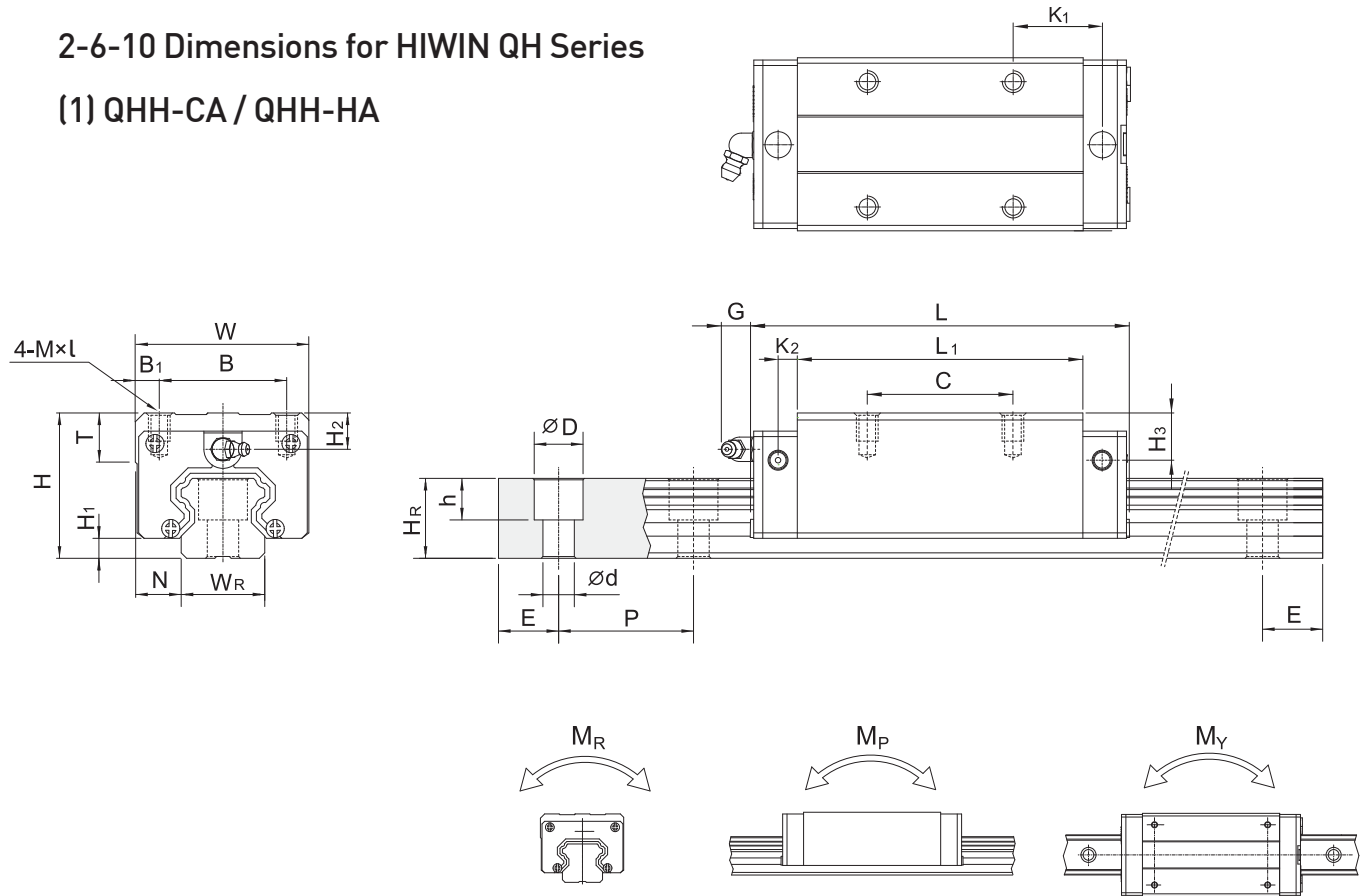
Improper tightening of bolts will seriously influence the accuracy of Linear Guideway installation. The following tightening torques for different sizes of bolts are recommended.

