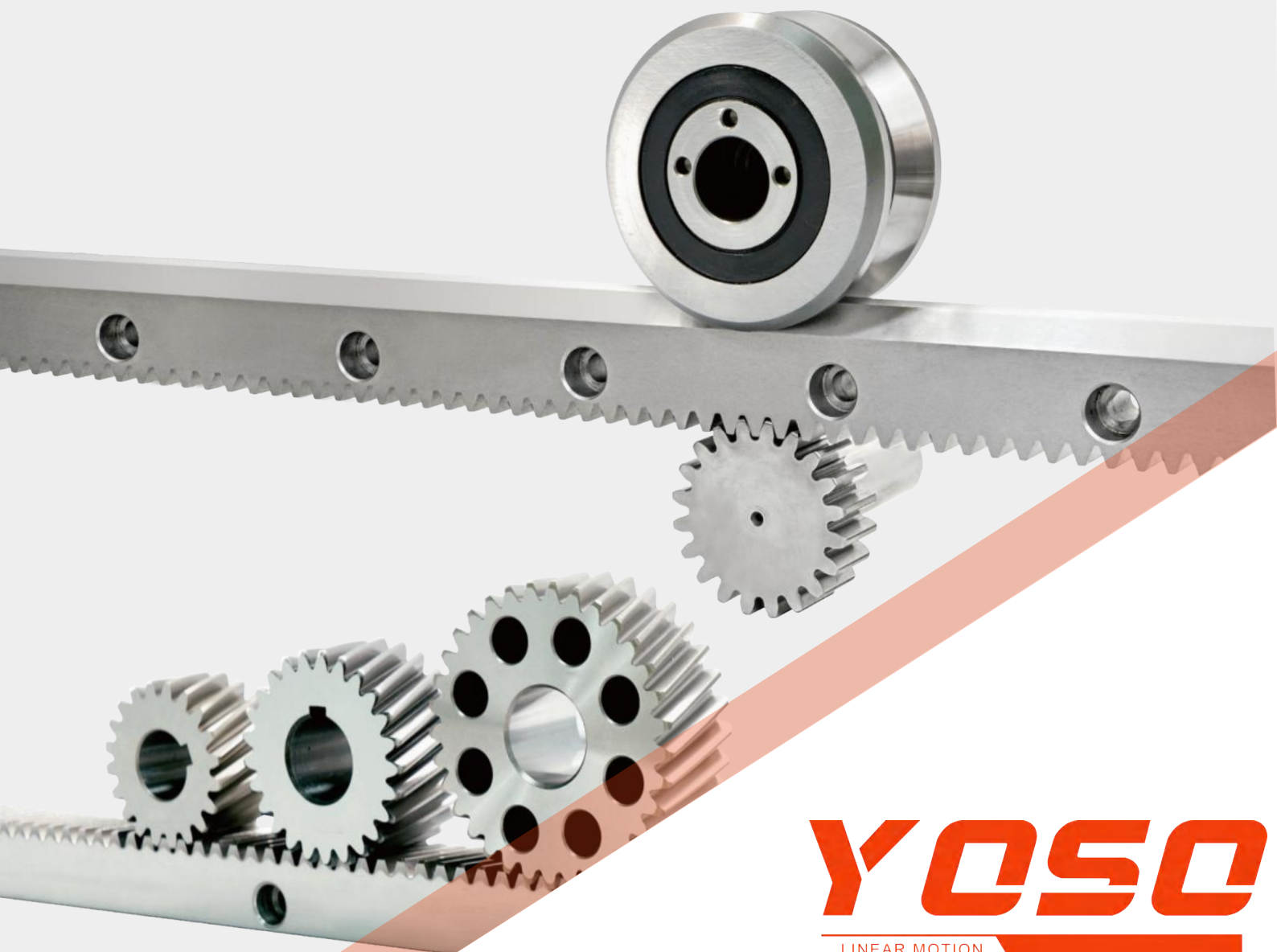




**YOSO**  
LINEAR MOTION

**RACKS  
PINIONS**

# About Us

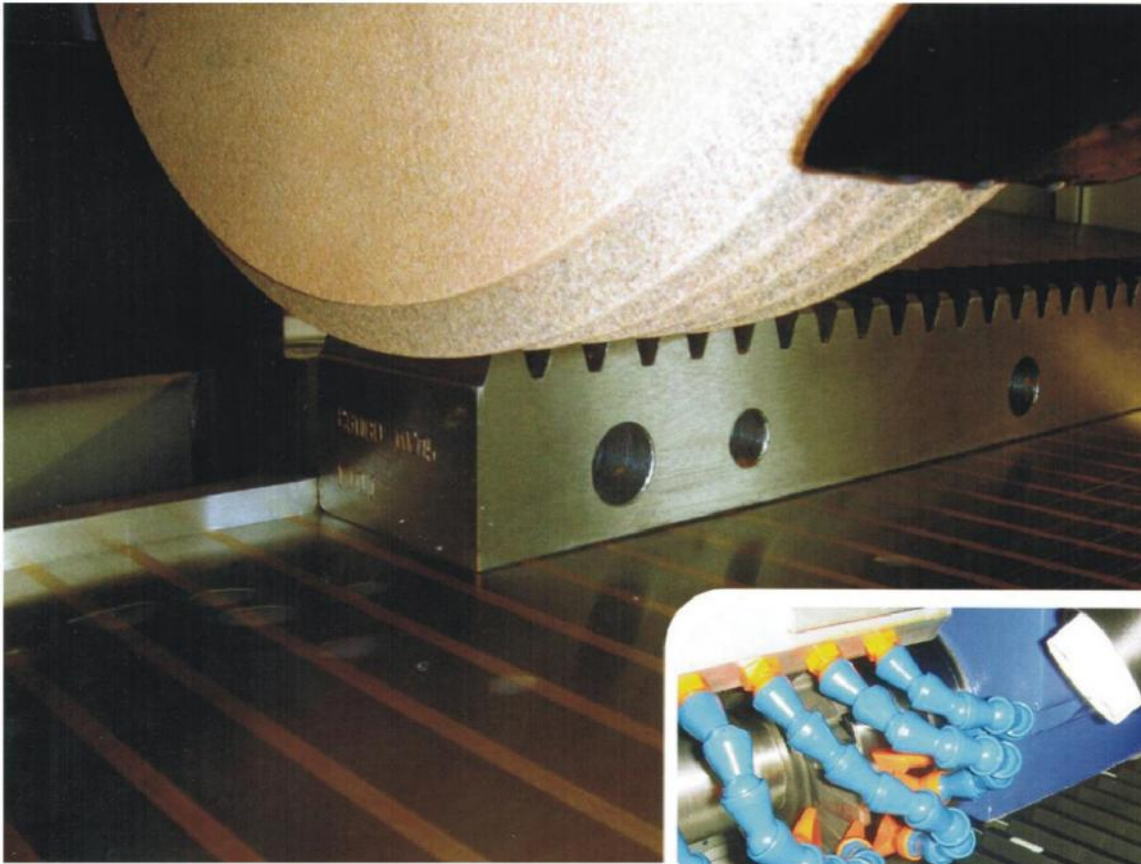
Jingpeng Machinery Equipment (Shanghai) Co., Ltd. was established in 2015. Its main products include ball screws, linear guides, cross guides, precision ball screws/splines, single-axis actuators, medium and large bearings, racks, couplings, support units, servo motors and drivers, etc. In cooperation with the German YOSO company, Jingpeng has independent import and export rights. Jingpeng has completed trademark registration and continues to promote its use. Now YOSO is one of the world's well-known brands. The company's products are sold all over the world and exported to the United States, Spain, Turkey, Italy, Austria, Brazil and other countries. Jingpeng Machinery learns German production technology, combines European and Japanese design concepts, and has specially established an independent R&D center, introducing advanced manufacturing equipment and high-precision testing equipment at home and abroad, and has completed an annual output value of 1.5 million sets of screw guides.

The product application areas are as follows: Automation industry Robotics industry Semiconductor industry Industrial machinery Medical equipment Green energy industry Machine tools Automatic storage system products have outstanding performance in various industrial fields. Jingpeng Machinery integrates global resources, continues to innovate, and works tirelessly for the better welfare of mankind and a better working environment. In the field of transmission components, Jingpeng Machinery has become the best partner with high-quality professional manufacturing and solutions, and provides technical support and industry analysis to meet customer needs. At the same time, we have a solid business team to ensure the stability of the foreign trade sales system and strong market development capabilities, so that our products can be exported to all parts of the world at the fastest speed. Jingpeng Machinery is a global professional manufacturer of transmission control products and system technology products.

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## ■ Production Equipment



• Germany CNC grinding and milling machine



• Milling the rack tooth

■ Production Equipment

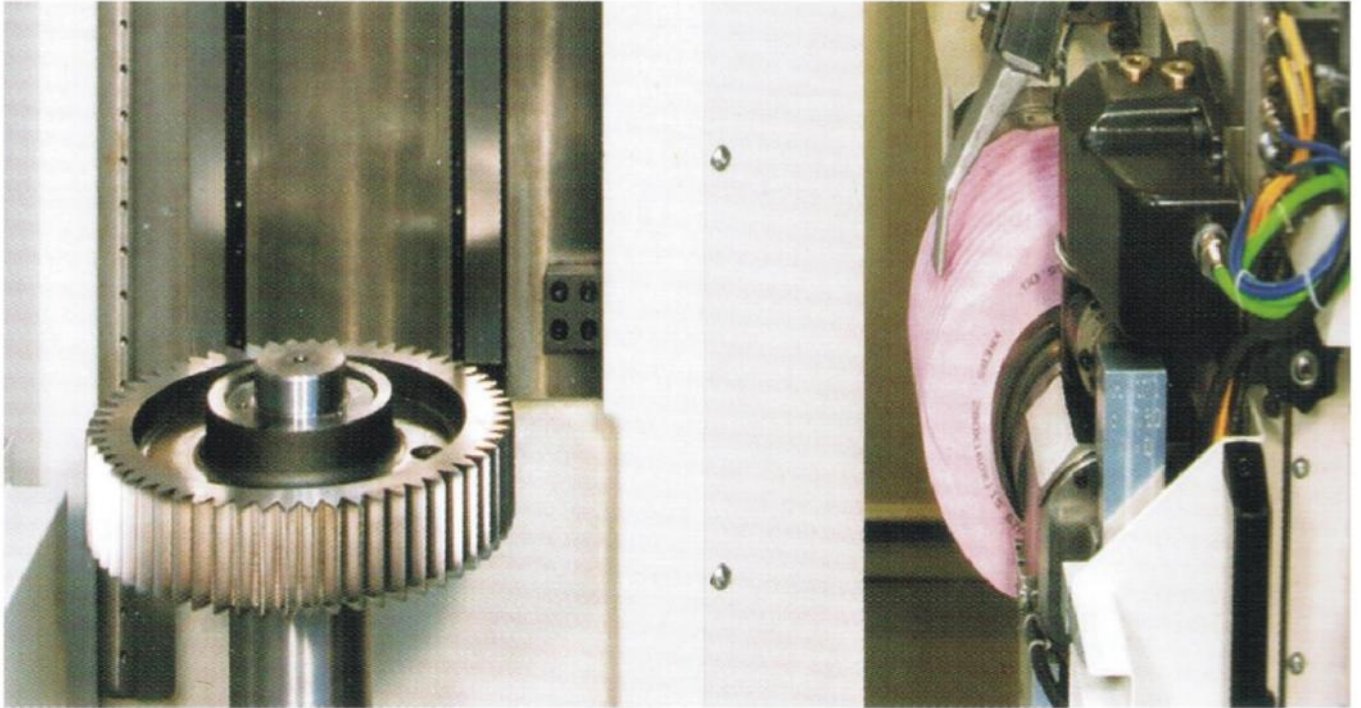


● Grinding the teeth of gear rack



● Testing gear rack

■ Production Equipment

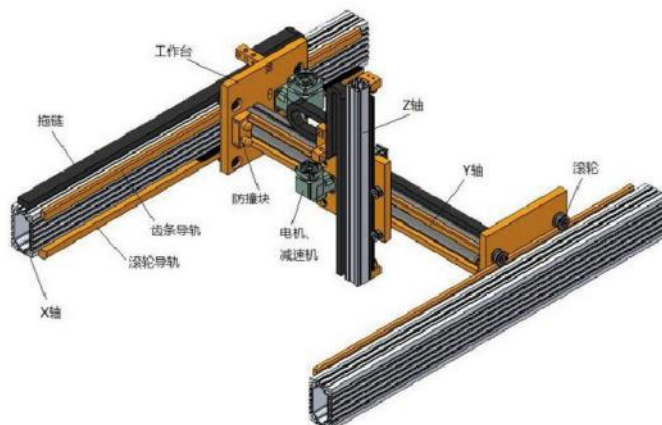


• Grinding the teeth of pinion

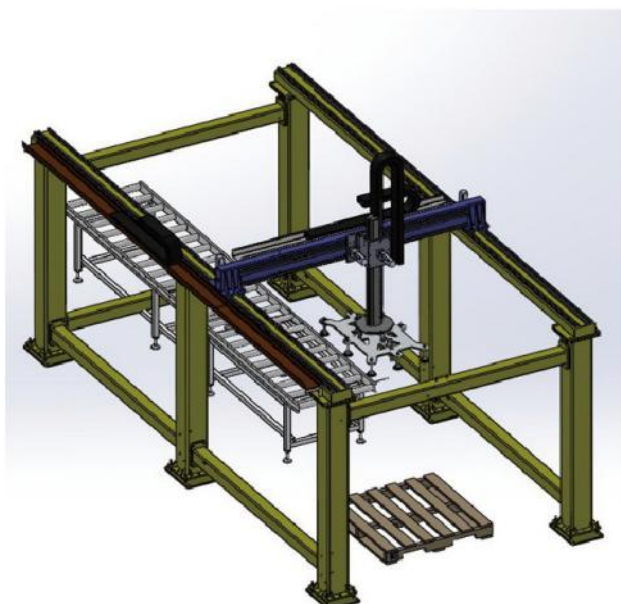


• Testing the pinion

## ■ Production Equipment



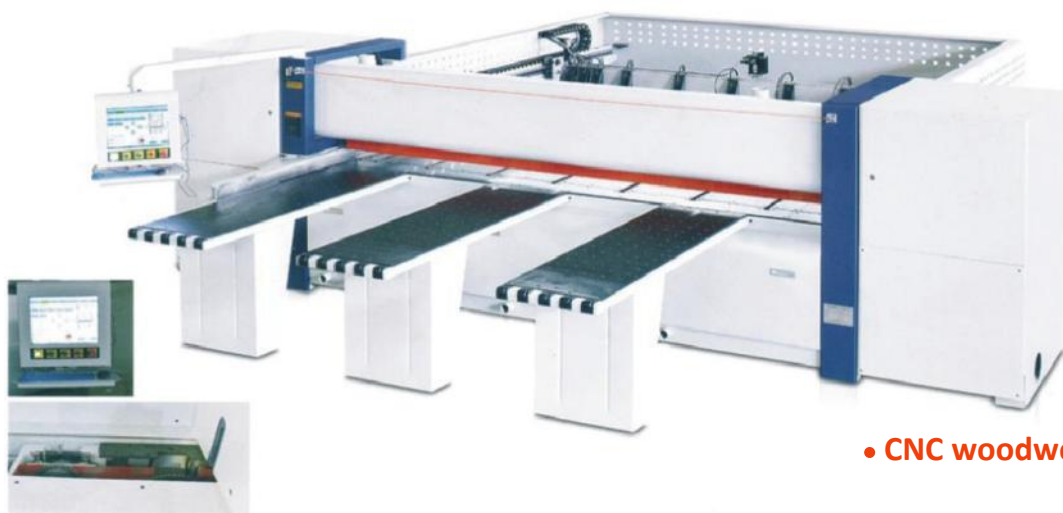
• Precision CNC + truss manipulator



• Heavy truss manipulator / ground rail robot



## ■ Range of Application



• CNC woodworking machine



• CNC machining center

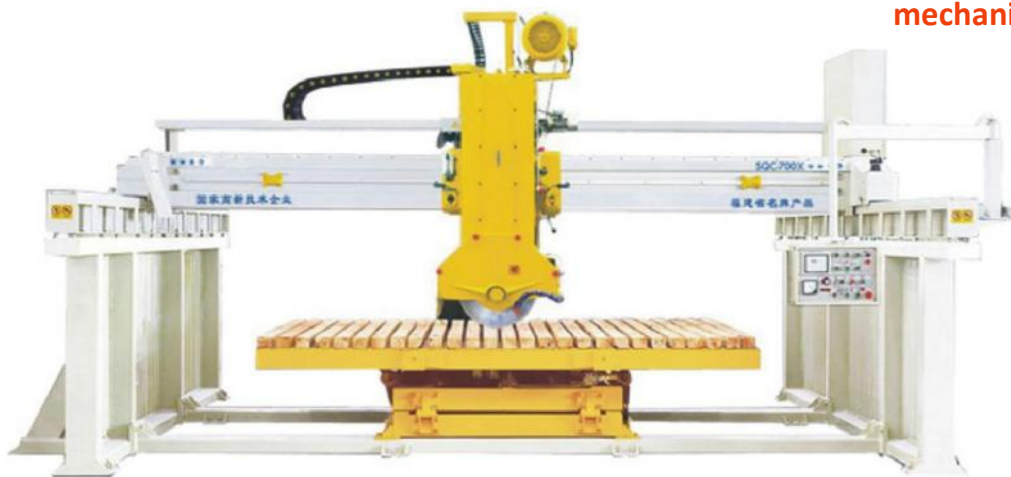


• Laser cutting machine

## ■ Range of Application



- CNC 3 axis Gantry multiarm mechanically manual



- Marble cutter

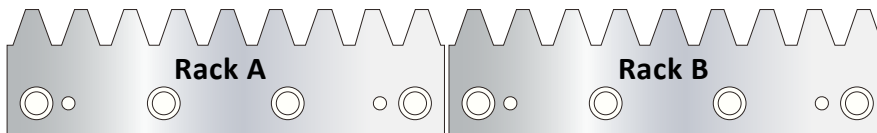


- Engraving machine

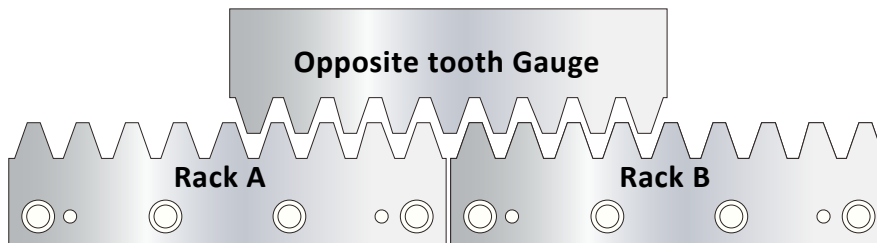
## ■ Rack Assembly

1. Install the rack A and rack B on the base.  
(The side of the rack and the base are corresponding to the installation hole)
2. Install the reverse gauge to confirm that the pitch between the rack and the rack is correct? (Such as tooth pitch is abnormal, please contact our technical staff)
3. Mount the pin to the hole after confirming, the pin is fixed to the pin hole on the side of the rack.