Table 2-6-18 Mounting Torque

| Size | Bolt size | Torque N-cm(kgf-cm) | | |
|------|---------------|---------------------|------------|------------|
| | | Iron | Casting | Aluminum |
| QH15 | M4×0.7P×16L | 392 (40) | 274 (28) | 206 (21) |
| QH20 | M5×0.8P×16L | 883 (90) | 588 (60) | 441 (45) |
| QH25 | M6×1P×20L | 1373 (140) | 921 (94) | 686 (70) |
| QH30 | M8×1.25P×25L | 3041 (310) | 2010 (205) | 1470 (150) |
| QH35 | M8×1.25P×25L | 3041 (310) | 2010 (205) | 1470 (150) |
| QH45 | M12×1.75P×35L | 11772 (1200) | 7840 (800) | 5880 (600) |

2-6-10 Dimensions for HIWIN QH Series

(1) QHH-CA / QHH-HA



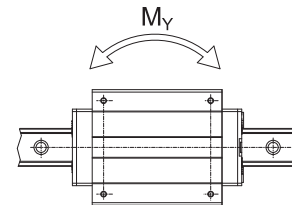
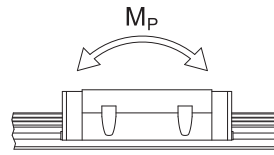
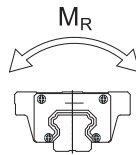
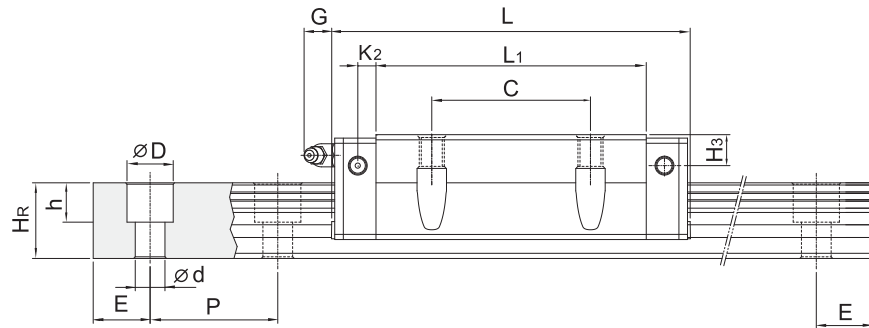
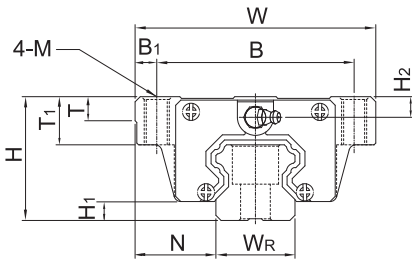
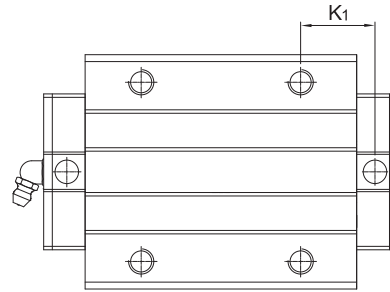
| Model No. | Dimensions of Assembly (mm) | | Dimensions of Block (mm) | | | | | | | | | | Dimensions of Rail (mm) | | | | | | Mounting Bolt for Rail (mm) | Basic Dynamic Load Rating C ₀ (kN) | Basic Static Load Rating C ₀ (kN) | Static Rated Moment | | | Weight | | | | | | |
|-----------|-----------------------------|----------------|--------------------------|----|----|----------------|----|----------------|-------|----------------|----------------|------|-------------------------|------|----------------|----------------|----------------|----------------|-----------------------------|---|--|---------------------|------|--------|--------|--------|----------------|----------------|----------------|-------|-------|
| | H | H ₁ | N | W | B | B ₁ | C | L ₁ | L | K ₁ | K ₂ | G | Mxl | T | H ₂ | H ₃ | W _R | H _R | | | | D | h | d | P | E | M _R | M _P | M _Y | Block | Rail |
| | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | | | | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm |
| QHH15CA | 28 | 4 | 9.5 | 34 | 26 | 4 | 26 | 39.4 | 61.4 | 10 | 5 | 5.3 | M4 x 5 | 6 | 7.95 | 8.2 | 15 | 15 | 7.5 | 5.3 | 4.5 | 60 | 20 | M4x16 | 13.88 | 14.36 | 0.10 | 0.08 | 0.08 | 0.18 | 1.45 |
| QHH20CA | 30 | 4.6 | 12 | 44 | 32 | 6 | 36 | 50.5 | 76.7 | 11.75 | 6 | 12 | M5 x 6 | 8 | 6 | 6 | 20 | 17.5 | 9.5 | 8.5 | 6 | 60 | 20 | M5x16 | 23.08 | 25.63 | 0.26 | 0.19 | 0.19 | 0.29 | 2.21 |
| QHH20HA | | | | | | | 50 | 65.2 | 91.4 | 12.1 | | | | | | | | | | | | | | | 27.53 | 31.67 | 0.31 | 0.27 | 0.27 | 0.38 | |
| QHH25CA | 40 | 5.5 | 12.5 | 48 | 35 | 6.5 | 35 | 58 | 83.4 | 15.7 | 6 | 12 | M6 x 8 | 8 | 10 | 9 | 23 | 22 | 11 | 9 | 7 | 60 | 20 | M6x20 | 31.78 | 33.68 | 0.39 | 0.31 | 0.31 | 0.50 | 3.21 |
| QHH25HA | | | | | | | 50 | 78.6 | 104 | 18.5 | | | | | | | | | | | | | | | 39.30 | 43.62 | 0.50 | 0.45 | 0.45 | 0.68 | |
| QHH30CA | 45 | 6 | 16 | 60 | 40 | 10 | 40 | 70 | 97.4 | 19.5 | 6.25 | 12 | M8x10 | 8.5 | 9.5 | 9 | 28 | 26 | 14 | 12 | 9 | 80 | 20 | M8x25 | 46.49 | 48.17 | 0.60 | 0.5 | 0.50 | 0.87 | 4.47 |
| QHH30HA | | | | | | | 60 | 93 | 120.4 | 21.75 | | | | | | | | | | | | | | | 56.72 | 65.09 | 0.83 | 0.89 | 0.89 | 1.15 | |
| QHH35CA | 55 | 7.5 | 18 | 70 | 50 | 10 | 50 | 80 | 113.6 | 19 | 7.5 | 12 | M8x12 | 10.2 | 15.5 | 13.5 | 34 | 29 | 14 | 12 | 9 | 80 | 20 | M8x25 | 60.52 | 63.84 | 1.07 | 0.76 | 0.76 | 1.44 | 6.30 |
| QHH35HA | | | | | | | 72 | 105.8 | 139.4 | 20.9 | | | | | | | | | | | | | | | 73.59 | 86.24 | 1.45 | 1.33 | 1.33 | 1.90 | |
| QHH45CA | 70 | 9.2 | 20.5 | 86 | 60 | 13 | 60 | 97 | 139.4 | 23 | 10 | 12.9 | M10x17 | 16 | 18.5 | 20 | 45 | 38 | 20 | 17 | 14 | 105 | 22.5 | M12x35 | 89.21 | 94.81 | 1.83 | 1.38 | 1.38 | 2.72 | 10.41 |
| QHH45HA | | | | | | | 80 | 128.8 | 171.2 | 29.09 | | | | | | | | | | | | | | | 108.72 | 128.43 | 2.47 | 2.41 | 2.41 | 3.59 | |