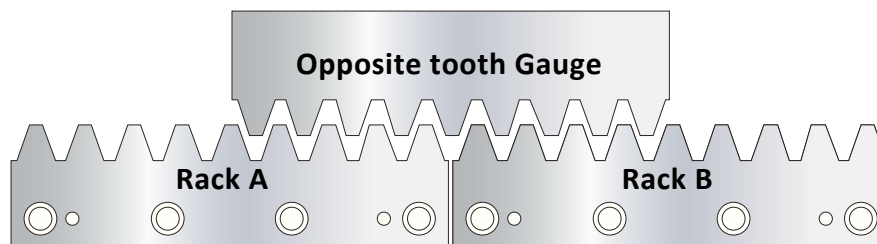
### Installation step 1



### Installation step 2



### Installation step 3



## ■ World Major Standard Specification of Racks and Pinions

| Specification | Full Name                                      |
|---------------|------------------------------------------------|
| AGMA          | American Gear Manufacturers Association        |
| DIN           | Deutsches Institut für Normung                 |
| ISO           | International Organization for Standardization |
| JIS           | Japanese Industrial Standards                  |

## ■ Quality Grade Comparison Table

| Standard | Quality Grade |    |    |    |    |    |    |    |    |     |    |    |
|----------|---------------|----|----|----|----|----|----|----|----|-----|----|----|
| ISO      | 1             | 2  | 3  | 4  | 5  | 6  | 7  | 8  | 9  | 10  | 11 | 12 |
| DIN      |               | 2  | 3  | 4  | 5  | 6  | 7  | 8  | 9  | 10  | 11 | 12 |
| AGMA     |               | 15 | 14 | 13 | 12 | 11 | 10 | 9  | 8  | 7   | 6  | 5  |
| JIS      |               |    |    | 0  | 1  | 2  | 3  | 4  | 5  | 6   | 7  | 8  |
| JIS N    |               |    |    | N4 | N5 | N6 | N7 | N8 | N9 | N10 |    |    |

Compared with Pitch Error:  $F_p$   $f_p$

## Contents of Racks

### DIN

| Code  | DIN 3962 | Material | Type                            | Teeth Treatment | Hardness                          | Mounted Holes | Module                         | Page |
|-------|----------|----------|---------------------------------|-----------------|-----------------------------------|---------------|--------------------------------|------|
| CHTGH | DIN 5    | S45C     | Helical Right Hand<br>19°31'42" | Teeth Ground    | Hardened<br>HRC 50°-55°           | Holes         | 1.5, 2, 2.5, 3, 4, 5, 6, 8     | P.13 |
| CHTGH | DIN 6    | S45C     |                                 |                 |                                   |               | 1.5, 2, 2.5, 3, 4, 5, 6, 8, 10 | P.14 |
| MHTG  | DIN 6    | SCM440   |                                 |                 | *                                 |               | 1.5, 2, 2.5, 3, 4, 5, 6, 8     | P.15 |
| CHTM  | DIN 8    | S45C     |                                 | Milled          | *                                 |               | 1.5, 2, 3, 4, 5, 6, 8, 10      | P.16 |
| CHTMQ | DIN 8    | S45C     |                                 |                 | HRC18°-22°<br>Quenched & Tempered |               | 1.5, 2, 3, 4, 5, 6, 8, 10      | P.17 |
| CHTMH | DIN 10   | S45C     |                                 |                 | Hardened<br>HRC 50°-55°           |               | 1.5, 2, 3, 4, 5, 6, 8, 10      | P.18 |
| CSTGH | DIN 5    | S45C     | Straight                        | Teeth Ground    | Hardened<br>HRC 50°-55°           | Holes         | 2, 3, 4, 5                     | P.19 |
| CSTGH | DIN 6    | S45C     |                                 |                 |                                   |               | 1.5, 2, 2.5, 3, 4, 5, 6, 8     | P.20 |
| CSTM  | DIN 8    | S45C     |                                 |                 | *                                 |               | 1.5, 2, 3, 4, 5, 6, 8, 10      | P.21 |
| CSTMQ | DIN 8    | S45C     |                                 | Milled          | Quenched&Tempered<br>HRC 18°-22°  |               | 1.5, 2, 3, 4, 5, 6, 8, 10      | P.22 |
| CSTMH | DIN 10   | S45C     |                                 |                 | Hardened<br>HRC 50°-55°           |               | 1.5, 2, 3, 4, 5, 6, 8, 10      | P.23 |
|       |          |          |                                 |                 |                                   |               |                                |      |

### JIS

| Code  | JIS   | Material | Type           | Teeth Treatment | Hardness                          | Mounted Holes  | Module                     | Page |
|-------|-------|----------|----------------|-----------------|-----------------------------------|----------------|----------------------------|------|
| MHTGQ | JIS 1 | SCM440   | Helical 20°30' | Teeth Ground    | HRC18°-22°<br>Quenched & Tempered | Holes          | 1, 1.5, 2, 2.5, 3          | P.24 |
| CHTM  | JIS 4 | S45C     | Helical 15°    | Milled          | *                                 | with/out Holes | 2, 3                       | P.25 |
| CSTGH | JIS 2 | S45C     | Straight       | Teeth Ground    | Hardened<br>HRC 50°-55°           | with/out Holes | 1, 1.5, 2, 2.5, 3, 4, 5, 6 | P.26 |
| MSTMQ | JIS 4 | SCM440   |                | Milled          | HRC18°-22°<br>Quenched & Tempered | with/out Holes | 1.5, 2, 2.5, 3, 4, 5, 6    | P.27 |
| CSTM  | JIS 4 | S45C     |                |                 | *                                 | with/out Holes | 1, 1.5, 2, 2.5, 3, 4, 5, 6 | P.28 |
| CSTMH | JIS 5 | S45C     |                |                 | Hardened<br>HRC 50°-55°           | with/out Holes | 1.5, 2, 2.5, 3, 4, 5, 6    | P.29 |

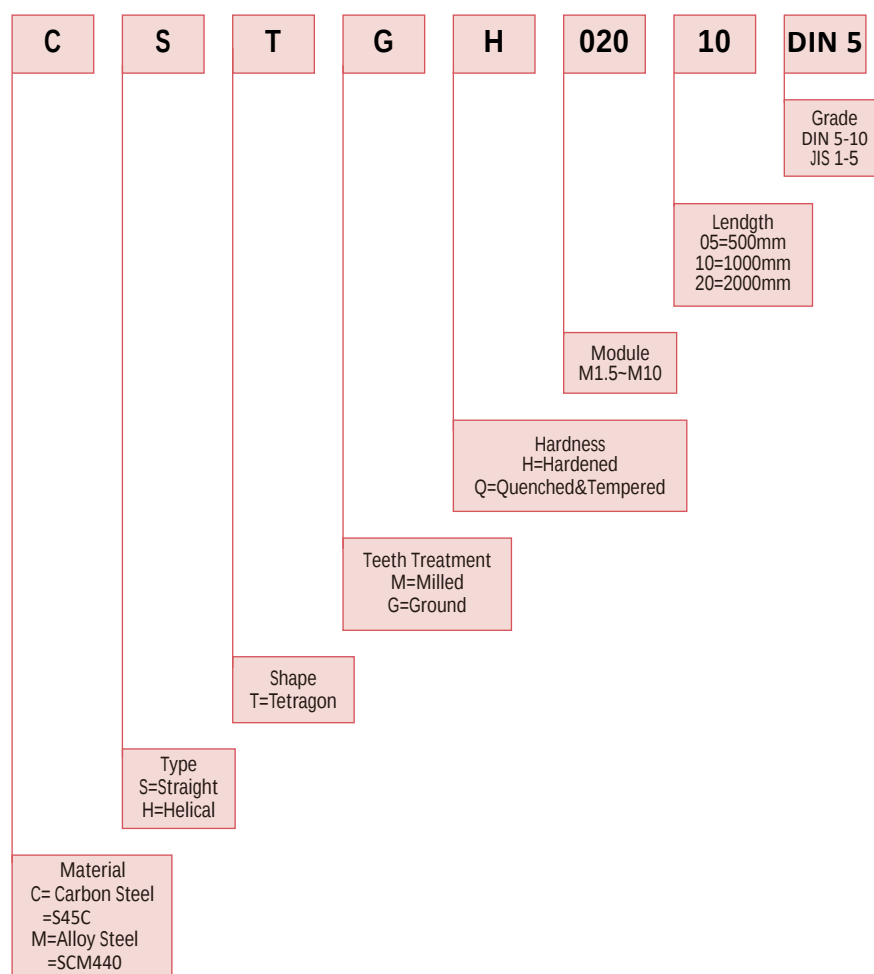
### CP

| Code     | JIS   | Material | Type     | Teeth Treatment | Hardness                          | Mounted Holes  | CP            | Page |
|----------|-------|----------|----------|-----------------|-----------------------------------|----------------|---------------|------|
| MSTGQ-CP | JIS 1 | SCM440   | Straight | Teeth Ground    | HRC18°-22°<br>Quenched & Tempered | with/out Holes | 5, 10         | P.30 |
| MSTGH-CP | JIS 1 | SCM440   |          |                 | Hardened<br>HRC 55°-58°           | with/out Holes | 5, 10         | P.31 |
| CSTM-CP  | JIS 4 | S45C     |          | Milled          | *                                 | with/out Holes | 5, 10, 15, 20 | P.32 |

## Rack Code Instruction

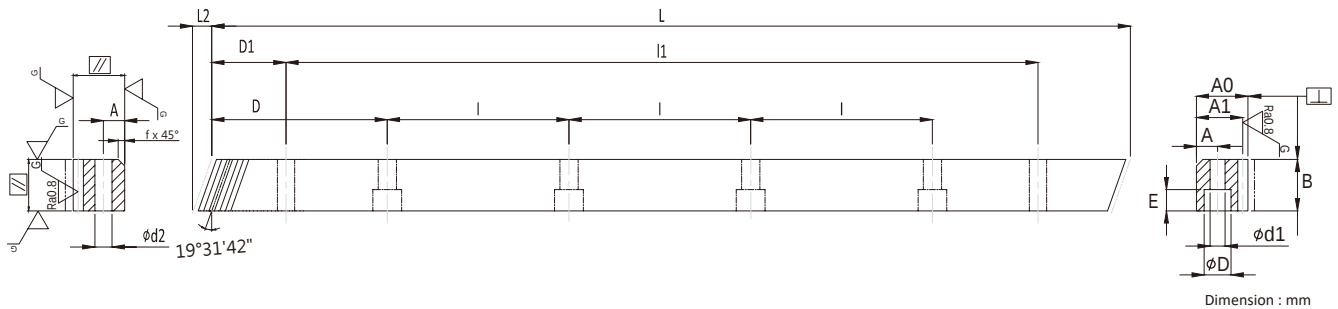


Example : CSTGH02010-DIN5



Remarks: Lengths, holes, materials, surface treatments (sandblasted, phosphated, Black-coated, sides ground) and other requirements all could be customized.

## CHTGH-DIN5



Dimension : mm

## Series CHTGH-DIN5 Helical Teeth Ground Racks

## Quality Grade DIN 5

Material S45C

Right Hand Angle 19°31'42"

Hardness HRC 50~55°

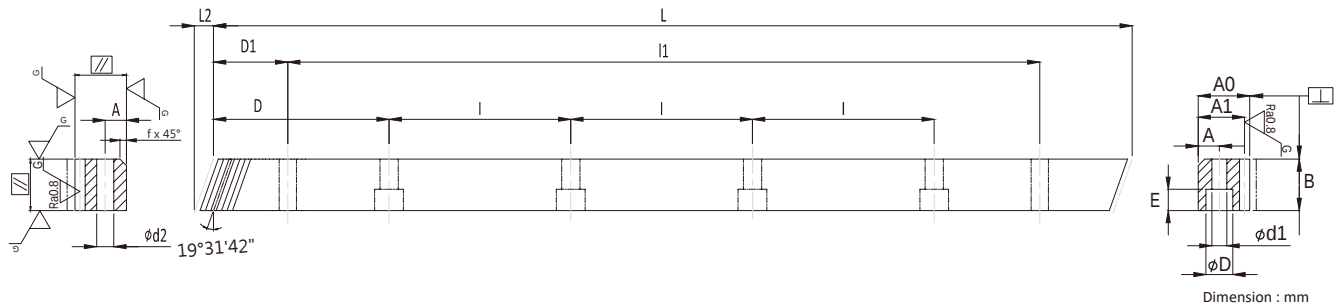
Ground on all sides after hardening.

Total Pitch Error:  $F_p / 1000 \leq 0.026 \text{ mm}$ 

Room Temperature is 25°C

| Code            | Module | L       | L2    | No. of Teeth | B  | A0 | A1   | D    | I   | No. of Holes | A  | ød1 | øD | E  | D1   | I1     | ød2  | f | F <sub>ta</sub> kN | KG   |
|-----------------|--------|---------|-------|--------------|----|----|------|------|-----|--------------|----|-----|----|----|------|--------|------|---|--------------------|------|
| CHTGH01505-DIN5 | 1.5    | 500.00  | 6.70  | 100          | 19 | 19 | 17.5 | 62.5 | 125 | 4            | 8  | 7   | 11 | 7  | 31.7 | 436.60 | 5.7  | 2 | 4.84               | 1.3  |
| CHTGH01510-DIN5 | 1.5    | 1000.00 | 6.70  | 200          | 19 | 19 | 17.5 | 62.5 | 125 | 8            | 8  | 7   | 11 | 7  | 31.7 | 936.60 | 5.7  | 2 | 4.84               | 2.6  |
| CHTGH02005-DIN5 | 2      | 500.00  | 8.50  | 75           | 24 | 24 | 22.0 | 62.5 | 125 | 4            | 8  | 7   | 11 | 7  | 31.7 | 436.60 | 5.7  | 2 | 8.15               | 2.1  |
| CHTGH02010-DIN5 | 2      | 1000.00 | 8.50  | 150          | 24 | 24 | 22.0 | 62.5 | 125 | 8            | 8  | 7   | 11 | 7  | 31.7 | 936.60 | 5.7  | 2 | 8.15               | 4.1  |
| CHTGH02505-DIN5 | 2.5    | 500.00  | 8.50  | 60           | 24 | 24 | 21.5 | 62.5 | 125 | 4            | 9  | 7   | 11 | 7  | 31.7 | 436.60 | 5.7  | 2 | 10.19              | 2.1  |
| CHTGH02510-DIN5 | 2.5    | 1000.00 | 8.50  | 120          | 24 | 24 | 21.5 | 62.5 | 125 | 8            | 9  | 7   | 11 | 7  | 31.7 | 936.60 | 5.7  | 2 | 10.19              | 4.1  |
| CHTGH03005-DIN5 | 3      | 500.00  | 10.30 | 50           | 29 | 29 | 26.0 | 62.5 | 125 | 4            | 9  | 10  | 15 | 9  | 35   | 430.00 | 7.7  | 2 | 14.77              | 3.0  |
| CHTGH03010-DIN5 | 3      | 1000.00 | 10.30 | 100          | 29 | 29 | 26.0 | 62.5 | 125 | 8            | 9  | 10  | 15 | 9  | 35   | 930.00 | 7.7  | 2 | 14.77              | 6.0  |
| CHTGH04005-DIN5 | 4      | 506.67  | 13.80 | 38           | 39 | 39 | 35.0 | 62.5 | 125 | 4            | 12 | 10  | 15 | 9  | 33.3 | 433.00 | 7.7  | 2 | 26.49              | 5.5  |
| CHTGH04010-DIN5 | 4      | 1000.00 | 13.80 | 75           | 39 | 39 | 35.0 | 62.5 | 125 | 8            | 12 | 10  | 15 | 9  | 33.3 | 933.40 | 7.7  | 2 | 26.49              | 10.8 |
| CHTGH05005-DIN5 | 5      | 500.00  | 17.40 | 30           | 49 | 39 | 34.0 | 62.5 | 125 | 4            | 12 | 14  | 20 | 13 | 37.5 | 425.00 | 11.7 | 3 | 41.60              | 6.8  |
| CHTGH05010-DIN5 | 5      | 1000.00 | 17.40 | 60           | 49 | 39 | 34.0 | 62.5 | 125 | 8            | 12 | 14  | 20 | 13 | 37.5 | 925.00 | 11.7 | 3 | 41.60              | 13.6 |
| CHTGH06005-DIN5 | 6      | 500.00  | 20.90 | 25           | 59 | 49 | 43.0 | 62.5 | 125 | 4            | 16 | 18  | 26 | 17 | 37.5 | 425.00 | 15.7 | 3 | 60.11              | 10.3 |
| CHTGH06010-DIN5 | 6      | 1000.00 | 20.90 | 50           | 59 | 49 | 43.0 | 62.5 | 125 | 8            | 16 | 18  | 26 | 17 | 37.5 | 925.00 | 15.7 | 3 | 60.11              | 20.5 |
| CHTGH08005-DIN5 | 8      | 480.00  | 28.00 | 18           | 79 | 79 | 71.0 | 60.0 | 120 | 4            | 25 | 22  | 33 | 21 | 120  | 240.00 | 19.7 | 4 | 107.31             | 21.3 |
| CHTGH08010-DIN5 | 8      | 960.00  | 28.00 | 36           | 79 | 79 | 71.0 | 60.0 | 120 | 8            | 25 | 22  | 33 | 21 | 120  | 720.00 | 19.7 | 4 | 107.31             | 42.6 |

## CHTGH-DIN6



## Series CHTGH-DIN6 Helical Teeth Ground Racks

## Quality Grade DIN 6

Material S45C

Right Hand Angle 19°31'42"

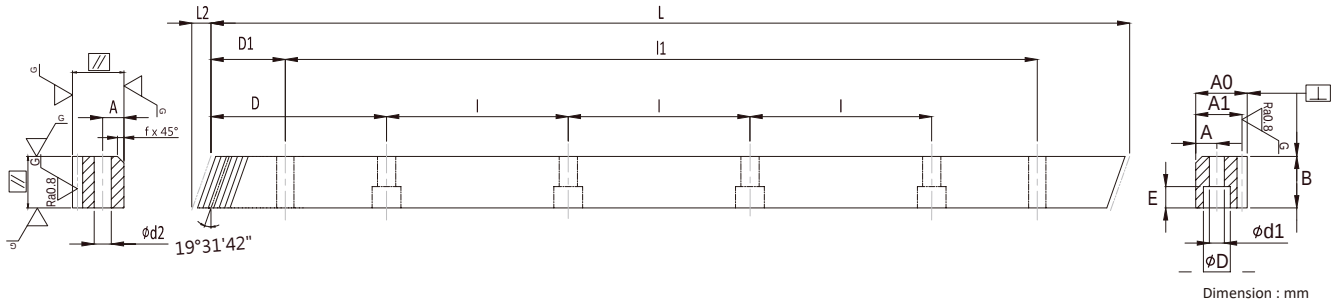
Hardness HRC 50~55°

Ground on all sides after hardening.