Note : 1 kgf = 9.81 N

Linear Guideways

QH Series

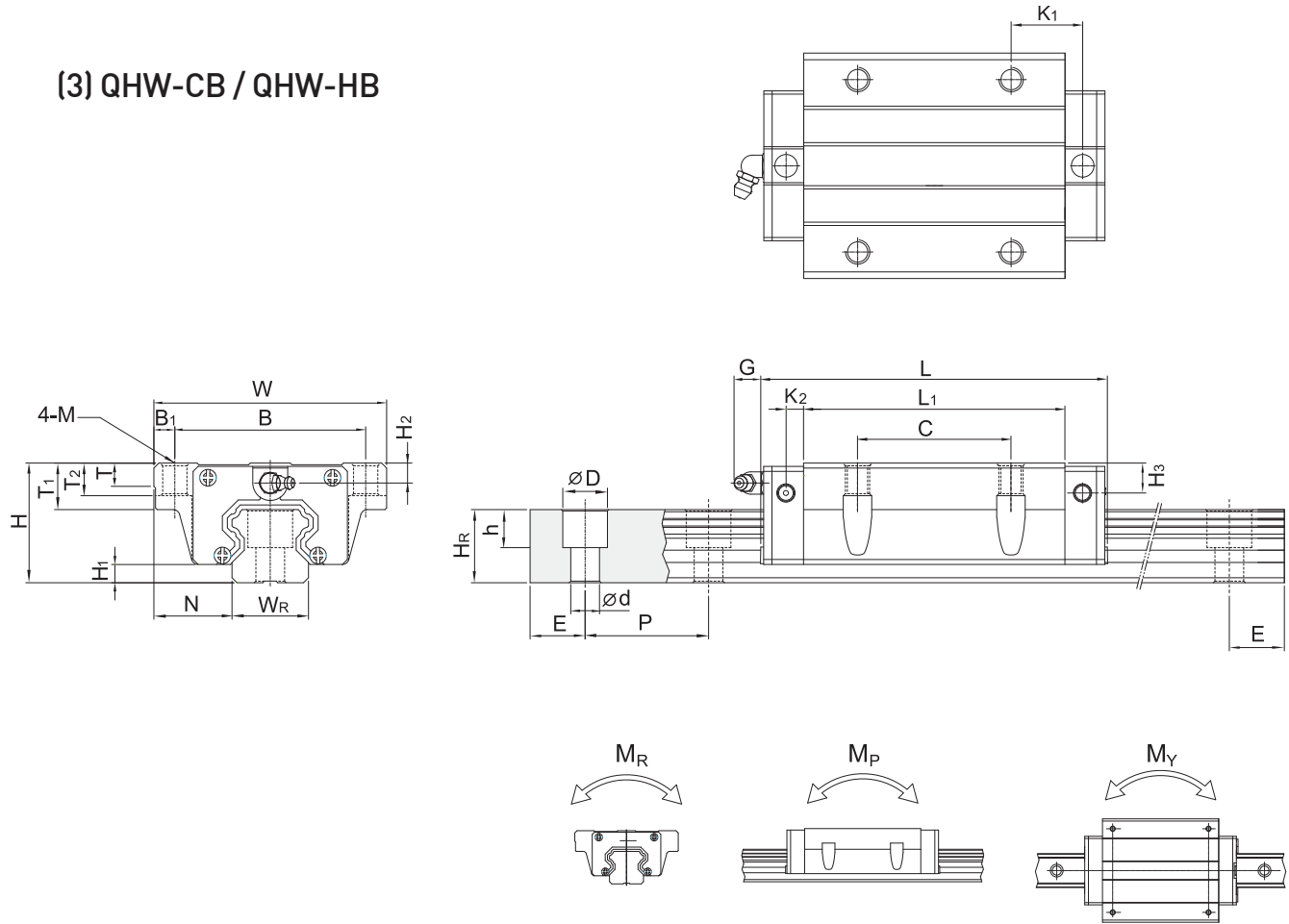
(2) QHW-CA / QHW-HA



| Model No. | Dimensions of Assembly (mm) | | Dimensions of Block (mm) | | | | | | | | | | | | | | | Dimensions of Rail (mm) | | | | | | | | | | Mounting Bolt for Rail (mm) | Basic Dynamic Load Rating C (kN) | Basic Static Load Rating C ₀ (kN) | Static Rated Moment | | | Weight | |
|-----------|-----------------------------|----------------|--------------------------|-----|-----|----------------|----|----------------|-------|----------------|----------------|------|-----|------|----------------|----------------|----------------|-------------------------|----------------|----------------|-----|-----|-----|-----|------|----------------|----------------|-----------------------------|----------------------------------|--|---------------------|-------|-------|--------|--|
| | H | H ₁ | N | W | B | B ₁ | C | L ₁ | L | K ₁ | K ₂ | G | M | T | T ₁ | T ₂ | H ₂ | H ₃ | W _R | H _R | D | h | d | P | E | M _R | M _P | | | | M _Y | Block | Rail | | |
| | kgf | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | | | | kgf | kgf | | | |
| QHW15CA | 24 | 4 | 16 | 47 | 38 | 4.5 | 30 | 39.4 | 61.4 | 8 | 5 | 5.3 | M5 | 6 | 8.9 | 6.95 | 3.95 | 4.2 | 15 | 15 | 7.5 | 5.3 | 4.5 | 60 | 20 | M4x16 | 13.88 | 14.36 | 0.1 | 0.08 | 0.08 | 0.17 | 1.45 | | |