Total Pitch Error:  $F_p/1000 \leq 0.036 \text{ mm}$  $F_p/2000 \leq 0.047 \text{ mm} (\leq 0.024/1000 \text{ mm})$ 

| Code            | Module | L       | L2    | No. of Teeth | B  | A0 | A1   | D    | I   | No. of Holes | A  | ød1 | øD | E  | D1    | I1      | ød2  | f | F <sub>ta</sub> kN | KG   |
|-----------------|--------|---------|-------|--------------|----|----|------|------|-----|--------------|----|-----|----|----|-------|---------|------|---|--------------------|------|
| CHTGH01505-DIN6 | 1.5    | 500.00  | 6.70  | 100          | 19 | 19 | 17.5 | 62.5 | 125 | 4            | 8  | 7   | 11 | 7  | 31.7  | 436.60  | 5.7  | 2 | 4.84               | 1.3  |
| CHTGH01510-DIN6 | 1.5    | 1000.00 | 6.70  | 200          | 19 | 19 | 17.5 | 62.5 | 125 | 8            | 8  | 7   | 11 | 7  | 31.7  | 936.60  | 5.7  | 2 | 4.84               | 2.6  |
| CHTGH02005-DIN6 | 2      | 500.00  | 8.50  | 75           | 24 | 24 | 22.0 | 62.5 | 125 | 4            | 8  | 7   | 11 | 7  | 31.7  | 436.60  | 5.7  | 2 | 8.15               | 2.1  |
| CHTGH02010-DIN6 | 2      | 1000.00 | 8.50  | 150          | 24 | 24 | 22.0 | 62.5 | 125 | 8            | 8  | 7   | 11 | 7  | 31.7  | 936.60  | 5.7  | 2 | 8.15               | 4.1  |
| CHTGH02020-DIN6 | 2      | 2000.00 | 8.50  | 300          | 24 | 24 | 22.0 | 62.5 | 125 | 16           | 8  | 7   | 11 | 7  | 31.7  | 1936.60 | 5.7  | 2 | 8.15               | 8.2  |
| CHTGH02505-DIN6 | 2.5    | 500.00  | 8.50  | 60           | 24 | 24 | 21.5 | 62.5 | 125 | 4            | 9  | 7   | 11 | 7  | 31.7  | 436.60  | 5.7  | 2 | 10.19              | 2.1  |
| CHTGH02510-DIN6 | 2.5    | 1000.00 | 8.50  | 120          | 24 | 24 | 21.5 | 62.5 | 125 | 8            | 9  | 7   | 11 | 7  | 31.7  | 936.60  | 5.7  | 2 | 10.19              | 4.1  |
| CHTGH02520-DIN6 | 2.5    | 2000.00 | 8.50  | 240          | 24 | 24 | 21.5 | 62.5 | 125 | 16           | 9  | 7   | 11 | 7  | 31.7  | 1936.60 | 5.7  | 2 | 10.19              | 8.2  |
| CHTGH03005-DIN6 | 3      | 500.00  | 10.30 | 50           | 29 | 29 | 26.0 | 62.5 | 125 | 4            | 9  | 10  | 15 | 9  | 35.0  | 430.00  | 7.7  | 2 | 14.77              | 3.0  |
| CHTGH03010-DIN6 | 3      | 1000.00 | 10.30 | 100          | 29 | 29 | 26.0 | 62.5 | 125 | 8            | 9  | 10  | 15 | 9  | 35.0  | 930.00  | 7.7  | 2 | 14.77              | 6.0  |
| CHTGH03020-DIN6 | 3      | 2000.00 | 10.30 | 200          | 29 | 29 | 26.0 | 62.5 | 125 | 16           | 9  | 10  | 15 | 9  | 35.0  | 1930.00 | 7.7  | 2 | 14.77              | 12.0 |
| CHTGH04005-DIN6 | 4      | 506.67  | 13.80 | 38           | 39 | 39 | 35.0 | 62.5 | 125 | 4            | 12 | 10  | 15 | 9  | 33.3  | 433.00  | 7.7  | 2 | 26.49              | 5.5  |
| CHTGH04010-DIN6 | 4      | 1000.00 | 13.80 | 75           | 39 | 39 | 35.0 | 62.5 | 125 | 8            | 12 | 10  | 15 | 9  | 33.3  | 933.40  | 7.7  | 2 | 26.49              | 10.8 |
| CHTGH04020-DIN6 | 4      | 2000.00 | 13.80 | 150          | 39 | 39 | 35.0 | 62.5 | 125 | 16           | 12 | 10  | 15 | 9  | 33.3  | 1933.40 | 7.7  | 2 | 26.49              | 21.6 |
| CHTGH05005-DIN6 | 5      | 500.00  | 17.40 | 30           | 49 | 49 | 34.0 | 62.5 | 125 | 4            | 12 | 14  | 20 | 13 | 37.5  | 425.00  | 11.7 | 3 | 41.60              | 6.8  |
| CHTGH05010-DIN6 | 5      | 1000.00 | 17.40 | 60           | 49 | 49 | 34.0 | 62.5 | 125 | 8            | 12 | 14  | 20 | 13 | 37.5  | 925.00  | 11.7 | 3 | 41.60              | 13.6 |
| CHTGH05020-DIN6 | 5      | 2000.00 | 17.40 | 120          | 49 | 49 | 34.0 | 62.5 | 125 | 16           | 12 | 14  | 20 | 13 | 37.5  | 1925.00 | 11.7 | 3 | 41.60              | 27.2 |
| CHTGH06005-DIN6 | 6      | 500.00  | 20.90 | 25           | 59 | 49 | 43.0 | 62.5 | 125 | 4            | 16 | 18  | 26 | 17 | 37.5  | 425.00  | 15.7 | 3 | 60.11              | 10.3 |
| CHTGH06010-DIN6 | 6      | 1000.00 | 20.90 | 50           | 59 | 49 | 43.0 | 62.5 | 125 | 8            | 16 | 18  | 26 | 17 | 37.5  | 925.00  | 15.7 | 3 | 60.11              | 20.5 |
| CHTGH06020-DIN6 | 6      | 2000.00 | 20.90 | 100          | 59 | 49 | 43.0 | 62.5 | 125 | 16           | 16 | 18  | 26 | 17 | 37.5  | 1925.00 | 15.7 | 3 | 60.11              | 41.1 |
| CHTGH08005-DIN6 | 8      | 480.00  | 28.00 | 18           | 79 | 79 | 71.0 | 60.0 | 120 | 4            | 25 | 22  | 33 | 21 | 120.0 | 240.00  | 19.7 | 4 | 107.31             | 21.3 |
| CHTGH08010-DIN6 | 8      | 960.00  | 28.00 | 36           | 79 | 79 | 71.0 | 60.0 | 120 | 8            | 25 | 22  | 33 | 21 | 120.0 | 720.00  | 19.7 | 4 | 107.31             | 42.6 |
| CHTGH08020-DIN6 | 8      | 1920.00 | 28.00 | 72           | 79 | 79 | 71.0 | 60.0 | 120 | 16           | 25 | 22  | 33 | 21 | 120.0 | 1680.00 | 19.7 | 4 | 107.31             | 85.1 |
| CHTGH10005-DIN6 | 10     | 500.00  | 35.11 | 15           | 99 | 99 | 89.0 | 62.5 | 125 | 4            | 32 | 33  | 48 | 32 | 125.0 | 250.00  | 19.7 | 5 | 168.10             | 34.8 |
| CHTGH10010-DIN6 | 10     | 1000.00 | 35.11 | 30           | 99 | 99 | 89.0 | 62.5 | 125 | 8            | 32 | 33  | 48 | 32 | 125.0 | 750.00  | 19.7 | 5 | 168.10             | 69.6 |

## MHTG-DIN6



## Series MHTGH-DIN6 Helical Teeth Ground Racks

## Quality Grade DIN 6

Material SCM440

Ground on all sides.

Right Hand Angle 19°31'42"

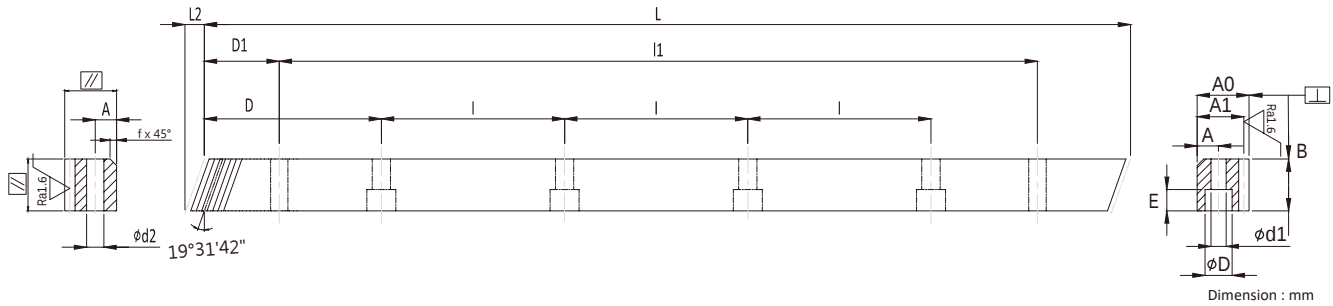
Total Pitch Error:  $F_p / 1000 \leq 0.036 \text{ mm}$ 

Hardness HRC 10~12°

 $F_p / 2000 \leq 0.047 \text{ mm} (\leq 0.024/1000 \text{ mm})$ 

| Code           | Module | L       | L2    | No. of Teeth | B  | A0 | A1   | D    | I   | No. of Holes | A  | ød1 | øD | E  | D1    | I1      | ød2  | f | F <sub>ta</sub><br>kN | KG   |
|----------------|--------|---------|-------|--------------|----|----|------|------|-----|--------------|----|-----|----|----|-------|---------|------|---|-----------------------|------|
| MHTG01505-DIN6 | 1.5    | 500.00  | 6.70  | 100          | 19 | 19 | 17.5 | 62.5 | 125 | 4            | 8  | 7   | 11 | 7  | 31.7  | 436.60  | 5.7  | 2 | 0.94                  | 1.3  |
| MHTG01510-DIN6 | 1.5    | 1000.00 | 6.70  | 200          | 19 | 19 | 17.5 | 62.5 | 125 | 8            | 8  | 7   | 11 | 7  | 31.7  | 936.60  | 5.7  | 2 | 0.94                  | 2.6  |
| MHTG02005-DIN6 | 2      | 500.00  | 8.50  | 75           | 24 | 24 | 22.0 | 62.5 | 125 | 4            | 8  | 7   | 11 | 7  | 31.7  | 436.60  | 5.7  | 2 | 1.58                  | 2.1  |
| MHTG02010-DIN6 | 2      | 1000.00 | 8.50  | 150          | 24 | 24 | 22.0 | 62.5 | 125 | 8            | 8  | 7   | 11 | 7  | 31.7  | 936.60  | 5.7  | 2 | 1.58                  | 4.1  |
| MHTG02020-DIN6 | 2      | 2000.00 | 8.50  | 300          | 24 | 24 | 22.0 | 62.5 | 125 | 16           | 8  | 7   | 11 | 7  | 31.7  | 1936.60 | 5.7  | 2 | 1.58                  | 8.2  |
| MHTG02505-DIN6 | 2.5    | 500.00  | 8.50  | 60           | 24 | 24 | 21.5 | 62.5 | 125 | 4            | 9  | 7   | 11 | 7  | 31.7  | 436.60  | 5.7  | 2 | 1.98                  | 2.1  |
| MHTG02510-DIN6 | 2.5    | 1000.00 | 8.50  | 120          | 24 | 24 | 21.5 | 62.5 | 125 | 8            | 9  | 7   | 11 | 7  | 31.7  | 936.60  | 5.7  | 2 | 1.98                  | 4.1  |
| MHTG02520-DIN6 | 2.5    | 2000.00 | 8.50  | 240          | 24 | 24 | 21.5 | 62.5 | 125 | 16           | 9  | 7   | 11 | 7  | 31.7  | 1936.60 | 5.7  | 2 | 1.98                  | 8.2  |
| MHTG03005-DIN6 | 3      | 500.00  | 10.30 | 50           | 29 | 29 | 26.0 | 62.5 | 125 | 4            | 9  | 10  | 15 | 9  | 35.0  | 430.00  | 7.7  | 2 | 2.87                  | 3.0  |
| MHTG03010-DIN6 | 3      | 1000.00 | 10.30 | 100          | 29 | 29 | 26.0 | 62.5 | 125 | 8            | 9  | 10  | 15 | 9  | 35.0  | 930.00  | 7.7  | 2 | 2.87                  | 6.0  |
| MHTG03020-DIN6 | 3      | 2000.00 | 10.30 | 200          | 29 | 29 | 26.0 | 62.5 | 125 | 16           | 9  | 10  | 15 | 9  | 35.0  | 1930.00 | 7.7  | 2 | 2.87                  | 12.0 |
| MHTG04005-DIN6 | 4      | 506.67  | 13.80 | 38           | 39 | 39 | 35.0 | 62.5 | 125 | 4            | 12 | 10  | 15 | 9  | 33.3  | 433.00  | 7.7  | 2 | 5.15                  | 5.5  |
| MHTG04010-DIN6 | 4      | 1000.00 | 13.80 | 75           | 39 | 39 | 35.0 | 62.5 | 125 | 8            | 12 | 10  | 15 | 9  | 33.3  | 933.40  | 7.7  | 2 | 5.15                  | 10.8 |
| MHTG04020-DIN6 | 4      | 2000.00 | 13.80 | 150          | 39 | 39 | 35.0 | 62.5 | 125 | 16           | 12 | 10  | 15 | 9  | 33.3  | 1933.40 | 7.7  | 2 | 5.15                  | 21.6 |
| MHTG05005-DIN6 | 5      | 500.00  | 17.40 | 30           | 49 | 49 | 34.0 | 62.5 | 125 | 4            | 12 | 14  | 20 | 13 | 37.5  | 425.00  | 11.7 | 3 | 8.08                  | 6.8  |
| MHTG05010-DIN6 | 5      | 1000.00 | 17.40 | 60           | 49 | 49 | 34.0 | 62.5 | 125 | 8            | 12 | 14  | 20 | 13 | 37.5  | 925.00  | 11.7 | 3 | 8.08                  | 13.6 |
| MHTG05020-DIN6 | 5      | 2000.00 | 17.40 | 120          | 49 | 49 | 34.0 | 62.5 | 125 | 16           | 12 | 14  | 20 | 13 | 37.5  | 1925.00 | 11.7 | 3 | 8.08                  | 27.2 |
| MHTG06005-DIN6 | 6      | 500.00  | 20.90 | 25           | 59 | 59 | 43.0 | 62.5 | 125 | 4            | 16 | 18  | 26 | 17 | 37.5  | 425.00  | 15.7 | 3 | 11.68                 | 10.3 |
| MHTG06010-DIN6 | 6      | 1000.00 | 20.90 | 50           | 59 | 59 | 43.0 | 62.5 | 125 | 8            | 16 | 18  | 26 | 17 | 37.5  | 925.00  | 15.7 | 3 | 11.68                 | 20.5 |
| MHTG06020-DIN6 | 6      | 2000.00 | 20.90 | 100          | 59 | 59 | 43.0 | 62.5 | 125 | 16           | 16 | 18  | 26 | 17 | 37.5  | 1925.00 | 15.7 | 3 | 11.68                 | 41.1 |
| MHTG08005-DIN6 | 8      | 480.00  | 28.00 | 18           | 79 | 79 | 71.0 | 60.0 | 120 | 4            | 25 | 22  | 33 | 21 | 120.0 | 240.00  | 19.7 | 4 | 20.85                 | 21.3 |
| MHTG08010-DIN6 | 8      | 960.00  | 28.00 | 36           | 79 | 79 | 71.0 | 60.0 | 120 | 8            | 25 | 22  | 33 | 21 | 120.0 | 720.00  | 19.7 | 4 | 20.85                 | 42.6 |
| MHTG08020-DIN6 | 8      | 1920.00 | 28.00 | 72           | 79 | 79 | 71.0 | 60.0 | 120 | 16           | 25 | 22  | 33 | 21 | 120.0 | 1680.00 | 19.7 | 4 | 20.85                 | 85.1 |

## CHTM-DIN8



Series CHTGH-DIN8 Helical Milled Racks

Quality Grade DIN 8

Material S45C

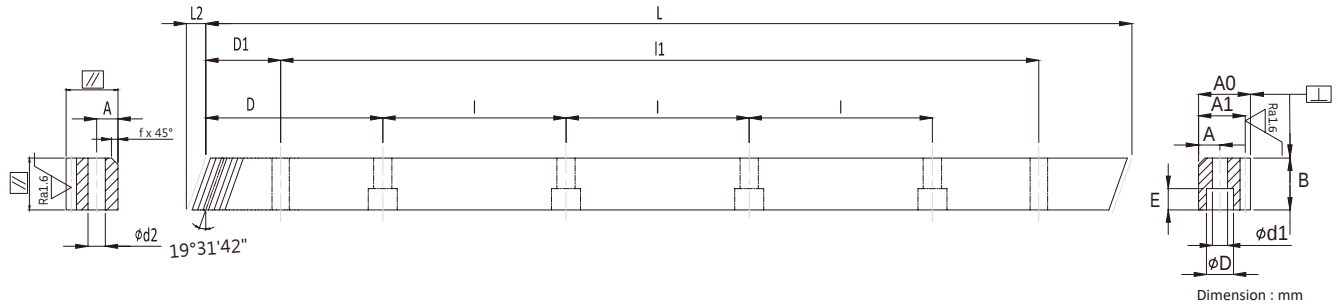
Right Hand Angle 19°31'42"

Hardness: HRC 10~12°

Total Pitch Error:  $F_p / 1000 \leq 0.060 \text{ mm}$  $F_p / 2000 \leq 0.080 \text{ mm}$ 

| Code           | Module | L    | L2    | No. of Teeth | B  | A0 | A1   | D    | I   | No. of Holes | A  | ød1 | øD  | E  | D1    | I1     | ød2   | f | F <sub>ta</sub><br>kN | KG   |
|----------------|--------|------|-------|--------------|----|----|------|------|-----|--------------|----|-----|-----|----|-------|--------|-------|---|-----------------------|------|
| CHTM01510-DIN8 | 1.5    | 1000 | 6.00  | 200          | 17 | 17 | 15.5 | 62.5 | 125 | 8            | 7  | 6   | 9.5 | 6  | 31.7  | 936.6  | 5.70  | 2 | 0.64                  | 2.1  |
| CHTM02010-DIN8 | 2      | 1000 | 8.90  | 150          | 25 | 24 | 22   | 62.5 | 125 | 8            | 8  | 7   | 11  | 7  | 31.7  | 936.6  | 5.70  | 2 | 1.25                  | 4.3  |
| CHTM02020-DIN8 | 2      | 2000 | 8.90  | 300          | 25 | 24 | 22   | 62.5 | 125 | 16           | 8  | 7   | 11  | 7  | 31.7  | 1936.6 | 5.70  | 2 | 1.25                  | 8.5  |
| CHTM03010-DIN8 | 3      | 1000 | 10.60 | 100          | 30 | 29 | 26   | 62.5 | 125 | 8            | 9  | 10  | 15  | 9  | 35.0  | 930.0  | 7.70  | 2 | 2.24                  | 6.2  |
| CHTM03020-DIN8 | 3      | 2000 | 10.60 | 200          | 30 | 29 | 26   | 62.5 | 125 | 16           | 9  | 10  | 15  | 9  | 35.0  | 1930.0 | 7.70  | 2 | 2.24                  | 12.4 |
| CHTM04010-DIN8 | 4      | 1000 | 14.20 | 75           | 40 | 39 | 35   | 62.5 | 125 | 8            | 12 | 10  | 15  | 9  | 33.3  | 933.4  | 7.70  | 2 | 3.99                  | 11.1 |
| CHTM04020-DIN8 | 4      | 2000 | 14.20 | 150          | 40 | 39 | 35   | 62.5 | 125 | 16           | 12 | 10  | 15  | 9  | 33.3  | 1933.4 | 7.70  | 2 | 3.99                  | 22.2 |
| CHTM05010-DIN8 | 5      | 1000 | 17.40 | 60           | 49 | 39 | 34   | 62.5 | 125 | 8            | 12 | 14  | 20  | 13 | 37.5  | 925.0  | 11.70 | 3 | 6.11                  | 13.6 |
| CHTM05020-DIN8 | 5      | 2000 | 17.40 | 120          | 49 | 39 | 34   | 62.5 | 125 | 16           | 12 | 14  | 20  | 13 | 37.5  | 1925.0 | 11.70 | 3 | 6.11                  | 27.2 |
| CHTM06010-DIN8 | 6      | 1000 | 20.90 | 50           | 59 | 49 | 43   | 62.5 | 125 | 8            | 16 | 18  | 26  | 17 | 37.5  | 925.0  | 15.70 | 3 | 8.83                  | 20.5 |
| CHTM06020-DIN8 | 6      | 2000 | 20.90 | 100          | 59 | 49 | 43   | 62.5 | 125 | 16           | 16 | 18  | 26  | 17 | 37.5  | 1925.0 | 15.70 | 3 | 8.83                  | 41.1 |
| CHTM08010-DIN8 | 8      | 960  | 28.00 | 36           | 79 | 79 | 71   | 60   | 120 | 8            | 25 | 22  | 33  | 21 | 120.0 | 720.0  | 19.70 | 4 | 15.76                 | 42.6 |
| CHTM08020-DIN8 | 8      | 1920 | 28.00 | 72           | 79 | 79 | 71   | 60   | 120 | 16           | 25 | 22  | 33  | 21 | 120.0 | 1680.0 | 19.70 | 4 | 15.76                 | 85.1 |
| CHTM10010-DIN8 | 10     | 1000 | 35.11 | 30           | 99 | 99 | 89   | 62.5 | 125 | 8            | 32 | 33  | 48  | 32 | 125.0 | 750.0  | 19.70 | 5 | 24.69                 | 69.6 |

## CHTMQ-DIN8



## Series CHTMQ-DIN8 Helical Milled Quenched &amp; Tempered Racks

## Quality Grade DIN 8

Material S45C

Total Pitch Error:  $F_p / 1000 \leq 0.060 \text{ mm}$ 

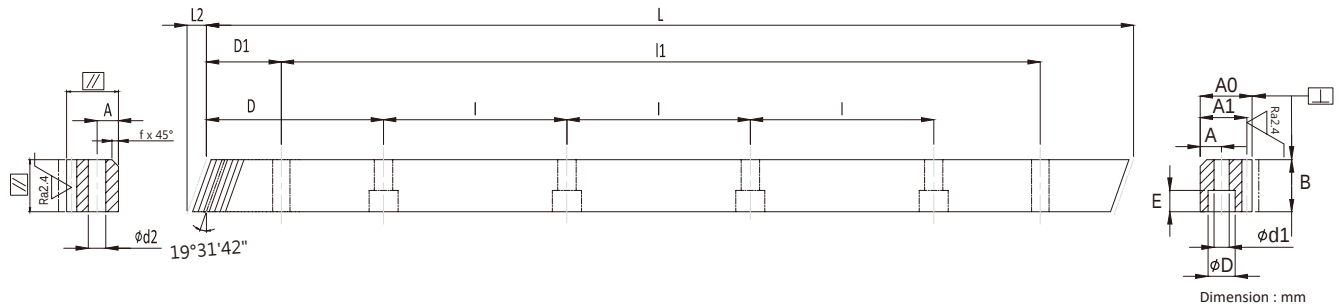
Right Hand Angle 19°31'42"

 $F_p / 2000 \leq 0.080 \text{ mm}$ 

Hardness: HRC 18~22°

| Code            | Module | L    | L2    | No. of Teeth | B  | A0 | A1   | D    | I   | No. of Holes | A  | ød1 | øD  | E  | D1    | I1     | ød2  | f | F <sub>ta</sub><br>kN | KG   |
|-----------------|--------|------|-------|--------------|----|----|------|------|-----|--------------|----|-----|-----|----|-------|--------|------|---|-----------------------|------|
| CHTMQ01510-DIN8 | 1.5    | 1000 | 6.00  | 200          | 17 | 17 | 15.5 | 62.5 | 125 | 8            | 7  | 6   | 9.5 | 7  | 31.7  | 936.6  | 5.7  | 2 | 0.88                  | 2.1  |
| CHTMQ02010-DIN8 | 2      | 1000 | 8.90  | 150          | 25 | 24 | 22   | 62.5 | 125 | 8            | 8  | 7   | 11  | 7  | 31.7  | 936.6  | 5.7  | 2 | 1.73                  | 4.3  |
| CHTMQ02020-DIN8 | 2      | 2000 | 8.90  | 300          | 25 | 24 | 22   | 62.5 | 125 | 16           | 8  | 7   | 11  | 7  | 31.7  | 1936.6 | 5.7  | 2 | 1.73                  | 8.5  |
| CHTMQ03010-DIN8 | 3      | 1000 | 10.60 | 100          | 30 | 29 | 26   | 62.5 | 125 | 8            | 9  | 10  | 15  | 9  | 35.0  | 930.0  | 7.7  | 2 | 3.11                  | 6.2  |
| CHTMQ03020-DIN8 | 3      | 2000 | 10.60 | 200          | 30 | 29 | 26   | 62.5 | 125 | 16           | 9  | 10  | 15  | 9  | 35.0  | 1930.0 | 7.7  | 2 | 3.11                  | 12.4 |
| CHTMQ04010-DIN8 | 4      | 1000 | 14.20 | 75           | 40 | 39 | 35   | 62.5 | 125 | 8            | 12 | 10  | 15  | 9  | 33.3  | 933.4  | 7.7  | 2 | 5.52                  | 11.1 |
| CHTMQ04020-DIN8 | 4      | 2000 | 14.20 | 150          | 40 | 39 | 35   | 62.5 | 125 | 16           | 12 | 10  | 15  | 9  | 33.3  | 1933.4 | 7.7  | 2 | 5.52                  | 22.2 |
| CHTMQ05010-DIN8 | 5      | 1000 | 17.40 | 60           | 49 | 39 | 34   | 62.5 | 125 | 8            | 12 | 14  | 20  | 13 | 37.5  | 925.0  | 11.7 | 3 | 8.46                  | 13.6 |
| CHTMQ05020-DIN8 | 5      | 2000 | 17.40 | 120          | 49 | 39 | 34   | 62.5 | 125 | 16           | 12 | 14  | 20  | 13 | 37.5  | 1925.0 | 11.7 | 3 | 8.46                  | 27.2 |
| CHTMQ06010-DIN8 | 6      | 1000 | 20.90 | 50           | 59 | 49 | 43   | 62.5 | 125 | 8            | 16 | 18  | 26  | 17 | 37.5  | 925.0  | 15.7 | 3 | 12.22                 | 20.5 |
| CHTMQ06020-DIN8 | 6      | 2000 | 20.90 | 100          | 59 | 49 | 43   | 62.5 | 125 | 16           | 16 | 18  | 26  | 17 | 37.5  | 1925.0 | 15.7 | 3 | 12.22                 | 41.1 |
| CHTMQ08010-DIN8 | 8      | 960  | 28.00 | 36           | 79 | 79 | 71   | 60   | 120 | 8            | 25 | 22  | 33  | 21 | 120.0 | 720.0  | 19.7 | 4 | 21.81                 | 42.6 |
| CHTMQ08020-DIN8 | 8      | 1920 | 28.00 | 18           | 79 | 79 | 71   | 60   | 120 | 16           | 25 | 22  | 33  | 21 | 120.0 | 1680.0 | 19.7 | 4 | 21.81                 | 85.1 |
| CHTMQ10010-DIN8 | 10     | 1000 | 35.11 | 30           | 99 | 99 | 89   | 62.5 | 125 | 8            | 32 | 33  | 48  | 32 | 125.0 | 750.0  | 19.7 | 5 | 34.17                 | 69.6 |

## CHTMH-DIN10



## Series CHTMH-DIN 10 Helical Hardened Racks

## Quality Grade DIN 10

Material S45C

Surfaces: Sand-blasted.

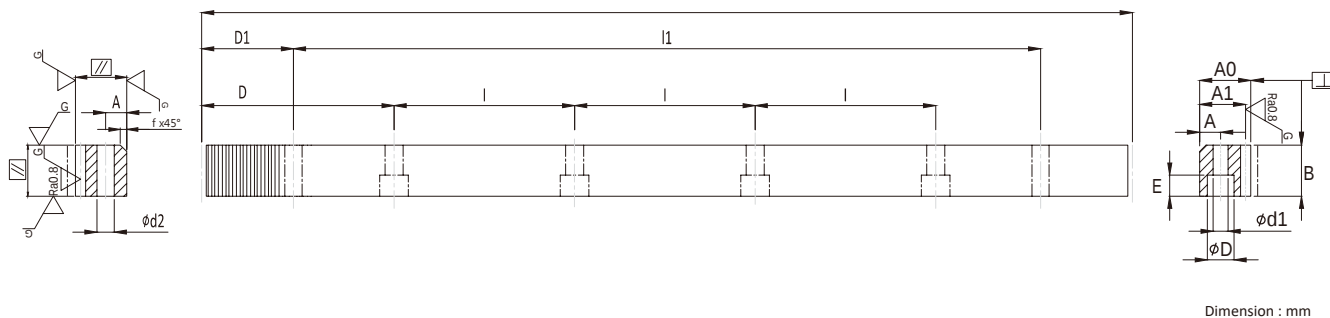
Right Hand Angle 19°31'42"

Total Pitch Error:  $F_p / 1000 \leq 0.15 \text{ mm}$ 

Hardness: HRC 50~55°

| Code             | Module | L    | L2    | No. of Teeth | B  | A0 | A1   | D    | I   | No. of Holes | A  | ød1 | øD  | E  | D1    | I1     | ød2  | f | F <sub>ta</sub> kN | KG   |
|------------------|--------|------|-------|--------------|----|----|------|------|-----|--------------|----|-----|-----|----|-------|--------|------|---|--------------------|------|
| CHTMH01510-DIN10 | 1.5    | 1000 | 6.00  | 200          | 17 | 17 | 15.5 | 62.5 | 125 | 8            | 7  | 6   | 9.5 | 7  | 31.7  | 936.6  | 5.7  | 2 | 3.18               | 2.1  |
| CHTMH02010-DIN10 | 2      | 1000 | 8.50  | 150          | 24 | 24 | 22   | 62.5 | 125 | 8            | 8  | 7   | 11  | 7  | 31.7  | 936.6  | 5.7  | 2 | 5.98               | 4.1  |
| CHTMH02020-DIN10 | 2      | 2000 | 8.50  | 300          | 24 | 24 | 22   | 62.5 | 125 | 16           | 8  | 7   | 11  | 7  | 31.7  | 1936.6 | 5.7  | 2 | 5.98               | 8.2  |
| CHTMH03010-DIN10 | 3      | 1000 | 10.30 | 100          | 29 | 29 | 26   | 62.5 | 125 | 8            | 9  | 10  | 15  | 9  | 35.0  | 930.0  | 7.7  | 2 | 10.83              | 6.0  |
| CHTMH03020-DIN10 | 3      | 2000 | 10.30 | 200          | 29 | 29 | 26   | 62.5 | 125 | 16           | 9  | 10  | 15  | 9  | 35.0  | 1930.0 | 7.7  | 2 | 10.83              | 12.0 |
| CHTMH04010-DIN10 | 4      | 1000 | 13.80 | 75           | 39 | 39 | 35   | 62.5 | 125 | 8            | 12 | 10  | 15  | 9  | 33.3  | 933.4  | 7.7  | 2 | 19.42              | 10.8 |
| CHTMH04020-DIN10 | 4      | 2000 | 13.80 | 150          | 39 | 39 | 35   | 62.5 | 125 | 16           | 12 | 10  | 15  | 9  | 33.3  | 1933.4 | 7.7  | 2 | 19.42              | 21.6 |
| CHTMH05010-DIN10 | 5      | 1000 | 17.40 | 60           | 49 | 49 | 34   | 62.5 | 125 | 8            | 12 | 14  | 20  | 13 | 37.5  | 925.0  | 11.7 | 3 | 30.51              | 13.6 |
| CHTMH05020-DIN10 | 5      | 2000 | 17.40 | 120          | 49 | 49 | 34   | 62.5 | 125 | 16           | 12 | 14  | 20  | 13 | 37.5  | 1925.0 | 11.7 | 3 | 30.51              | 27.2 |
| CHTMH06010-DIN10 | 6      | 1000 | 20.90 | 50           | 59 | 49 | 43   | 62.5 | 125 | 8            | 16 | 18  | 26  | 17 | 37.5  | 925.0  | 15.7 | 3 | 44.08              | 20.5 |
| CHTMH06020-DIN10 | 6      | 2000 | 20.90 | 100          | 59 | 49 | 43   | 62.5 | 125 | 16           | 16 | 18  | 26  | 17 | 37.5  | 1925.0 | 15.7 | 3 | 44.08              | 41.1 |
| CHTMH08010-DIN10 | 8      | 960  | 28.00 | 36           | 79 | 79 | 71   | 60   | 120 | 8            | 25 | 22  | 33  | 21 | 120.0 | 720.0  | 19.7 | 4 | 78.69              | 42.6 |
| CHTMH08020-DIN10 | 8      | 1920 | 28.00 | 72           | 79 | 79 | 71   | 60   | 120 | 16           | 25 | 22  | 33  | 21 | 120.0 | 1680.0 | 19.7 | 4 | 78.69              | 85.1 |
| CHTMH10010-DIN10 | 10     | 1000 | 35.11 | 30           | 99 | 99 | 89   | 62.5 | 125 | 8            | 32 | 33  | 48  | 32 | 125.0 | 750.0  | 19.7 | 5 | 123.27             | 69.6 |

## CSTGH-DIN5



## Series CSTGH-DIN5 Straight Teeth Ground Racks

## Quality Grade DIN 5

Material S45C

Hardness: HRC 50~55°

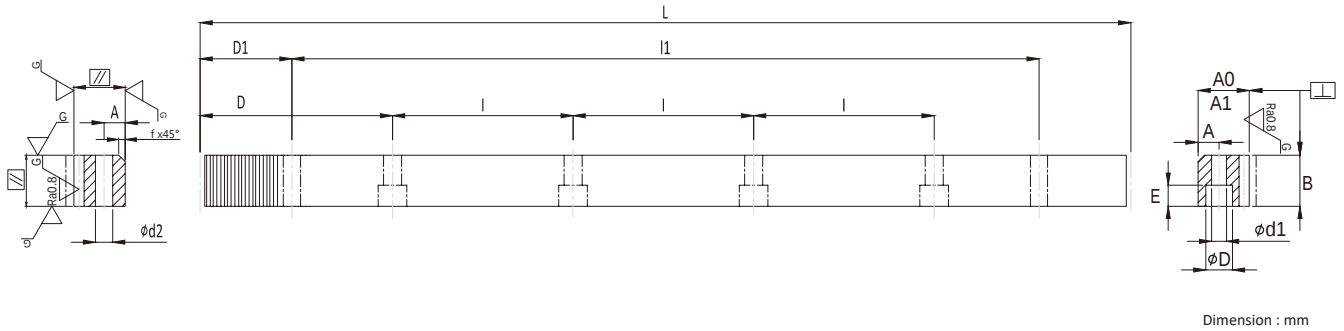
Ground on all sides after hardening.

Total Pitch Error:  $F_p / 1000 \leq 0.026\text{mm}$ 

Room Temperature is 25°C

| Code            | Module | L       | No. of Teeth | B  | A0 | A1 | D     | I      | No. of Holes | A  | φd1 | φD | E  | D1   | l1     | φd2  | f | F <sub>ta</sub><br>kN | KG   |
|-----------------|--------|---------|--------------|----|----|----|-------|--------|--------------|----|-----|----|----|------|--------|------|---|-----------------------|------|
| CSTGH02010-DIN5 | 2      | 1005.31 | 160          | 24 | 24 | 22 | 62.83 | 125.66 | 8            | 8  | 7   | 11 | 7  | 31.3 | 942.70 | 5.7  | 2 | 5.69                  | 4.1  |
| CSTGH03010-DIN5 | 3      | 1017.88 | 108          | 29 | 29 | 26 | 63.61 | 127.23 | 8            | 9  | 10  | 11 | 9  | 34.4 | 949.10 | 7.7  | 2 | 10.32                 | 6.1  |
| CSTGH04010-DIN5 | 4      | 1005.31 | 80           | 39 | 39 | 35 | 62.83 | 125.66 | 8            | 12 | 10  | 15 | 9  | 37.5 | 930.30 | 7.7  | 2 | 18.50                 | 10.9 |
| CSTGH05010-DIN5 | 5      | 1005.31 | 64           | 49 | 39 | 34 | 62.83 | 125.66 | 8            | 12 | 14  | 17 | 13 | 37.5 | 945.00 | 11.7 | 3 | 29.06                 | 17.2 |

## CSTGH-DIN6



Series CSTGH-DIN6 Straight Teeth Ground Racks  
Quality Grade DIN 6

Material S45C

Hardness: HRC 50~55°

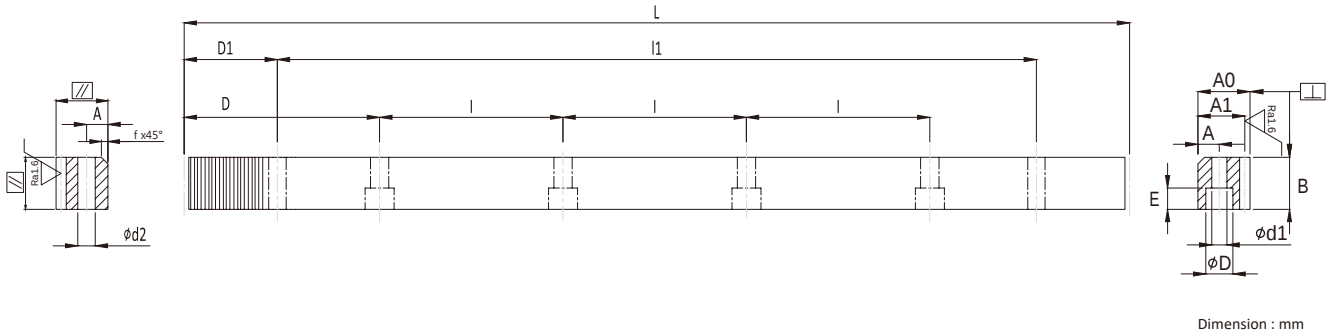
Ground on all sides after hardening.