| QHW20CA | 30 | 4.6 | 21.5 | 63 | 53 | 5 | 40 | 50.5 | 76.7 | 9.75 | 6 | 12 | M6 | 8 | 10 | 9.5 | 6 | 6 | 20 | 17.5 | 9.5 | 8.5 | 6 | 60 | 20 | M5x16 | 23.08 | 25.63 | 0.26 | 0.19 | 0.19 | 0.40 | 2.21 | | |
| QHW20HA | | | | | | | | 65.2 | 91.4 | 17.1 | | | | | | | | | | | | | | | | | | | | | | | | | |
| QHW25CA | 36 | 5.5 | 23.5 | 70 | 57 | 6.5 | 45 | 58 | 83.4 | 10.7 | 6 | 12 | M8 | 8 | 14 | 10 | 6 | 5 | 23 | 22 | 11 | 9 | 7 | 60 | 20 | M6x20 | 31.78 | 33.68 | 0.39 | 0.31 | 0.31 | 0.59 | 3.21 | | |
| QHW25HA | | | | | | | | 78.6 | 104 | 21 | | | | | | | | | | | | | | | | | | | | | | | | | |
| QHW30CA | 42 | 6 | 31 | 90 | 72 | 9 | 52 | 70 | 97.4 | 13.5 | 6.25 | 12 | M10 | 8.5 | 16 | 10 | 6.5 | 6 | 28 | 26 | 14 | 12 | 9 | 80 | 20 | M8x25 | 46.49 | 48.17 | 0.6 | 0.5 | 0.5 | 1.09 | 4.47 | | |
| QHW30HA | | | | | | | | 93 | 120.4 | 25.75 | | | | | | | | | | | | | | | | | | | | | | | | | |
| QHW35CA | 48 | 7.5 | 33 | 100 | 82 | 9 | 62 | 80 | 113.6 | 13 | 7.5 | 12 | M10 | 10.1 | 18 | 13 | 8.5 | 6.5 | 34 | 29 | 14 | 12 | 9 | 80 | 30 | M8x25 | 60.52 | 63.84 | 1.07 | 0.76 | 0.76 | 1.56 | 6.30 | | |
| QHW35HA | | | | | | | | 105.8 | 139.4 | 25.9 | | | | | | | | | | | | | | | | | | | | | | | | | |
| QHW45CA | 60 | 9.2 | 37.5 | 120 | 100 | 10 | 80 | 97 | 139.4 | 13 | 10 | 12.9 | M12 | 15.1 | 22 | 15 | 8.5 | 10 | 45 | 38 | 20 | 17 | 14 | 105 | 22.5 | M12x35 | 89.21 | 94.81 | 1.83 | 1.38 | 1.38 | 2.79 | 10.41 | | |
| QHW45HA | | | | | | | | 128.8 | 171.2 | 28.9 | | | | | | | | | | | | | | | | | | | | | | | | | |

Note : 1 kgf = 9.81 N

(3) QHW-CB / QHW-HB



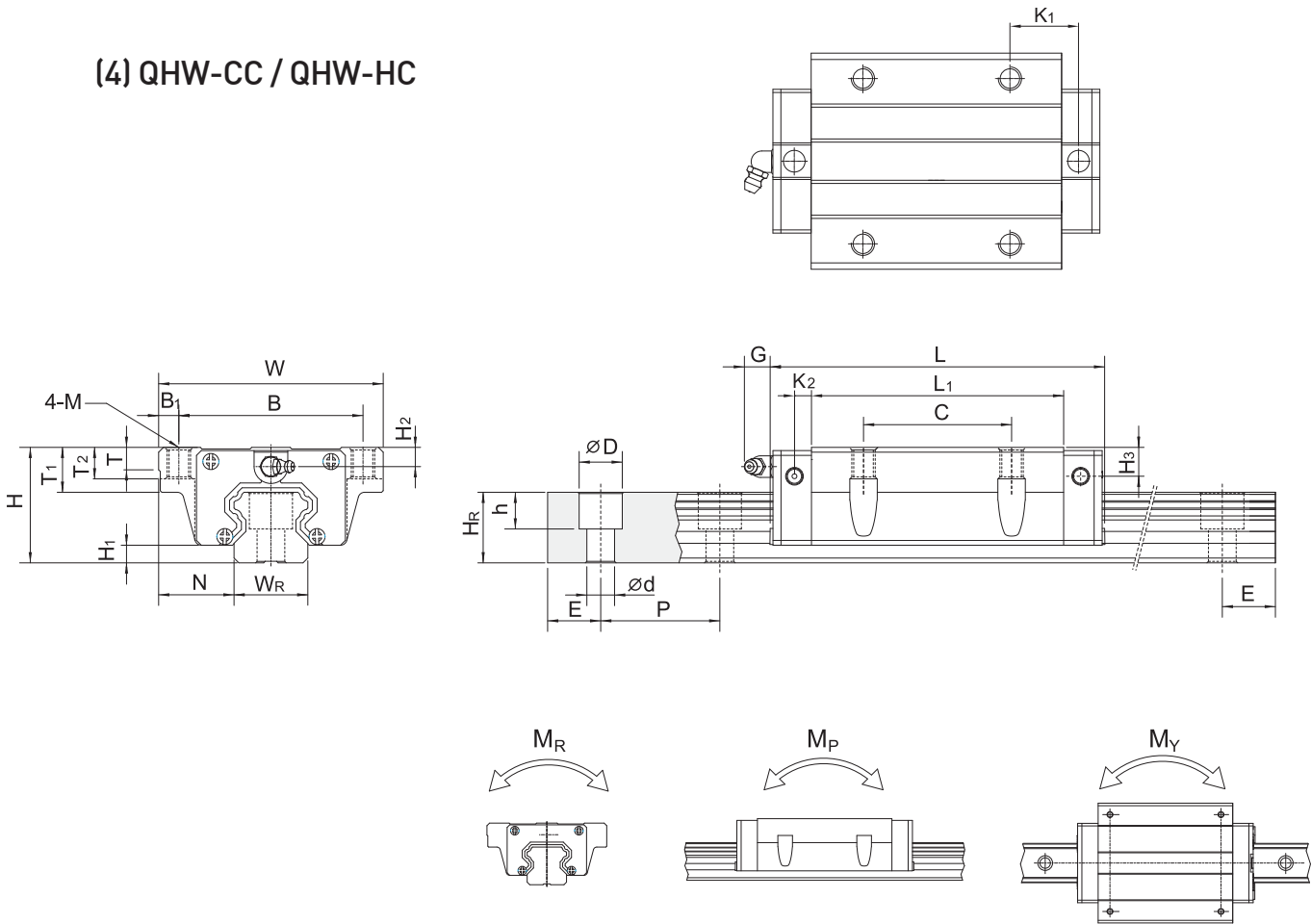
| Model No. | Dimensions of Assembly (mm) | | Dimensions of Block (mm) | | | | | | | | | | | | | | Dimensions of Rail (mm) | | | | | Mounting Bolt for Rail (mm) | Basic Dynamic Load Rating C(kN) | Basic Static Load Rating C ₀ (kN) | Static Rated Moment | | | Weight | | | | | |
|-----------|-----------------------------|----------------|--------------------------|-----|-----|----------------|----|----------------|-------|----------------|----------------|-----|------|----|----------------|----------------|-------------------------|----------------|----------------|----------------|-----|-----------------------------|---------------------------------|--|---------------------|--------|--------|--------|----------------|----------------|----------------|-------|-------|
| | H | H ₁ | N | W | B | B ₁ | C | L ₁ | L | K ₁ | K ₂ | G | M | T | T ₁ | T ₂ | H ₂ | H ₃ | W _R | H _R | D | | | | h | d | P | E | M _R | M _P | M _Y | Block | Rail |
| | kgf | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | | | | mm | mm | mm | mm | mm | kN-m | kN-m | kN-m | kg |
| QHW15CB | 24 | 4 | 16 | 47 | 38 | 4.5 | 30 | 39.4 | 61.4 | 8 | 5 | 5.3 | Ø4.5 | 6 | 8.9 | 6.95 | 3.95 | 4.2 | 15 | 15 | 7.5 | 5.3 | 4.5 | 60 | 20 | M4x16 | 13.88 | 14.36 | 0.1 | 0.08 | 0.08 | 0.17 | 1.45 |