Total Pitch Error:  $F_p / 1000 \leq 0.15 \text{ mm}$

$F_p / 2000 \leq 0.047 \text{ mm} (\leq 0.024/1000 \text{ mm})$

| Code            | Module | L       | No. of Teeth | B  | A0 | A1   | D     | I      | No. of Holes | A  | φd1 | φD  | E  | D1   | I1      | φd2  | f | F <sub>ta</sub> kN | KG   |
|-----------------|--------|---------|--------------|----|----|------|-------|--------|--------------|----|-----|-----|----|------|---------|------|---|--------------------|------|
| CSTGH01505-DIN6 | 1.5    | 499.51  | 106          | 19 | 19 | 17.5 | 62.44 | 124.88 | 4            | 8  | 6   | 9.5 | 7  | 29.0 | 441.50  | 5.7  | 2 | 3.38               | 1.3  |
| CSTGH01510-DIN6 | 1.5    | 999.03  | 212          | 19 | 19 | 17.5 | 62.44 | 124.88 | 8            | 8  | 6   | 9.5 | 7  | 29.0 | 941.00  | 5.7  | 2 | 3.38               | 2.6  |
| CSTGH02005-DIN6 | 2      | 502.65  | 80           | 24 | 24 | 22   | 62.83 | 125.66 | 4            | 8  | 7   | 11  | 7  | 31.3 | 440.10  | 5.7  | 2 | 5.69               | 2.1  |
| CSTGH02010-DIN6 | 2      | 1005.31 | 160          | 24 | 24 | 22   | 62.83 | 125.66 | 8            | 8  | 7   | 11  | 7  | 31.3 | 942.70  | 5.7  | 2 | 5.69               | 4.1  |
| CSTGH02020-DIN6 | 2      | 2010.62 | 320          | 24 | 24 | 22   | 62.83 | 125.66 | 16           | 8  | 7   | 11  | 7  | 31.3 | 1948.00 | 5.7  | 2 | 5.69               | 8.2  |
| CSTGH02505-DIN6 | 2.5    | 502.65  | 64           | 24 | 24 | 21.5 | 62.83 | 125.66 | 4            | 9  | 7   | 11  | 7  | 31.3 | 440.10  | 5.7  | 2 | 7.12               | 2.1  |
| CSTGH02510-DIN6 | 2.5    | 1005.31 | 128          | 24 | 24 | 21.5 | 62.83 | 125.66 | 8            | 9  | 7   | 11  | 7  | 31.3 | 942.70  | 5.7  | 2 | 7.12               | 4.1  |
| CSTGH02520-DIN6 | 2.5    | 2010.62 | 256          | 24 | 24 | 21.5 | 62.83 | 125.66 | 16           | 9  | 7   | 11  | 7  | 31.3 | 1948.00 | 5.7  | 2 | 7.12               | 8.2  |
| CSTGH03005-DIN6 | 3      | 508.94  | 54           | 29 | 29 | 26   | 63.62 | 127.23 | 4            | 9  | 10  | 15  | 9  | 34.4 | 440.10  | 7.7  | 2 | 10.32              | 3.0  |
| CSTGH03010-DIN6 | 3      | 1017.88 | 108          | 29 | 29 | 26   | 63.62 | 127.23 | 8            | 9  | 10  | 15  | 9  | 34.4 | 949.10  | 7.7  | 2 | 10.32              | 6.1  |
| CSTGH03020-DIN6 | 3      | 2035.75 | 216          | 29 | 29 | 26   | 63.62 | 127.23 | 16           | 9  | 10  | 15  | 9  | 34.4 | 1967.00 | 7.7  | 2 | 10.32              | 12.2 |
| CSTGH04005-DIN6 | 4      | 502.65  | 40           | 39 | 39 | 35   | 62.83 | 125.66 | 4            | 12 | 10  | 15  | 9  | 37.5 | 427.70  | 7.7  | 2 | 18.50              | 5.4  |
| CSTGH04010-DIN6 | 4      | 1005.31 | 80           | 39 | 39 | 35   | 62.83 | 125.66 | 8            | 12 | 10  | 15  | 9  | 37.5 | 930.30  | 7.7  | 2 | 18.50              | 10.9 |
| CSTGH04020-DIN6 | 4      | 2010.62 | 160          | 39 | 39 | 35   | 62.83 | 125.66 | 16           | 12 | 10  | 15  | 9  | 37.5 | 1935.60 | 7.7  | 2 | 18.50              | 21.7 |
| CSTGH05005-DIN6 | 5      | 502.65  | 32           | 49 | 39 | 34   | 62.83 | 125.66 | 4            | 12 | 14  | 20  | 13 | 30.1 | 442.30  | 11.7 | 3 | 29.06              | 6.8  |
| CSTGH05010-DIN6 | 5      | 1005.31 | 64           | 49 | 39 | 34   | 62.83 | 125.66 | 8            | 12 | 14  | 20  | 13 | 30.1 | 945.00  | 11.7 | 3 | 29.06              | 13.7 |
| CSTGH05020-DIN6 | 5      | 2010.62 | 128          | 49 | 39 | 34   | 62.83 | 125.66 | 16           | 12 | 14  | 20  | 13 | 30.1 | 1950.40 | 11.7 | 3 | 29.06              | 27.3 |
| CSTGH06005-DIN6 | 6      | 508.94  | 27           | 59 | 49 | 43   | 63.62 | 127.23 | 4            | 16 | 18  | 26  | 17 | 31.4 | 446.10  | 15.7 | 3 | 41.99              | 10.5 |
| CSTGH06010-DIN6 | 6      | 1017.88 | 54           | 59 | 49 | 43   | 63.62 | 127.23 | 8            | 16 | 18  | 26  | 17 | 31.4 | 955.00  | 15.7 | 3 | 41.99              | 20.9 |
| CSTGH06020-DIN6 | 6      | 2035.75 | 108          | 59 | 49 | 43   | 63.62 | 127.23 | 16           | 16 | 18  | 26  | 17 | 31.4 | 1973.00 | 15.7 | 3 | 41.99              | 41.8 |
| CSTGH08005-DIN6 | 8      | 502.65  | 20           | 79 | 79 | 71   | 62.83 | 125.66 | 4            | 25 | 22  | 33  | 21 | 26.6 | 449.45  | 19.7 | 4 | 74.96              | 22.3 |
| CSTGH08010-DIN6 | 8      | 1005.31 | 40           | 79 | 79 | 71   | 62.83 | 125.66 | 8            | 25 | 22  | 33  | 21 | 26.6 | 952.00  | 19.7 | 4 | 74.96              | 44.6 |
| CSTGH08020-DIN6 | 8      | 2010.61 | 80           | 79 | 79 | 71   | 62.83 | 125.66 | 16           | 25 | 22  | 33  | 21 | 26.6 | 1957.40 | 19.7 | 4 | 74.96              | 89.1 |

## CSTM-DIN8



Series CSTM-DIN8 Straight Milled Racks

Quality Grade DIN 8

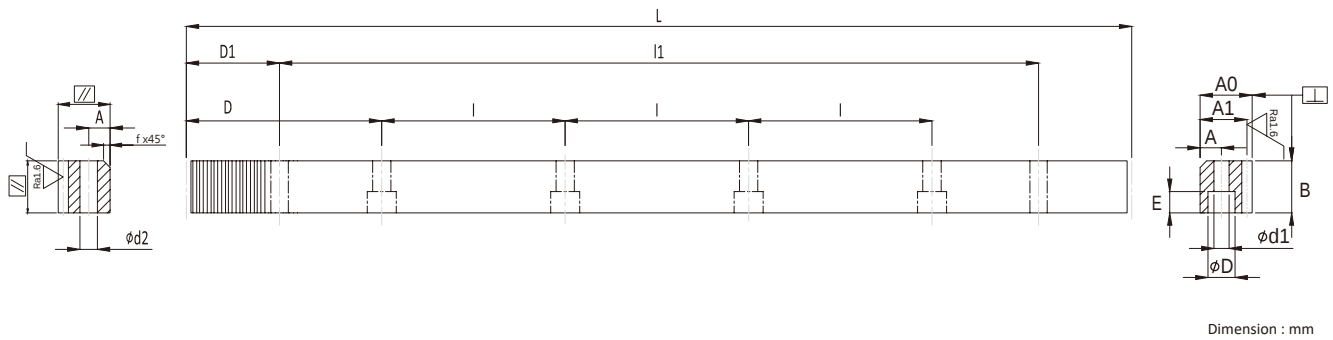
Material S45C

Hardness: HRC 10~12°

Total Pitch Error:  $F_p / 1000 \leq 0.060\text{mm}$  $F_p / 2000 \leq 0.080\text{mm}$ 

| Code           | Module | L       | No. of Teeth | B  | A0 | A1   | D     | I      | No. of Holes | A  | ød1 | øD  | E  | D1     | l1      | ød2  | f | F <sub>ta</sub> kN | KG   |
|----------------|--------|---------|--------------|----|----|------|-------|--------|--------------|----|-----|-----|----|--------|---------|------|---|--------------------|------|
| CSTM01510-DIN8 | 1.5    | 999.03  | 212          | 17 | 17 | 15.5 | 62.44 | 124.88 | 8            | 7  | 6   | 9.5 | 7  | 29     | 941.00  | 5.7  | 2 | 0.35               | 1.9  |
| CSTM02010-DIN8 | 2      | 1005.31 | 160          | 25 | 24 | 22   | 62.83 | 125.66 | 8            | 8  | 7   | 11  | 7  | 31.3   | 942.70  | 5.7  | 2 | 0.68               | 4.1  |
| CSTM02020-DIN8 | 2      | 2010.62 | 320          | 25 | 24 | 22   | 62.83 | 125.66 | 16           | 8  | 7   | 11  | 7  | 31.3   | 1948.00 | 5.7  | 2 | 0.68               | 8.1  |
| CSTM03010-DIN8 | 3      | 1017.88 | 108          | 30 | 29 | 26   | 63.62 | 127.23 | 8            | 9  | 10  | 15  | 9  | 34.4   | 949.10  | 7.7  | 2 | 1.22               | 5.9  |
| CSTM03020-DIN8 | 3      | 2035.75 | 216          | 30 | 29 | 26   | 63.62 | 127.23 | 16           | 9  | 10  | 15  | 9  | 34.4   | 1967.00 | 7.7  | 2 | 1.22               | 11.9 |
| CSTM04010-DIN8 | 4      | 1005.31 | 80           | 40 | 39 | 35   | 62.83 | 125.66 | 8            | 12 | 10  | 15  | 9  | 37.5   | 930.30  | 7.7  | 2 | 2.18               | 10.5 |
| CSTM04020-DIN8 | 4      | 2010.62 | 160          | 40 | 39 | 35   | 62.83 | 125.66 | 16           | 12 | 10  | 15  | 9  | 37.5   | 1935.60 | 7.7  | 2 | 2.18               | 21.0 |
| CSTM05010-DIN8 | 5      | 1005.31 | 64           | 49 | 39 | 34   | 62.83 | 125.66 | 8            | 12 | 14  | 20  | 13 | 30.1   | 945.00  | 11.7 | 3 | 3.33               | 12.9 |
| CSTM05020-DIN8 | 5      | 2010.62 | 128          | 49 | 39 | 34   | 62.83 | 125.66 | 16           | 12 | 14  | 20  | 13 | 30.1   | 1950.40 | 11.7 | 3 | 3.33               | 25.8 |
| CSTM06010-DIN8 | 6      | 1017.88 | 54           | 59 | 49 | 43   | 63.62 | 127.23 | 8            | 16 | 18  | 26  | 17 | 31.4   | 955.00  | 15.7 | 3 | 4.82               | 19.7 |
| CSTM06020-DIN8 | 6      | 2035.75 | 108          | 59 | 49 | 43   | 63.62 | 127.23 | 16           | 16 | 18  | 26  | 17 | 31.4   | 1973.00 | 15.7 | 3 | 4.82               | 39.5 |
| CSTM08010-DIN8 | 8      | 1005.31 | 40           | 79 | 79 | 71   | 62.83 | 125.66 | 8            | 25 | 22  | 33  | 21 | 26.6   | 952.00  | 19.7 | 4 | 8.60               | 42.1 |
| CSTM08020-DIN8 | 8      | 2010.61 | 80           | 79 | 79 | 71   | 62.83 | 125.66 | 16           | 25 | 22  | 33  | 21 | 26.6   | 1957.40 | 19.7 | 4 | 8.60               | 84.2 |
| CSTM10010-DIN8 | 10     | 1005.31 | 32           | 99 | 99 | 89   | 62.83 | 125.66 | 8            | 32 | 33  | 48  | 32 | 125.67 | 754.00  | 19.7 | 5 | 13.47              | 66.1 |

## CSTMQ-DIN8



Series CSTMQ-DIN8 Straight Milled Quenched & Tempered Racks  
Quality Grade DIN 8

Material S45C

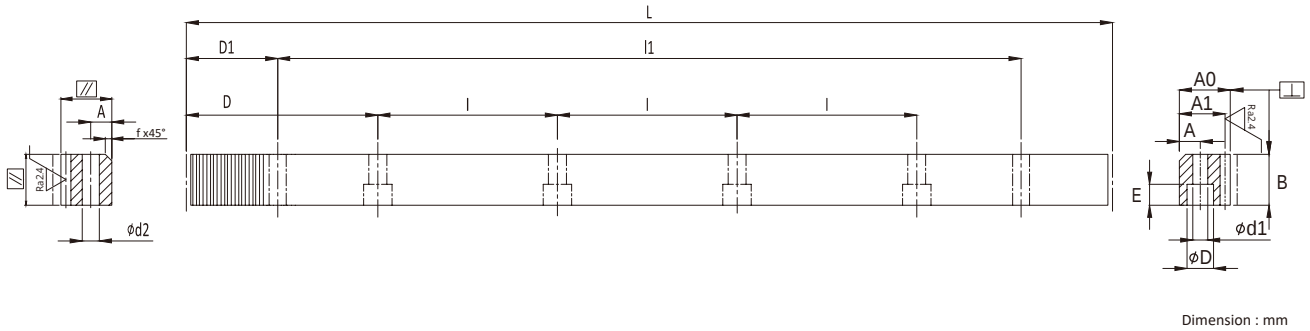
Hardness: HRC 18-22°

Total Pitch Error:  $F_p / 1000 \leq 0.060\text{mm}$

$F_p / 2000 \leq 0.080\text{mm}$

| Code            | Module | L       | No. of Teeth | B  | A0 | A1   | D     | I      | No. of Holes | A  | ød1 | øD  | E  | D1     | l1      | ød2  | f | F <sub>ta</sub><br>kN | KG   |
|-----------------|--------|---------|--------------|----|----|------|-------|--------|--------------|----|-----|-----|----|--------|---------|------|---|-----------------------|------|
| CSTMQ01510-DIN8 | 1.5    | 999.03  | 212          | 17 | 17 | 15.5 | 62.44 | 124.88 | 8            | 7  | 6   | 9.5 | 7  | 29     | 941.00  | 5.7  | 2 | 0.48                  | 1.9  |
| CSTMQ02010-DIN8 | 2      | 1005.31 | 160          | 25 | 24 | 22   | 62.83 | 125.66 | 8            | 8  | 7   | 11  | 7  | 31.3   | 942.70  | 5.7  | 2 | 0.94                  | 4.1  |
| CSTMQ02020-DIN8 | 2      | 2010.62 | 320          | 25 | 24 | 22   | 62.83 | 125.66 | 16           | 8  | 7   | 11  | 7  | 31.3   | 1948.00 | 5.7  | 2 | 0.94                  | 8.1  |
| CSTMQ03010-DIN8 | 3      | 1017.88 | 108          | 30 | 29 | 26   | 63.62 | 127.23 | 8            | 9  | 10  | 15  | 9  | 34.4   | 949.10  | 7.7  | 2 | 1.70                  | 5.9  |
| CSTMQ03020-DIN8 | 3      | 2035.75 | 216          | 30 | 29 | 26   | 63.62 | 127.23 | 16           | 9  | 10  | 15  | 9  | 34.4   | 1967.00 | 7.7  | 2 | 1.70                  | 11.9 |
| CSTMQ04010-DIN8 | 4      | 1005.31 | 80           | 40 | 39 | 35   | 62.83 | 125.66 | 8            | 12 | 10  | 15  | 9  | 37.5   | 930.30  | 7.7  | 2 | 3.01                  | 10.5 |
| CSTMQ04020-DIN8 | 4      | 2010.62 | 160          | 40 | 39 | 35   | 62.83 | 125.66 | 16           | 12 | 10  | 15  | 9  | 37.5   | 1935.60 | 7.7  | 2 | 3.01                  | 21.0 |
| CSTMQ05010-DIN8 | 5      | 1005.31 | 64           | 49 | 39 | 34   | 62.83 | 125.66 | 8            | 12 | 14  | 20  | 13 | 30.1   | 945.00  | 11.7 | 3 | 4.61                  | 12.9 |
| CSTMQ05020-DIN8 | 5      | 2010.62 | 128          | 49 | 39 | 34   | 62.83 | 125.66 | 16           | 12 | 14  | 20  | 13 | 30.1   | 1950.40 | 11.7 | 3 | 4.61                  | 25.8 |
| CSTMQ06010-DIN8 | 6      | 1017.88 | 54           | 59 | 49 | 43   | 63.62 | 127.23 | 8            | 16 | 18  | 26  | 17 | 31.4   | 955.00  | 15.7 | 3 | 6.67                  | 19.7 |
| CSTMQ06020-DIN8 | 6      | 2035.75 | 108          | 59 | 49 | 43   | 63.62 | 127.23 | 16           | 16 | 18  | 26  | 17 | 31.4   | 1973.00 | 15.7 | 3 | 6.67                  | 39.5 |
| CSTMQ08010-DIN8 | 8      | 1005.31 | 40           | 79 | 79 | 71   | 62.83 | 125.66 | 8            | 25 | 22  | 33  | 21 | 26.6   | 952.00  | 19.7 | 4 | 11.90                 | 42.1 |
| CSTMQ08020-DIN8 | 8      | 2010.61 | 80           | 79 | 79 | 71   | 62.83 | 125.66 | 16           | 25 | 22  | 33  | 21 | 26.6   | 1957.30 | 19.7 | 4 | 11.90                 | 84.2 |
| CSTMQ10010-DIN8 | 10     | 1005.31 | 32           | 99 | 99 | 89   | 62.83 | 125.66 | 8            | 32 | 33  | 48  | 32 | 125.67 | 753.96  | 19.7 | 5 | 18.65                 | 66.1 |

## CSTMH-DIN10



Series CSTMH-DIN10 Straight Hardened Racks

Quality Grade DIN 10

Material S45C

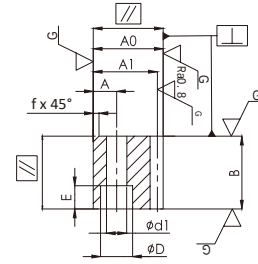
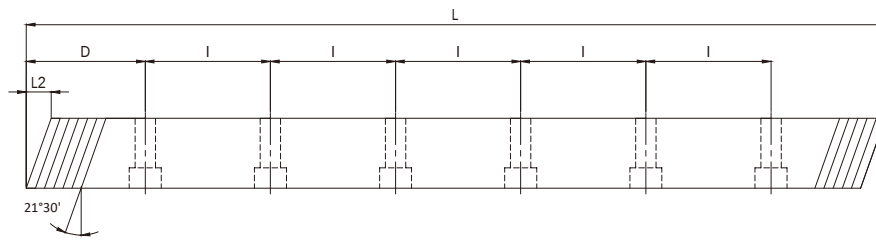
Hardness: HRC 50~55°

Surfaces: Sand-blasted or phosphated.

Total Pitch Error:  $F_p / 1000 \leq 0.1\text{mm}$ 

| Code             | Module | L       | No. of Teeth | B  | A0 | A1   | D     | I      | No. of Holes | A  | ød1 | øD  | E  | D1    | I1      | ød2  | f | F <sub>ta</sub><br>kN | KG   |
|------------------|--------|---------|--------------|----|----|------|-------|--------|--------------|----|-----|-----|----|-------|---------|------|---|-----------------------|------|
| CSTMH01510-DIN10 | 1.5    | 999.03  | 212          | 17 | 17 | 15.5 | 62.44 | 124.88 | 8            | 7  | 6   | 9.5 | 7  | 29    | 941.00  | 5.7  | 2 | 1.98                  | 1.9  |
| CSTMH02010-DIN10 | 2      | 1005.31 | 160          | 24 | 24 | 22   | 62.83 | 125.66 | 8            | 8  | 7   | 11  | 7  | 31.3  | 942.70  | 5.7  | 2 | 3.73                  | 3.9  |
| CSTMH02020-DIN10 | 2      | 2010.62 | 320          | 24 | 24 | 22   | 62.83 | 125.66 | 16           | 8  | 7   | 11  | 7  | 31.3  | 1948.00 | 5.7  | 2 | 3.73                  | 7.8  |
| CSTMH03010-DIN10 | 3      | 1017.88 | 108          | 29 | 29 | 26   | 63.62 | 127.23 | 8            | 9  | 10  | 15  | 9  | 34.4  | 949.10  | 7.7  | 2 | 6.76                  | 5.8  |
| CSTMH03020-DIN10 | 3      | 2035.75 | 216          | 29 | 29 | 26   | 63.62 | 127.23 | 16           | 9  | 10  | 15  | 9  | 34.4  | 1967.00 | 7.7  | 2 | 6.76                  | 11.5 |
| CSTMH04010-DIN10 | 4      | 1005.31 | 80           | 39 | 39 | 35   | 62.83 | 125.66 | 8            | 12 | 10  | 15  | 9  | 37.5  | 930.30  | 7.7  | 2 | 12.12                 | 10.3 |
| CSTMH04020-DIN10 | 4      | 2010.62 | 160          | 39 | 39 | 35   | 62.83 | 125.66 | 16           | 12 | 10  | 15  | 9  | 37.5  | 1935.60 | 7.7  | 2 | 12.12                 | 20.5 |
| CSTMH05010-DIN10 | 5      | 1005.31 | 64           | 49 | 49 | 34   | 62.83 | 125.66 | 8            | 12 | 14  | 20  | 13 | 30.1  | 945.00  | 11.7 | 3 | 19.04                 | 12.9 |
| CSTMH05020-DIN10 | 5      | 2010.62 | 128          | 49 | 49 | 34   | 62.83 | 125.66 | 16           | 12 | 14  | 20  | 13 | 30.1  | 1950.30 | 11.7 | 3 | 19.04                 | 25.8 |
| CSTMH06010-DIN10 | 6      | 1017.88 | 54           | 59 | 49 | 43   | 63.62 | 127.23 | 8            | 16 | 18  | 26  | 17 | 31.4  | 955.00  | 15.7 | 3 | 27.51                 | 19.7 |
| CSTMH06020-DIN10 | 6      | 2035.75 | 108          | 59 | 49 | 43   | 63.62 | 127.23 | 16           | 16 | 18  | 26  | 17 | 31.4  | 1973.00 | 15.7 | 3 | 27.51                 | 39.5 |
| CSTMH08010-DIN10 | 8      | 1005.31 | 40           | 79 | 79 | 71   | 62.83 | 125.66 | 8            | 25 | 22  | 33  | 21 | 26.6  | 952.00  | 19.7 | 4 | 49.11                 | 42.1 |
| CSTMH10010-DIN10 | 10     | 1005.31 | 32           | 99 | 99 | 89   | 62.83 | 125.66 | 8            | 32 | 33  | 48  | 32 | 125.7 | 753.96  | 19.7 | 4 | 76.93                 | 66.1 |

## MHTGQ-JIS1



Dimension : mm

## Series MHTGQ-JIS1 Helical Quenched &amp; Tempered Ground Racks

## Quality Grade JIS 1

Material SCM440

Right Hand Angle 21°30'

Hardness: HRC 18~22°

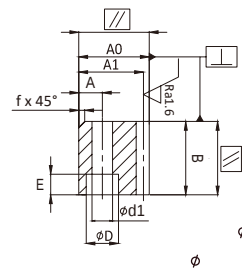
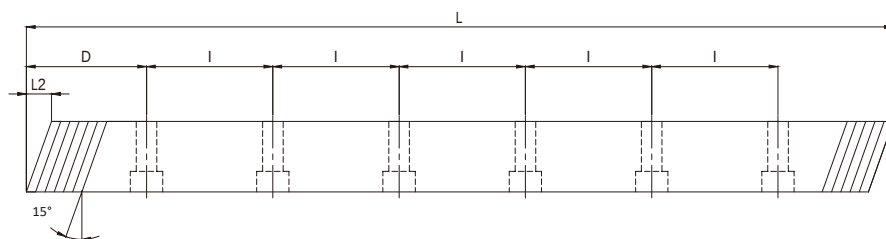
Total Pitch Error:  $F_p / 1000 \leq 0.033 \text{ mm}$ 

Ground on all sides after quenching.

No Mounted Holes , Code with-N

| Code              | Module | L       | L2   | No. of Teeth | B  | A0 | A1   | D     | I   | No. of Holes | Screw | A  | ød1 | øD | E    | f   | F <sub>ta</sub><br>kN | KG  |
|-------------------|--------|---------|------|--------------|----|----|------|-------|-----|--------------|-------|----|-----|----|------|-----|-----------------------|-----|
| MHTGQ01010-JIS1   | 1      | 1002.75 | 3.38 | 296          | 8  | 15 | 14   | 52.95 | 180 | 4            | M4    | 6  | 4.5 | 8  | 4.4  | 1.5 | 0.36                  | 0.4 |
| MHTGQ01010-JIS1-N | 1      | 1002.75 | 3.38 | 296          | 8  | 15 | 14   | *     | *   | *            | *     | *  | *   | *  | *    | 1.5 | 0.36                  | 0.4 |
| MHTGQ01510-JIS1   | 1.5    | 1002.53 | 5.07 | 197          | 12 | 20 | 18.5 | 53.63 | 180 | 4            | M5    | 8  | 6   | 10 | 6.0  | 2   | 0.80                  | 0.9 |
| MHTGQ01510-JIS1-N | 1.5    | 1002.53 | 5.07 | 197          | 12 | 20 | 18.5 | *     | *   | *            | *     | *  | *   | *  | *    | 2   | 0.80                  | 0.9 |
| MHTGQ02010-JIS1   | 2      | 1005.74 | 6.30 | 148          | 16 | 25 | 23   | 56.47 | 180 | 6            | M6    | 10 | 7   | 11 | 7.0  | 2   | 1.43                  | 2.9 |
| MHTGQ02010-JIS1-N | 2      | 1005.74 | 6.30 | 148          | 16 | 25 | 23   | *     | *   | *            | *     | *  | *   | *  | *    | 2   | 1.43                  | 2.9 |
| MHTGQ02510-JIS1   | 2.5    | 1013.92 | 7.88 | 118          | 20 | 30 | 27.5 | 56.46 | 180 | 6            | M8    | 12 | 9   | 14 | 8.6  | 2   | 2.23                  | 4.3 |
| MHTGQ02510-JIS1-N | 2.5    | 1013.92 | 7.88 | 118          | 20 | 30 | 27.5 | *     | *   | *            | *     | *  | *   | *  | *    | 2   | 2.23                  | 4.3 |
| MHTGQ03010-JIS1   | 3      | 1002.48 | 9.85 | 99           | 25 | 35 | 32   | 56.7  | 180 | 6            | M10   | 14 | 11  | 18 | 10.8 | 2   | 3.41                  | 6.2 |
| MHTGQ03010-JIS1-N | 3      | 1002.48 | 9.85 | 99           | 25 | 35 | 32   | *     | *   | *            | *     | *  | *   | *  | *    | 2   | 3.41                  | 6.2 |

## CHTM-JIS4



Series CHTM-JIS4 Helical Racks

Quality Grade JIS 4

Material S45C

Right Hand Angle 15°

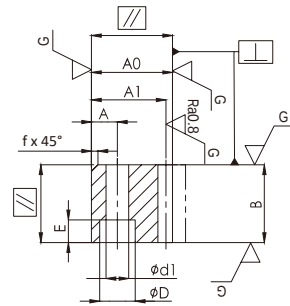
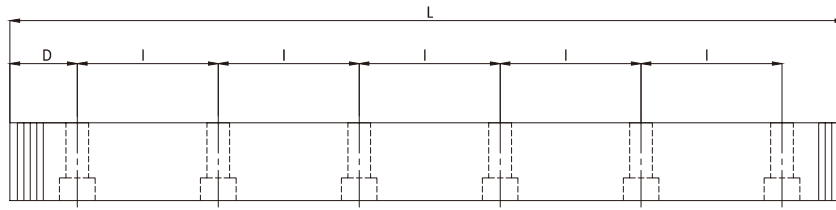
Surfaces: Black-coated

Total Pitch Error:  $F_p/1000 \leq 0.075 \text{ mm}$ 

No Mounted Holes , Code with-N

| Code             | Module | L       | L2   | No. of Teeth | B  | A0 | A1 | D  | I   | No. of Holes | Screw | A  | ød1 | øD   | E    | f | F <sub>ta</sub> kN | KG  |
|------------------|--------|---------|------|--------------|----|----|----|----|-----|--------------|-------|----|-----|------|------|---|--------------------|-----|
| CHTM02010-JIS4   | 2      | 1001.94 | 6.7  | 153          | 25 | 25 | 23 | 57 | 180 | 6            | M6    | 10 | 7   | 11   | 7    | 2 | 1.22               | 4.5 |
| CHTM02010-JIS4-N | 2      | 1001.94 | 6.7  | 153          | 25 | 25 | 23 | *  | *   | *            | *     | *  | *   | *    | *    | 2 | 1.22               | 4.6 |
| CHTM03010-JIS4   | 3      | 1004.62 | 9.38 | 102          | 35 | 35 | 32 | 57 | 180 | 6            | M10   | 14 | 11  | 17.5 | 10.8 | 2 | 2.50               | 8.7 |
| CHTM03010-JIS4-N | 3      | 1004.62 | 9.38 | 102          | 35 | 35 | 32 | *  | *   | *            | *     | *  | *   | *    | *    | 2 | 2.50               | 8.8 |

## CSTGH-JIS2



Dimension : mm

## Series CSTGH-JIS2 Straight Teeth Ground Racks

## Quality Grade JIS 2

Material S45C

Hardness: HRC 50~55°

Surfaces: Black-coated (Exclude Teeth)

Ground on all sides after hardening.

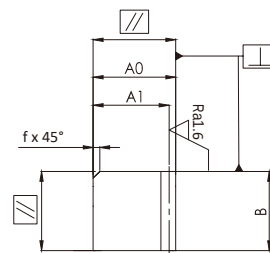
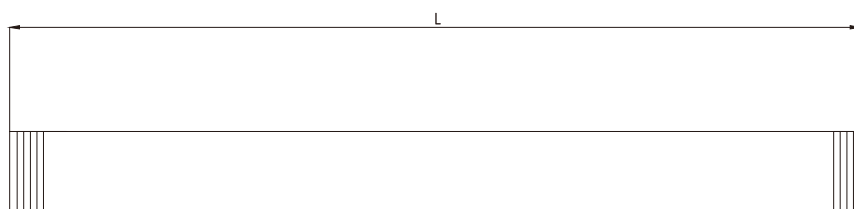
Total Pitch Error:  $F_p/1000 \leq 0.036 \text{ mm}$ 

No Mounted Holes, Code with-N

| Code              | Module | L       | No. of Teeth | B  | A0 | A1   | D     | I   | No. of Holes | Screw | A  | φd1 | φD   | E    | f   | F <sub>ta</sub> kN | KG   |
|-------------------|--------|---------|--------------|----|----|------|-------|-----|--------------|-------|----|-----|------|------|-----|--------------------|------|
| CSTGH01005-JIS2   | 1      | 499.51  | 159          | 10 | 12 | 11   | 24.76 | 150 | 4            | M4    | 5  | 4.5 | *    | *    | 1.5 | 1.19               | 0.4  |
| CSTGH01005-JIS2-N | 1      | 499.51  | 159          | 10 | 12 | 11   | *     | *   | *            | *     | *  | *   | *    | *    | 1.5 | 1.19               | 0.4  |
| CSTGH01505-JIS2   | 1.5    | 499.51  | 106          | 15 | 20 | 18.5 | 24.76 | 150 | 4            | M5    | 8  | 6   | 10   | 6    | 2   | 2.67               | 1.1  |
| CSTGH01505-JIS2-N | 1.5    | 499.51  | 106          | 15 | 20 | 18.5 | *     | *   | *            | *     | *  | *   | *    | *    | 2   | 2.67               | 1.1  |
| CSTGH01510-JIS2   | 1.5    | 999.03  | 212          | 15 | 20 | 18.5 | 49.51 | 180 | 6            | M5    | 8  | 6   | 10   | 6    | 2   | 2.67               | 2.1  |
| CSTGH01510-JIS2-N | 1.5    | 999.03  | 212          | 15 | 20 | 18.5 | *     | *   | *            | *     | *  | *   | *    | *    | 2   | 2.67               | 2.1  |
| CSTGH02005-JIS2   | 2      | 502.65  | 80           | 20 | 25 | 23   | 26.33 | 150 | 4            | M6    | 10 | 7   | 11   | 7    | 2   | 4.74               | 1.8  |
| CSTGH02005-JIS2-N | 2      | 502.65  | 80           | 20 | 25 | 23   | *     | *   | *            | *     | *  | *   | *    | *    | 2   | 4.74               | 1.8  |
| CSTGH02010-JIS2   | 2      | 1005.31 | 160          | 20 | 25 | 23   | 52.65 | 180 | 6            | M6    | 10 | 7   | 11   | 7    | 2   | 4.74               | 3.6  |
| CSTGH02010-JIS2-N | 2      | 1005.31 | 160          | 20 | 25 | 23   | *     | *   | *            | *     | *  | *   | *    | *    | 2   | 4.74               | 3.6  |
| CSTGH02505-JIS2   | 2.5    | 502.65  | 64           | 25 | 30 | 27.5 | 26.33 | 150 | 4            | M8    | 12 | 9   | 14   | 8.6  | 2   | 7.41               | 2.7  |
| CSTGH02505-JIS2-N | 2.5    | 502.65  | 64           | 25 | 30 | 27.5 | *     | *   | *            | *     | *  | *   | *    | *    | 2   | 7.41               | 2.7  |
| CSTGH02510-JIS2   | 2.5    | 1005.31 | 128          | 25 | 30 | 27.5 | 52.65 | 180 | 6            | M8    | 12 | 9   | 14   | 8.6  | 2   | 7.41               | 5.4  |
| CSTGH02510-JIS2-N | 2.5    | 1005.31 | 128          | 25 | 30 | 27.5 | *     | *   | *            | *     | *  | *   | *    | *    | 2   | 7.41               | 5.4  |
| CSTGH03005-JIS2   | 3      | 499.51  | 53           | 30 | 35 | 32   | 24.76 | 150 | 4            | M10   | 14 | 11  | 17.5 | 10.8 | 2   | 10.67              | 3.7  |
| CSTGH03005-JIS2-N | 3      | 499.51  | 53           | 30 | 35 | 32   | *     | *   | *            | *     | *  | *   | *    | *    | 2   | 10.67              | 3.7  |
| CSTGH03010-JIS2   | 3      | 999.03  | 106          | 30 | 35 | 32   | 49.51 | 180 | 6            | M10   | 14 | 11  | 17.5 | 10.8 | 2   | 10.67              | 7.5  |
| CSTGH03010-JIS2-N | 3      | 999.03  | 106          | 30 | 35 | 32   | *     | *   | *            | *     | *  | *   | *    | *    | 2   | 10.67              | 7.5  |
| CSTGH04005-JIS2   | 4      | 502.65  | 40           | 40 | 45 | 41   | 26.33 | 150 | 4            | M12   | 18 | 14  | 20   | 13   | 2   | 18.98              | 6.4  |
| CSTGH04005-JIS2-N | 4      | 502.65  | 40           | 40 | 45 | 41   | *     | *   | *            | *     | *  | *   | *    | *    | 2   | 18.98              | 7.2  |
| CSTGH04010-JIS2   | 4      | 1005.31 | 80           | 40 | 45 | 41   | 52.65 | 180 | 6            | M12   | 18 | 14  | 20   | 13   | 2   | 18.98              | 12.9 |
| CSTGH04010-JIS2-N | 4      | 1005.31 | 80           | 40 | 45 | 41   | *     | *   | *            | *     | *  | *   | *    | *    | 2   | 18.98              | 14.5 |
| CSTGH05005-JIS2   | 5      | 502.65  | 32           | 50 | 50 | 45   | 31.33 | 220 | 3            | M14   | 20 | 16  | 23   | 15.2 | 3   | 29.65              | 8.9  |
| CSTGH05005-JIS2-N | 5      | 502.65  | 32           | 50 | 50 | 45   | *     | *   | *            | *     | *  | *   | *    | *    | 3   | 29.65              | 8.9  |
| CSTGH05010-JIS2   | 5      | 1005.31 | 64           | 50 | 50 | 45   | 62.65 | 220 | 5            | M14   | 20 | 16  | 23   | 15.2 | 3   | 29.65              | 17.9 |
| CSTGH05010-JIS2-N | 5      | 1005.31 | 64           | 50 | 50 | 45   | *     | *   | *            | *     | *  | *   | *    | *    | 3   | 29.65              | 17.9 |
| CSTGH06005-JIS2   | 6      | 490.09  | 26           | 60 | 60 | 54   | 25.04 | 220 | 3            | M16   | 23 | 18  | 26   | 17.5 | 3   | 42.70              | 12.5 |
| CSTGH06005-JIS2-N | 6      | 490.09  | 26           | 60 | 60 | 54   | *     | *   | *            | *     | *  | *   | *    | *    | 3   | 42.70              | 12.5 |
| CSTGH06010-JIS2   | 6      | 999.03  | 53           | 60 | 60 | 54   | 59.51 | 220 | 5            | M16   | 23 | 18  | 26   | 17.5 | 3   | 42.70              | 25.5 |
| CSTGH06010-JIS2-N | 6      | 999.03  | 53           | 60 | 60 | 54   | *     | *   | *            | *     | *  | *   | *    | *    | 3   | 42.70              | 25.5 |

※Weight only for reference. Actual scale should be Weighing.

## MSTMQ-JIS4-N



Dimension : mm

Series MSTMQ-JIS4-N Straight Quenched &amp; Tempered Racks

Quality Grade JIS 4

Material SCM440

Hardness: HRC 18~22°

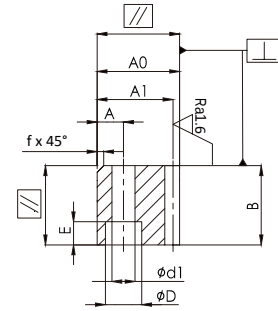
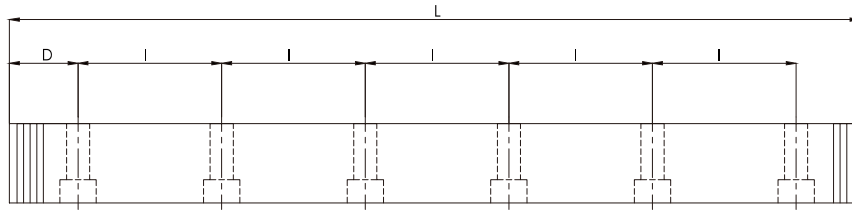
Surfaces: Black-coated

Total Pitch Error:  $F_p/1000 \leq 0.075\text{mm}$ 

No Mounted Holes , Code with-N

| Code              | Module | L       | No. of Teeth | B  | A0 | A1   | f | $F_{ta}$<br>kN | KG   |
|-------------------|--------|---------|--------------|----|----|------|---|----------------|------|
| MSTMQ01510-JIS4-N | 1.5    | 999.03  | 212          | 15 | 20 | 18.5 | 2 | 0.42           | 2.1  |
| MSTMQ02010-JIS4-N | 2      | 1005.31 | 160          | 20 | 25 | 23   | 2 | 0.75           | 3.6  |
| MSTMQ02510-JIS4-N | 2.5    | 1005.31 | 128          | 25 | 30 | 27.5 | 2 | 1.18           | 5.4  |
| MSTMQ03010-JIS4-N | 3      | 999.03  | 106          | 30 | 35 | 32   | 2 | 1.70           | 7.5  |
| MSTMQ04010-JIS4-N | 4      | 1005.31 | 80           | 40 | 40 | 41   | 2 | 3.39           | 14.5 |
| MSTMQ05010-JIS4-N | 5      | 1005.31 | 64           | 50 | 50 | 45   | 3 | 4.71           | 17.9 |
| MSTMQ06010-JIS4-N | 6      | 999.03  | 53           | 60 | 60 | 54   | 3 | 6.78           | 25.5 |

## CSTM-JIS4



Dimension : mm

## Series CSTM-JIS4 Straight Milled Racks

## Quality Grade JIS 4

Material S45C

Hardness: HRC 10~ 12°

Surfaces: Black-coated

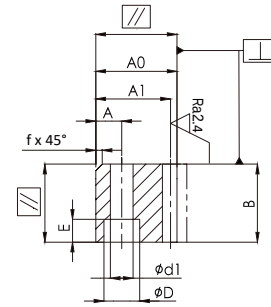
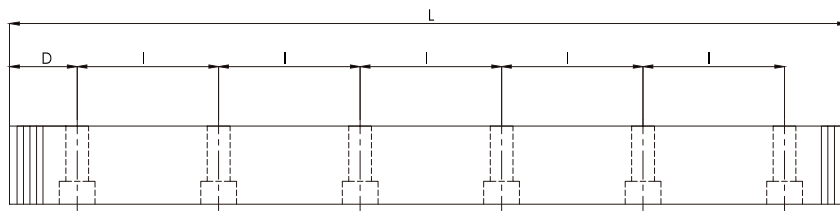
Total Pitch Error:  $F_p/1000 \leq 0.075\text{mm}$ 