| QHW20CB | 30 | 4.6 | 21.5 | 63 | 53 | 5 | 40 | 50.5 | 76.7 | 9.75 | | | | | | | | | | | | | | | | | | | | | | | |
| QHW20HB | | | | | | | | 65.2 | 91.4 | 17.1 | | | | | | | | | | | | | | | | M5x16 | 27.53 | 31.67 | 0.31 | 0.27 | 0.27 | 0.52 | 2.21 |
| QHW25CB | 36 | 5.5 | 23.5 | 70 | 57 | 6.5 | 45 | 58 | 83.4 | 10.7 | | | | | | | | | | | | | | | | | | | | | | | |
| QHW25HB | | | | | | | | 78.6 | 104 | 21 | | | | | | | | | | | | | | | | M6x20 | 39.30 | 43.62 | 0.5 | 0.45 | 0.45 | 0.80 | 3.21 |
| QHW30CB | 42 | 6 | 31 | 90 | 72 | 9 | 52 | 70 | 97.4 | 13.5 | | | | | | | | | | | | | | | | | | | | | | | |
| QHW30HB | | | | | | | | 93 | 120.4 | 25.75 | | | | | | | | | | | | | | | | M8x25 | 56.72 | 65.09 | 0.83 | 0.89 | 0.89 | 1.44 | 4.47 |
| QHW35CB | 48 | 7.5 | 33 | 100 | 82 | 9 | 62 | 80 | 113.6 | 13 | | | | | | | | | | | | | | | | | | | | | | | |
| QHW35HB | | | | | | | | 105.8 | 139.4 | 25.9 | | | | | | | | | | | | | | | | M8x25 | 73.59 | 86.24 | 1.45 | 1.33 | 1.33 | 2.06 | 6.30 |
| QHW45CB | 60 | 9.2 | 37.5 | 120 | 100 | 10 | 80 | 97 | 139.4 | 13 | | | | | | | | | | | | | | | | | | | | | | | |
| QHW45HB | | | | | | | | 128.8 | 171.2 | 28.9 | | | | | | | | | | | | | | | | M12x35 | 108.72 | 128.43 | 2.47 | 2.41 | 2.41 | 3.69 | 10.41 |