No Mounted Holes , Code with-N

| Code             | Module | L       | No. of Teeth | B  | A0 | A1   | D     | I   | No. of Holes | Screw | A  | ød1 | øD   | E    | f | F <sub>ta</sub> kN | KG   |
|------------------|--------|---------|--------------|----|----|------|-------|-----|--------------|-------|----|-----|------|------|---|--------------------|------|
| CSTM01510-JIS4   | 1.5    | 999.03  | 212          | 15 | 20 | 18.5 | 49.51 | 180 | 6            | M5    | 8  | 6   | 10   | 6    | 2 | 0.31               | 2.1  |
| CSTM01510-JIS4-N | 1.5    | 999.03  | 212          | 15 | 20 | 18.5 | *     | *   | *            | *     | *  | *   | *    | *    | 2 | 0.31               | 2.1  |
| CSTM01511-JIS4   | 1.5    | 999.03  | 212          | 15 | 15 | 13.5 | 49.51 | 180 | 6            | M5    | 5  | 6   | 10   | 5    | 2 | 0.31               | 1.6  |
| CSTM01511-JIS4-N | 1.5    | 999.03  | 212          | 15 | 15 | 13.5 | *     | *   | *            | *     | *  | *   | *    | *    | 2 | 0.31               | 1.6  |
| CSTM01520-JIS4   | 1.5    | 2049.88 | 435          | 15 | 20 | 18.5 | 34.94 | 180 | 12           | M5    | 8  | 6   | 10   | 6    | 2 | 0.31               | 4.4  |
| CSTM01520-JIS4-N | 1.5    | 2049.88 | 435          | 15 | 20 | 18.5 | *     | *   | *            | *     | *  | *   | *    | *    | 2 | 0.31               | 4.4  |
| CSTM01521-JIS4   | 1.5    | 2049.88 | 435          | 15 | 15 | 13.5 | 34.94 | 180 | 12           | M5    | 5  | 6   | 10   | 5    | 2 | 0.31               | 3.3  |
| CSTM01521-JIS4-N | 1.5    | 2049.88 | 435          | 15 | 15 | 13.5 | *     | *   | *            | *     | *  | *   | *    | *    | 2 | 0.31               | 3.3  |
| CSTM02010-JIS4   | 2      | 1005.31 | 160          | 20 | 25 | 23   | 52.65 | 180 | 6            | M6    | 10 | 7   | 11   | 7    | 2 | 0.54               | 3.6  |
| CSTM02010-JIS4-N | 2      | 1005.31 | 160          | 20 | 25 | 23   | *     | *   | *            | *     | *  | *   | *    | *    | 2 | 0.54               | 3.6  |
| CSTM02011-JIS4   | 2      | 1005.31 | 160          | 20 | 20 | 18   | 52.65 | 180 | 6            | M6    | 7  | 7   | 11   | 7    | 2 | 0.54               | 2.9  |
| CSTM02011-JIS4-N | 2      | 1005.31 | 160          | 20 | 20 | 18   | *     | *   | *            | *     | *  | *   | *    | *    | 2 | 0.54               | 2.9  |
| CSTM02020-JIS4   | 2      | 2048.31 | 326          | 20 | 25 | 23   | 34.15 | 180 | 12           | M6    | 10 | 7   | 11   | 7    | 2 | 0.54               | 7.3  |
| CSTM02020-JIS4-N | 2      | 2048.31 | 326          | 20 | 25 | 23   | *     | *   | *            | *     | *  | *   | *    | *    | 2 | 0.54               | 7.3  |
| CSTM02021-JIS4   | 2      | 2048.31 | 326          | 20 | 20 | 18   | 34.15 | 180 | 12           | M6    | 7  | 7   | 11   | 7    | 2 | 0.54               | 5.8  |
| CSTM02021-JIS4-N | 2      | 2048.31 | 326          | 20 | 20 | 18   | *     | *   | *            | *     | *  | *   | *    | *    | 2 | 0.54               | 5.8  |
| CSTM02510-JIS4   | 2.5    | 1005.31 | 128          | 25 | 30 | 27.5 | 52.65 | 180 | 6            | M8    | 12 | 9   | 14   | 8.6  | 2 | 0.85               | 5.4  |
| CSTM02510-JIS4-N | 2.5    | 1005.31 | 128          | 25 | 30 | 27.5 | *     | *   | *            | *     | *  | *   | *    | *    | 2 | 0.85               | 5.4  |
| CSTM02511-JIS4   | 2.5    | 1005.31 | 128          | 25 | 25 | 22.5 | 52.65 | 180 | 6            | M8    | 9  | 9   | 14   | 8.6  | 2 | 0.85               | 4.5  |
| CSTM02511-JIS4-N | 2.5    | 1005.31 | 128          | 25 | 25 | 22.5 | *     | *   | *            | *     | *  | *   | *    | *    | 2 | 0.85               | 4.5  |
| CSTM02520-JIS4   | 2.5    | 2049.88 | 261          | 25 | 30 | 27.5 | 34.94 | 180 | 12           | M8    | 12 | 9   | 14   | 8.6  | 2 | 0.85               | 10.9 |
| CSTM02520-JIS4-N | 2.5    | 2049.88 | 261          | 25 | 30 | 27.5 | *     | *   | *            | *     | *  | *   | *    | *    | 2 | 0.85               | 10.9 |
| CSTM02521-JIS4   | 2.5    | 2049.88 | 261          | 25 | 25 | 22.5 | 34.94 | 180 | 12           | M8    | 9  | 9   | 14   | 8.6  | 2 | 0.85               | 9.1  |
| CSTM02521-JIS4-N | 2.5    | 2049.88 | 261          | 25 | 25 | 22.5 | *     | *   | *            | *     | *  | *   | *    | *    | 2 | 0.85               | 9.1  |
| CSTM03010-JIS4   | 3      | 999.03  | 106          | 30 | 35 | 32   | 49.51 | 180 | 6            | M10   | 14 | 11  | 17.5 | 10.8 | 2 | 1.22               | 7.5  |
| CSTM03010-JIS4-N | 3      | 999.03  | 106          | 30 | 35 | 32   | *     | *   | *            | *     | *  | *   | *    | *    | 2 | 1.22               | 7.5  |
| CSTM03011-JIS4   | 3      | 999.03  | 106          | 30 | 30 | 27   | 49.51 | 180 | 6            | M10   | 11 | 11  | 17.5 | 10.8 | 2 | 1.22               | 6.4  |
| CSTM03011-JIS4-N | 3      | 999.03  | 106          | 30 | 30 | 27   | *     | *   | *            | *     | *  | *   | *    | *    | 2 | 1.22               | 6.4  |
| CSTM03020-JIS4   | 3      | 2045.17 | 217          | 30 | 35 | 32   | 32.58 | 180 | 12           | M10   | 14 | 11  | 17.5 | 10.8 | 2 | 1.22               | 15.3 |
| CSTM03020-JIS4-N | 3      | 2045.17 | 217          | 30 | 35 | 32   | *     | *   | *            | *     | *  | *   | *    | *    | 2 | 1.22               | 15.3 |
| CSTM03021-JIS4   | 3      | 2045.17 | 217          | 30 | 30 | 27   | 32.58 | 180 | 12           | M10   | 11 | 11  | 17.5 | 10.8 | 2 | 1.22               | 13.1 |
| CSTM03021-JIS4-N | 3      | 2045.17 | 217          | 30 | 30 | 27   | *     | *   | *            | *     | *  | *   | *    | *    | 2 | 1.22               | 13.1 |
| CSTM04010-JIS4   | 4      | 1005.31 | 80           | 40 | 45 | 41   | 52.65 | 180 | 6            | M12   | 18 | 14  | 20   | 13   | 2 | 2.18               | 12.9 |
| CSTM04010-JIS4-N | 4      | 1005.31 | 80           | 40 | 45 | 41   | *     | *   | *            | *     | *  | *   | *    | *    | 2 | 2.18               | 12.9 |
| CSTM04011-JIS4   | 4      | 1005.31 | 80           | 40 | 40 | 36   | 52.65 | 180 | 6            | M12   | 15 | 14  | 20   | 13   | 2 | 2.18               | 11.4 |
| CSTM04011-JIS4-N | 4      | 1005.31 | 80           | 40 | 40 | 36   | *     | *   | *            | *     | *  | *   | *    | *    | 2 | 2.18               | 11.4 |
| CSTM04020-JIS4   | 4      | 2048.31 | 163          | 40 | 45 | 41   | 34.15 | 180 | 12           | M12   | 15 | 14  | 20   | 13   | 2 | 2.18               | 26.2 |
| CSTM04020-JIS4-N | 4      | 2048.31 | 163          | 40 | 45 | 41   | *     | *   | *            | *     | *  | *   | *    | *    | 2 | 2.18               | 26.2 |
| CSTM04021-JIS4   | 4      | 2048.31 | 163          | 40 | 40 | 41   | 34.15 | 180 | 12           | M12   | 18 | 14  | 20   | 13   | 2 | 2.18               | 23.3 |
| CSTM04021-JIS4-N | 4      | 2048.31 | 163          | 40 | 40 | 41   | *     | *   | *            | *     | *  | *   | *    | *    | 2 | 2.18               | 23.3 |
| CSTM05010-JIS4   | 5      | 1005.31 | 64           | 50 | 50 | 45   | 62.65 | 220 | 5            | M14   | 20 | 16  | 23   | 15.2 | 3 | 3.40               | 17.9 |
| CSTM05010-JIS4-N | 5      | 1005.31 | 64           | 50 | 50 | 45   | *     | *   | *            | *     | *  | *   | *    | *    | 3 | 3.40               | 17.9 |
| CSTM05020-JIS4   | 5      | 2042.04 | 130          | 50 | 50 | 45   | 31.02 | 220 | 10           | M14   | 20 | 16  | 23   | 15.2 | 3 | 3.40               | 36.3 |
| CSTM05020-JIS4-N | 5      | 2042.04 | 130          | 50 | 50 | 45   | *     | *   | *            | *     | *  | *   | *    | *    | 3 | 3.40               | 36.3 |
| CSTM06010-JIS4   | 6      | 999.03  | 53           | 60 | 60 | 54   | 59.51 | 220 | 5            | M16   | 23 | 18  | 26   | 17.5 | 3 | 4.90               | 25.5 |
| CSTM06010-JIS4-N | 6      | 999.03  | 53           | 60 | 60 | 54   | *     | *   | *            | *     | *  | *   | *    | *    | 3 | 4.90               | 25.5 |
| CSTM06020-JIS4   | 6      | 2035.75 | 108          | 60 | 60 | 54   | 27.88 | 220 | 10           | M16   | 23 | 18  | 26   | 17.5 | 3 | 4.90               | 52.1 |
| CSTM06020-JIS4-N | 6      | 2035.75 | 108          | 60 | 60 | 54   | *     | *   | *            | *     | *  | *   | *    | *    | 3 | 4.90               | 52.1 |

※Weight only for reference. Actual scale should be Weighing.

## CSTMH-JIS5



Dimension : mm

Series CSTMH-JIS5 Straight Hardened Racks

Quality Grade JIS 5

Material S45C

Hardness: HRC 50~55°

Surfaces: Black-coated

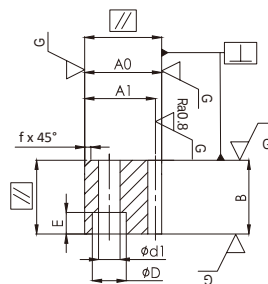
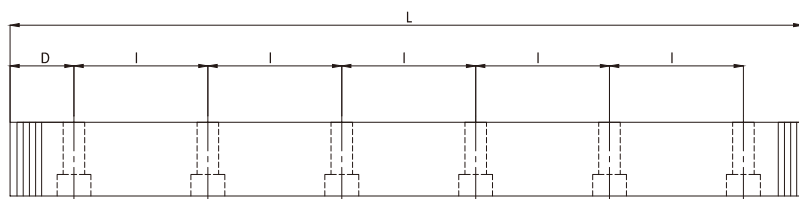
Total Pitch Error:  $F_p/1000 \leq 0.15\text{mm}$ 

No Mounted Holes, Code with-N

| Code              | Module | L       | No. of Teeth | B  | A0 | A1   | D     | I   | No. of Holes | Screw | A  | ød1 | øD   | E    | f | F <sub>ta</sub> kN | KG   |
|-------------------|--------|---------|--------------|----|----|------|-------|-----|--------------|-------|----|-----|------|------|---|--------------------|------|
| CSTMH01510-JIS5   | 1.5    | 999.03  | 212          | 15 | 20 | 18.5 | 49.51 | 180 | 6            | M5    | 8  | 6   | 10   | 6    | 2 | 1.87               | 2.1  |
| CSTMH01510-JIS5-N | 1.5    | 999.03  | 212          | 15 | 20 | 18.5 | *     | *   | *            | *     | *  | *   | *    | *    | 2 | 1.87               | 2.1  |
| CSTMH01511-JIS5   | 1.5    | 999.03  | 212          | 15 | 15 | 13.5 | 49.51 | 180 | 6            | M5    | 5  | 6   | 10   | 5    | 2 | 1.87               | 1.6  |
| CSTMH01511-JIS5-N | 1.5    | 999.03  | 212          | 15 | 15 | 13.5 | *     | *   | *            | *     | *  | *   | *    | *    | 2 | 1.87               | 1.6  |
| CSTMH01520-JIS5   | 1.5    | 2049.88 | 435          | 15 | 20 | 18.5 | 34.94 | 180 | 12           | M5    | 8  | 6   | 10   | 6    | 2 | 1.87               | 4.4  |
| CSTMH01520-JIS5-N | 1.5    | 2049.88 | 435          | 15 | 20 | 18.5 | *     | *   | *            | *     | *  | *   | *    | *    | 2 | 1.87               | 4.4  |
| CSTMH01521-JIS5   | 1.5    | 2049.88 | 435          | 15 | 15 | 13.5 | 34.94 | 180 | 12           | M5    | 5  | 6   | 10   | 5    | 2 | 1.87               | 3.3  |
| CSTMH01521-JIS5-N | 1.5    | 2049.88 | 435          | 15 | 15 | 13.5 | *     | *   | *            | *     | *  | *   | *    | *    | 2 | 1.87               | 3.3  |
| CSTMH02010-JIS5   | 2      | 1005.31 | 160          | 20 | 25 | 23   | 52.65 | 180 | 6            | M6    | 10 | 7   | 11   | 7    | 2 | 3.33               | 3.6  |
| CSTMH02010-JIS5-N | 2      | 1005.31 | 160          | 20 | 25 | 23   | *     | *   | *            | *     | *  | *   | *    | *    | 2 | 3.33               | 3.6  |
| CSTMH02011-JIS5   | 2      | 1005.31 | 160          | 20 | 20 | 18   | 52.65 | 180 | 6            | M6    | 7  | 7   | 11   | 7    | 2 | 3.33               | 2.9  |
| CSTMH02011-JIS5-N | 2      | 1005.31 | 160          | 20 | 20 | 18   | *     | *   | *            | *     | *  | *   | *    | *    | 2 | 3.33               | 2.9  |
| CSTMH02020-JIS5   | 2      | 2048.31 | 326          | 20 | 25 | 23   | 34.15 | 180 | 12           | M6    | 10 | 7   | 11   | 7    | 2 | 3.33               | 7.3  |
| CSTMH02020-JIS5-N | 2      | 2048.31 | 326          | 20 | 25 | 23   | *     | *   | *            | *     | *  | *   | *    | *    | 2 | 3.33               | 7.3  |
| CSTMH02021-JIS5   | 2      | 2048.31 | 326          | 20 | 20 | 18   | 34.15 | 180 | 12           | M6    | 7  | 7   | 11   | 7    | 2 | 3.33               | 5.8  |
| CSTMH02021-JIS5-N | 2      | 2048.31 | 326          | 20 | 20 | 18   | *     | *   | *            | *     | *  | *   | *    | *    | 2 | 3.33               | 5.8  |
| CSTMH02510-JIS5   | 2.5    | 1005.31 | 128          | 25 | 30 | 27.5 | 52.65 | 180 | 6            | M8    | 12 | 9   | 14   | 8.6  | 2 | 5.20               | 5.4  |
| CSTMH02510-JIS5-N | 2.5    | 1005.31 | 128          | 25 | 30 | 27.5 | *     | *   | *            | *     | *  | *   | *    | *    | 2 | 5.20               | 5.4  |
| CSTMH02511-JIS5   | 2.5    | 1005.31 | 128          | 25 | 25 | 22.5 | 52.65 | 180 | 6            | M8    | 9  | 9   | 14   | 8.6  | 2 | 5.20               | 4.5  |
| CSTMH02511-JIS5-N | 2.5    | 1005.31 | 128          | 25 | 25 | 22.5 | *     | *   | *            | *     | *  | *   | *    | *    | 2 | 5.20               | 4.5  |
| CSTMH02520-JIS5   | 2.5    | 2049.88 | 261          | 25 | 30 | 27.5 | 34.94 | 180 | 12           | M8    | 12 | 9   | 14   | 8.6  | 2 | 5.20               | 10.9 |
| CSTMH02520-JIS5-N | 2.5    | 2049.88 | 261          | 25 | 30 | 27.5 | *     | *   | *            | *     | *  | *   | *    | *    | 2 | 5.20               | 10.9 |
| CSTMH02521-JIS5   | 2.5    | 2049.88 | 261          | 25 | 25 | 22.5 | 34.94 | 180 | 12           | M8    | 9  | 9   | 14   | 8.6  | 2 | 5.20               | 9.1  |
| CSTMH02521-JIS5-N | 2.5    | 2049.88 | 261          | 25 | 25 | 22.5 | *     | *   | *            | *     | *  | *   | *    | *    | 2 | 5.20               | 9.1  |
| CSTM03010-JIS4    | 3      | 999.03  | 106          | 30 | 35 | 32   | 49.51 | 180 | 6            | M10   | 14 | 11  | 17.5 | 10.8 | 2 | 7.49               | 7.5  |
| CSTMH03010-JIS5-N | 3      | 999.03  | 106          | 30 | 35 | 32   | *     | *   | *            | *     | *  | *   | *    | *    | 2 | 7.49               | 7.5  |
| CSTMH03011-JIS5   | 3      | 999.03  | 106          | 30 | 30 | 27   | 49.51 | 180 | 6            | M10   | 11 | 11  | 17.5 | 10.8 | 2 | 7.49               | 6.4  |
| CSTMH03011-JIS5-N | 3      | 999.03  | 106          | 30 | 30 | 27   | *     | *   | *            | *     | *  | *   | *    | *    | 2 | 7.49               | 6.4  |
| CSTMH03020-JIS5   | 3      | 2045.17 | 217          | 30 | 35 | 32   | 32.58 | 180 | 12           | M10   | 14 | 11  | 17.5 | 10.8 | 2 | 7.49               | 15.3 |
| CSTMH03020-JIS5-N | 3      | 2045.17 | 217          | 30 | 35 | 32   | *     | *   | *            | *     | *  | *   | *    | *    | 2 | 7.49               | 15.3 |
| CSTMH03021-JIS5   | 3      | 2045.17 | 217          | 30 | 30 | 27   | 32.58 | 180 | 12           | M10   | 11 | 11  | 17.5 | 10.8 | 2 | 7.49               | 13.1 |
| CSTMH03021-JIS5-N | 3      | 2045.17 | 217          | 30 | 30 | 27   | *     | *   | *            | *     | *  | *   | *    | *    | 2 | 7.49               | 13.1 |
| CSTMH04010-JIS5   | 4      | 1005.31 | 80           | 40 | 45 | 41   | 52.65 | 180 | 6            | M12   | 18 | 14  | 20   | 13   | 2 | 13.32              | 12.9 |
| CSTMH04010-JIS5-N | 4      | 1005.31 | 80           | 40 | 45 | 41   | *     | *   | *            | *     | *  | *   | *    | *    | 2 | 13.32              | 12.9 |
| CSTMH04011-JIS5   | 4      | 1005.31 | 80           | 40 | 40 | 36   | 52.65 | 180 | 6            | M12   | 15 | 14  | 20   | 13   | 2 | 13.32              | 11.4 |
| CSTMH04011-JIS5-N | 4      | 1005.31 | 80           | 40 | 40 | 36   | *     | *   | *            | *     | *  | *   | *    | *    | 2 | 13.32              | 11.4 |
| CSTMH04020-JIS5   | 4      | 2048.31 | 163          | 40 | 45 | 41   | 34.15 | 180 | 12           | M12   | 15 | 14  | 20   | 13   | 2 | 13.32              | 26.2 |
| CSTMH04020-JIS5-N | 4      | 2048.31 | 163          | 40 | 45 | 41   | *     | *   | *            | *     | *  | *   | *    | *    | 2 | 13.32              | 26.2 |
| CSTMH04021-JIS5   | 4      | 2048.31 | 163          | 40 | 40 | 41   | 34.15 | 180 | 12           | M12   | 18 | 14  | 20   | 13   | 2 | 13.32              | 23.3 |
| CSTMH04021-JIS5-N | 4      | 2048.31 | 163          | 40 | 40 | 41   | *     | *   | *            | *     | *  | *   | *    | *    | 2 | 13.32              | 23.3 |
| CSTMH05010-JIS5   | 5      | 1005.31 | 64           | 50 | 50 | 45   | 62.65 | 220 | 5            | M14   | 20 | 16  | 23   | 15.2 | 3 | 20.81              | 17.9 |
| CSTMH05010-JIS5-N | 5      | 1005.31 | 64           | 50 | 50 | 45   | *     | *   | *            | *     | *  | *   | *    | *    | 3 | 20.81              | 17.9 |
| CSTMH05020-JIS5   | 5      | 2042.04 | 130          | 50 | 50 | 45   | 31.02 | 220 | 10           | M14   | 20 | 16  | 23   | 15.2 | 3 | 20.81              | 36.3 |
| CSTMH05020-JIS5-N | 5      | 2042.04 | 130          | 50 | 50 | 45   | *     | *   | *            | *     | *  | *   | *    | *    | 3 | 20.81              | 36.3 |
| CSTMH06010-JIS5   | 6      | 999.03  | 53           | 60 | 60 | 54   | 59.51 | 220 | 5            | M16   | 23 | 18  | 26   | 17.5 | 3 | 29.97              | 25.5 |
| CSTMH06010-JIS5-N | 6      | 999.03  | 53           | 60 | 60 | 54   | *     | *   | *            | *     | *  | *   | *    | *    | 3 | 29.97              | 25.5 |
| CSTMH06020-JIS5   | 6      | 2035.75 | 108          | 60 | 60 | 54   | 27.88 | 220 | 10           | M16   | 23 | 18  | 26   | 17.5 | 3 | 29.97              | 52.1 |
| CSTMH06020-JIS5-N | 6      | 2035.75 | 108          | 60 | 60 | 54   | *     | *   | *            | *     | *  | *   | *    | *    | 3 | 29.97              | 52.1 |

※Weight only for reference. Actual scale should be Weighing.