Note : 1 kgf = 9.81 N

Linear Guideways

QH Series

(4) QHW-CC / QHW-HC



| Model No. | Dimensions of Assembly (mm) | | Dimensions of Block (mm) | | | | | | | | | | | | | | Dimensions of Rail (mm) | | | | | | Mounting Bolt for Rail (mm) | Basic Dynamic Load Rating C(kN) | Basic Static Load Rating C ₀ (kN) | Static Rated Moment | | | Weight | | | | | | |
|-----------|-----------------------------|----------------|--------------------------|-----|-----|----------------|----|----------------|-------|----------------|----------------|------|-----|------|----------------|----------------|-------------------------|----------------|----------------|----------------|-----|-----|-----------------------------|---------------------------------|--|---------------------|-------|-------|----------------|----------------|----------------|-------|-------|----|--|
| | H | H ₁ | N | W | B | B ₁ | C | L ₁ | L | K ₁ | K ₂ | G | M | T | T ₁ | T ₂ | H ₂ | H ₃ | W _R | H _R | D | h | | | | d | P | E | M _R | M _P | M _Y | Block | Rail | | |
| | kg | kg | kg | kg | kg | kg | kg | kg | kg | kg | kg | kg | kg | kg | kg | kg | kg | kg | kg | kg | kg | kg | | | | kg | kg | kg | kg | kg | kg | kg | kg | kg | |
| QHW15CC | 24 | 4 | 16 | 47 | 38 | 4.5 | 30 | 39.4 | 61.4 | 8 | 5 | 5.3 | M5 | 6 | 8.9 | 6.95 | 3.95 | 4.2 | 15 | 15 | 7.5 | 5.3 | 4.5 | 60 | 20 | M4x16 | 13.88 | 14.36 | 0.1 | 0.08 | 0.08 | 0.17 | 1.45 | | |
| QHW20CC | 30 | 4.6 | 21.5 | 63 | 53 | 5 | 40 | 50.5 | 76.7 | 9.75 | 6 | 12 | M6 | 8 | 10 | 9.5 | 6 | 6 | 20 | 17.5 | 9.5 | 8.5 | 6 | 60 | 20 | M5x16 | 23.08 | 25.63 | 0.26 | 0.19 | 0.19 | 0.40 | 2.21 | | |
| QHW20HC | | | | | | | | 65.2 | 91.4 | 17.1 | | | | | | | | | | | | | | | | | | | | | | | | | |
| QHW25CC | 36 | 5.5 | 23.5 | 70 | 57 | 6.5 | 45 | 58 | 83.4 | 10.7 | 6 | 12 | M8 | 8 | 14 | 10 | 6 | 5 | 23 | 22 | 11 | 9 | 7 | 60 | 20 | M6x20 | 31.78 | 33.68 | 0.39 | 0.31 | 0.31 | 0.59 | 3.21 | | |
| QHW25HC | | | | | | | | 78.6 | 104 | 21 | | | | | | | | | | | | | | | | | | | | | | | | | |
| QHW30CC | 42 | 6 | 31 | 90 | 72 | 9 | 52 | 70 | 97.4 | 13.5 | 6.25 | 12 | M10 | 8.5 | 16 | 10 | 6.5 | 6 | 28 | 26 | 14 | 12 | 9 | 80 | 20 | M8x25 | 46.49 | 48.17 | 0.6 | 0.5 | 0.5 | 1.09 | 4.47 | | |
| QHW30HC | | | | | | | | 93 | 120.4 | 25.75 | | | | | | | | | | | | | | | | | | | | | | | | | |
| QHW35CC | 48 | 7.5 | 33 | 100 | 82 | 9 | 62 | 80 | 113.6 | 13 | 7.5 | 12 | M10 | 10.1 | 18 | 13 | 8.5 | 6.5 | 34 | 29 | 14 | 12 | 9 | 80 | 30 | M8x25 | 60.52 | 63.84 | 1.07 | 0.76 | 0.76 | 1.56 | 6.30 | | |
| QHW35HC | | | | | | | | 105.8 | 139.4 | 25.9 | | | | | | | | | | | | | | | | | | | | | | | | | |
| QHW45CC | 60 | 9.2 | 37.5 | 120 | 100 | 10 | 80 | 97 | 139.4 | 13 | 10 | 12.9 | M12 | 15.1 | 22 | 15 | 8.5 | 10 | 45 | 38 | 20 | 17 | 14 | 105 | 22.5 | M12x35 | 89.21 | 94.81 | 1.83 | 1.38 | 1.38 | 2.79 | 10.41 | | |
| QHW45HC | | | | | | | | 128.8 | 171.2 | 28.9 | | | | | | | | | | | | | | | | | | | | | | | | | |

Note : 1 kgf = 9.81 N