## MSTGQ-CP-JIS1



Dimension : mm

Series MSTGQ-CP-JIS1 Straight Quenched &amp; Tempered Ground Racks

Quality Grade JIS 1

Material SCM440

Hardness: HRC 18~22°

Total Pitch Error:  $F_p/1000 \leq 0.033\text{mm}$ 

Ground on all sides after quenching.

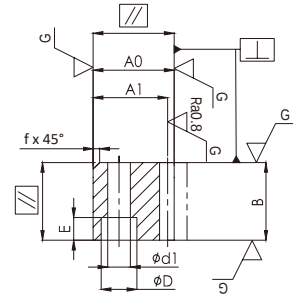
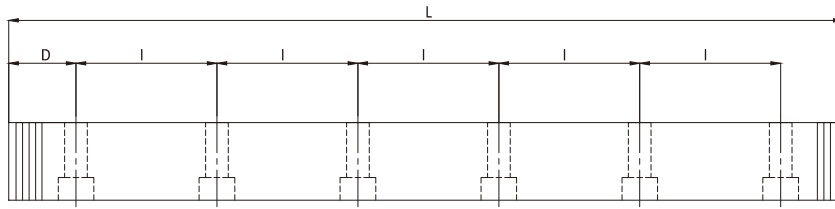
No Mounted Holes , Code with-N

Room Temperature is 25°C

| Code                  | CP | Module | L    | No. of Teeth | B  | A0 | A1    | D  | I   | No. of Holes | Screw | A  | ød1 | øD   | E    | f   | F <sub>ta</sub><br>kN | KG  |
|-----------------------|----|--------|------|--------------|----|----|-------|----|-----|--------------|-------|----|-----|------|------|-----|-----------------------|-----|
| MSTGQ-CP-05005-JIS1   | 5  | 1.5915 | 500  | 100          | 15 | 20 | 18.41 | 40 | 140 | 4            | M5    | 8  | 6   | 10   | 6    | 1.5 | 0.59                  | 1.1 |
| MSTGQ-CP-05005-JIS1-N | 5  | 1.5915 | 500  | 100          | 15 | 20 | 18.41 | *  | *   | *            | *     | *  | *   | *    | *    | 1.5 | 0.59                  | 1.1 |
| MSTGQ-CP-05010-JIS1-N | 5  | 1.5915 | 1000 | 200          | 15 | 20 | 18.41 | *  | *   | *            | *     | *  | *   | *    | *    | 1.5 | 0.59                  | 2.1 |
| MSTGQ-CP-10005-JIS1   | 10 | 3.1831 | 500  | 50           | 30 | 35 | 31.82 | 40 | 140 | 4            | M10   | 14 | 11  | 17.5 | 10.8 | 1.5 | 2.38                  | 3.7 |
| MSTGQ-CP-10005-JIS1-N | 10 | 3.1831 | 500  | 50           | 30 | 35 | 31.82 | *  | *   | *            | *     | *  | *   | *    | *    | 1.5 | 2.38                  | 3.7 |
| MSTGQ-CP-10010-JIS1-N | 10 | 3.1831 | 1000 | 100          | 30 | 35 | 31.82 | *  | *   | *            | *     | *  | *   | *    | *    | 1.5 | 2.38                  | 7.5 |

Straight  
JIS

## MSTGH-CP-JIS1



Dimension : mm

Series MSTGH-CP-JIS1 Straight Teeth Ground Racks

Quality Grade JIS 1

Material SCM440

Hardness: HRC 55~58°

Ground on all sides after hardening.

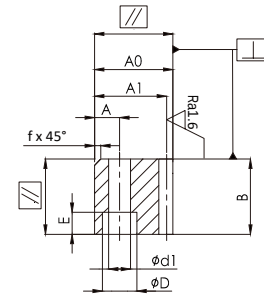
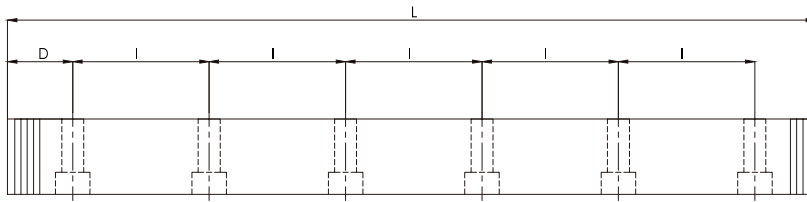
Total Pitch Error:  $F_p/1000 \leq 0.033\text{mm}$ 

No Mounted Holes, Code with-N

Room Temperature is 25°

| Code                  | CP | Module | L    | No. of Teeth | B  | A0 | A1    | D  | I   | No. of Holes | Screw | A  | ød1 | øD   | E    | f   | F <sub>ta</sub> kN | KG  |
|-----------------------|----|--------|------|--------------|----|----|-------|----|-----|--------------|-------|----|-----|------|------|-----|--------------------|-----|
| MSTGH-CP-05005-JIS1   | 5  | 1.5915 | 500  | 100          | 15 | 20 | 18.41 | 25 | 150 | 4            | M5    | 8  | 6   | 10   | 6    | 1.5 | 2.83               | 1.1 |
| MSTGH-CP-05005-JIS1-N | 5  | 1.5915 | 500  | 100          | 15 | 20 | 18.41 | *  | *   | *            | *     | *  | *   | *    | *    | 1.5 | 2.83               | 1.1 |
| MSTGH-CP-05010-JIS1   | 5  | 1.5915 | 1000 | 200          | 15 | 20 | 18.41 | 50 | 180 | 6            | M5    | 8  | 6   | 10   | 6    | 1.5 | 2.83               | 2.1 |
| MSTGH-CP-05010-JIS1-N | 5  | 1.5915 | 1000 | 200          | 15 | 20 | 18.41 | *  | *   | *            | *     | *  | *   | *    | *    | 1.5 | 2.83               | 2.1 |
| MSTGH-CP-10005-JIS1   | 10 | 3.1831 | 500  | 50           | 30 | 35 | 31.82 | 25 | 150 | 4            | M10   | 14 | 11  | 17.5 | 10.8 | 1.5 | 11.33              | 3.7 |
| MSTGH-CP-10005-JIS1-N | 10 | 3.1831 | 500  | 50           | 30 | 35 | 31.82 | *  | *   | *            | *     | *  | *   | *    | *    | 1.5 | 11.33              | 3.7 |
| MSTGH-CP-10010-JIS1   | 10 | 3.1831 | 1000 | 100          | 30 | 35 | 31.82 | 50 | 180 | 6            | M10   | 14 | 11  | 17.5 | 10.8 | 1.5 | 11.33              | 7.5 |
| MSTGH-CP-10010-JIS1-N | 10 | 3.1831 | 1000 | 100          | 30 | 35 | 31.82 | *  | *   | *            | *     | *  | *   | *    | *    | 1.5 | 11.33              | 7.5 |

## CSTM-CP-JIS4



Dimension : mm

Series CSTM-CP-JIS4 Straight Milled Racks

Quality Grade JIS 4

Material S45C

Hardness: HRC 10~12°

Surfaces: Black-coated

Total Pitch Error:  $F_p/1000 \leq 0.075\text{mm}$ 

No Mounted Holes, Code with-N

| Code                 | CP | Module | L    | No. of Teeth | B  | A0 | A1    | D    | I   | No. of Holes | Screw | A  | φd1 | φD   | E    | f | F <sub>ta</sub> kN | KG   |
|----------------------|----|--------|------|--------------|----|----|-------|------|-----|--------------|-------|----|-----|------|------|---|--------------------|------|
| CSTM-CP-05005-JIS4-N | 5  | 1.5915 | 500  | 100          | 15 | 20 | 18.41 | *    | *   | *            | *     | *  | *   | *    | *    | 1 | 0.32               | 1.1  |
| CSTM-CP-05010-JIS4   | 5  | 1.5915 | 1000 | 200          | 15 | 20 | 18.41 | 50   | 180 | 6            | M5    | 8  | 6   | 10   | 6    | 1 | 0.32               | 2.0  |
| CSTM-CP-05010-JIS4-N | 5  | 1.5915 | 1000 | 200          | 15 | 20 | 18.41 | *    | *   | *            | *     | *  | *   | *    | *    | 1 | 0.32               | 2.1  |
| CSTM-CP-05015-JIS4   | 5  | 1.5915 | 1500 | 300          | 15 | 20 | 18.41 | 30   | 180 | 9            | M5    | 8  | 6   | 10   | 6    | 1 | 0.32               | 3.0  |
| CSTM-CP-05015-JIS4-N | 5  | 1.5915 | 1500 | 300          | 15 | 20 | 18.41 | *    | *   | *            | *     | *  | *   | *    | *    | 1 | 0.32               | 3.2  |
| CSTM-CP-05020-JIS4   | 5  | 1.5915 | 2050 | 410          | 15 | 20 | 18.41 | 35   | 180 | 12           | M5    | 8  | 6   | 10   | 6    | 1 | 0.32               | 4.1  |
| CSTM-CP-05020-JIS4-N | 5  | 1.5915 | 2050 | 410          | 15 | 20 | 18.41 | *    | *   | *            | *     | *  | *   | *    | *    | 1 | 0.32               | 4.4  |
| CSTM-CP-10005-JIS4-N | 10 | 3.1831 | 500  | 50           | 30 | 35 | 31.82 | *    | *   | *            | *     | *  | *   | *    | *    | 2 | 1.30               | 3.7  |
| CSTM-CP-10010-JIS4   | 10 | 3.1831 | 1000 | 100          | 30 | 35 | 31.82 | 50   | 180 | 6            | M10   | 14 | 11  | 17.5 | 10.8 | 2 | 1.30               | 7.1  |
| CSTM-CP-10010-JIS4-N | 10 | 3.1831 | 1000 | 100          | 30 | 35 | 31.82 | *    | *   | *            | *     | *  | *   | *    | *    | 2 | 1.30               | 7.5  |
| CSTM-CP-10015-JIS4   | 10 | 3.1831 | 1500 | 150          | 30 | 35 | 31.82 | 30   | 180 | 9            | M10   | 14 | 11  | 17.5 | 10.8 | 2 | 1.30               | 10.6 |
| CSTM-CP-10015-JIS4-N | 10 | 3.1831 | 1500 | 150          | 30 | 35 | 31.82 | *    | *   | *            | *     | *  | *   | *    | *    | 2 | 1.30               | 11.2 |
| CSTM-CP-10020-JIS4   | 10 | 3.1831 | 2050 | 205          | 30 | 35 | 31.82 | 35   | 180 | 12           | M10   | 14 | 11  | 17.5 | 10.8 | 2 | 1.30               | 14.4 |
| CSTM-CP-10020-JIS4-N | 10 | 3.1831 | 2050 | 205          | 30 | 35 | 31.82 | *    | *   | *            | *     | *  | *   | *    | *    | 2 | 1.30               | 15.3 |
| CSTM-CP-15005-JIS4-N | 15 | 4.7746 | 495  | 33           | 50 | 50 | 45.23 | *    | *   | *            | *     | *  | *   | *    | *    | 2 | 3.25               | 8.8  |
| CSTM-CP-15010-JIS4   | 15 | 4.7746 | 1005 | 67           | 50 | 50 | 45.23 | 62.5 | 220 | 5            | M14   | 20 | 16  | 23   | 15.2 | 2 | 3.25               | 16.9 |
| CSTM-CP-15010-JIS4-N | 15 | 4.7746 | 1005 | 67           | 50 | 50 | 45.23 | *    | *   | *            | *     | *  | *   | *    | *    | 2 | 3.25               | 17.9 |
| CSTM-CP-15015-JIS4   | 15 | 4.7746 | 1500 | 100          | 50 | 50 | 45.23 | 90   | 220 | 7            | M14   | 20 | 16  | 23   | 15.2 | 2 | 3.25               | 25.2 |
| CSTM-CP-15015-JIS4-N | 15 | 4.7746 | 1500 | 100          | 50 | 50 | 45.23 | *    | *   | *            | *     | *  | *   | *    | *    | 2 | 3.25               | 26.6 |
| CSTM-CP-15020-JIS4   | 15 | 4.7746 | 2040 | 136          | 50 | 50 | 45.23 | 30   | 220 | 10           | M14   | 20 | 16  | 23   | 15.2 | 2 | 3.25               | 34.2 |
| CSTM-CP-15020-JIS4-N | 15 | 4.7746 | 2040 | 136          | 50 | 50 | 45.23 | *    | *   | *            | *     | *  | *   | *    | *    | 2 | 3.25               | 36.2 |
| CSTM-CP-20005-JIS4-N | 20 | 6.3662 | 500  | 25           | 60 | 60 | 53.63 | *    | *   | *            | *     | *  | *   | *    | *    | 3 | 5.20               | 12.8 |
| CSTM-CP-20010-JIS4   | 20 | 6.3662 | 1000 | 50           | 60 | 60 | 53.63 | 60   | 220 | 5            | M16   | 23 | 18  | 26   | 17.5 | 3 | 5.20               | 24.2 |
| CSTM-CP-20010-JIS4-N | 20 | 6.3662 | 1000 | 50           | 60 | 60 | 53.63 | *    | *   | *            | *     | *  | *   | *    | *    | 3 | 5.20               | 25.6 |
| CSTM-CP-20015-JIS4   | 20 | 6.3662 | 1500 | 75           | 60 | 60 | 53.63 | 90   | 220 | 7            | M16   | 23 | 18  | 26   | 17.5 | 3 | 5.20               | 36.2 |
| CSTM-CP-20015-JIS4-N | 20 | 6.3662 | 1500 | 75           | 60 | 60 | 53.63 | *    | *   | *            | *     | *  | *   | *    | *    | 3 | 5.20               | 38.4 |
| CSTM-CP-20020-JIS4   | 20 | 6.3662 | 2040 | 102          | 60 | 60 | 53.63 | 30   | 220 | 10           | M16   | 23 | 18  | 26   | 17.5 | 3 | 5.20               | 49.3 |
| CSTM-CP-20020-JIS4-N | 20 | 6.3662 | 2040 | 102          | 60 | 60 | 53.63 | *    | *   | *            | *     | *  | *   | *    | *    | 3 | 5.20               | 52.2 |

※Weight only for reference. Actual scale should be Weighing.

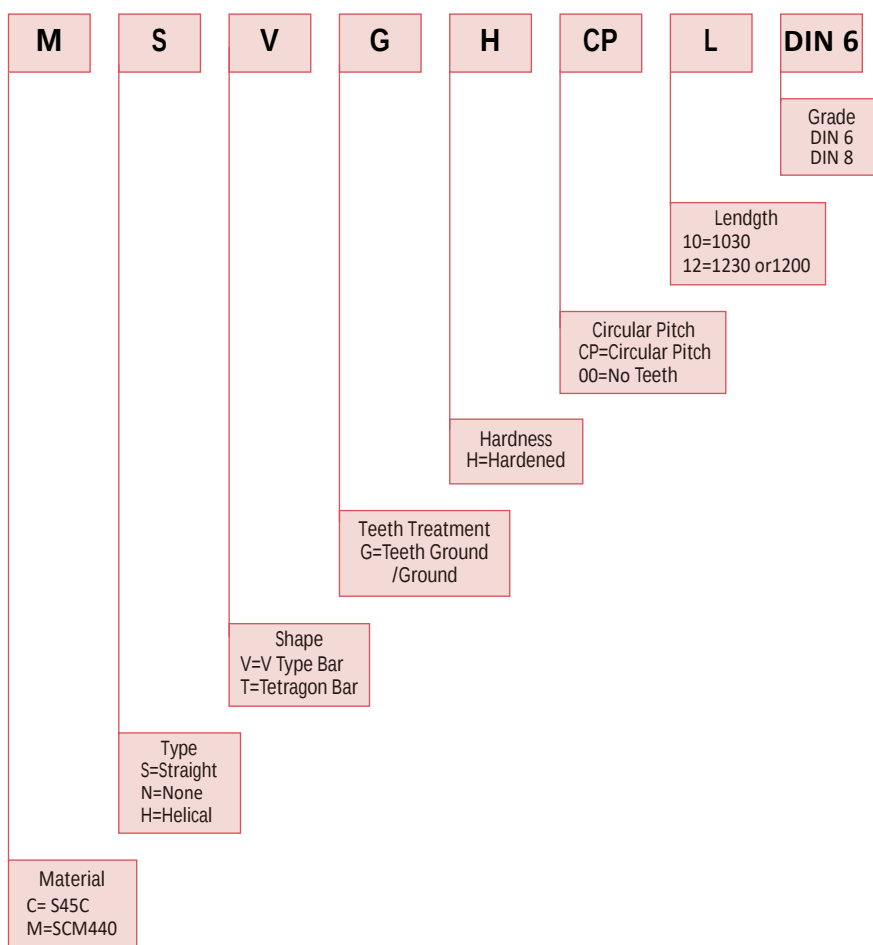
## Content of Guideway Racks

| Code       | Material | Type     | Type                 | Shape    | Teeth Treatment | Hardness             | CP / Module     | Grade DIN | Page |
|------------|----------|----------|----------------------|----------|-----------------|----------------------|-----------------|-----------|------|
| MSVGH-CP   | SCM440   | Straight | V Type Guideway Rack | Hexgan   | Teeth Ground    | Hardened HRC 53°-58° | CP / 5, 7.5, 10 | DIN 6     | P.35 |
| MSVGH-CP-L | SCM440   | Straight | V Type Guideway Rack | Hexgan   | Teeth Ground    | Hardened HRC 53°-58° | CP / 5, 7.5, 10 | DIN 6     | P.36 |
| CSVM-CP-L  | S45C     | Straight | V Type Guideway Rack | Hexgan   | Milled          | HRC 10~12°           | CP / 5, 7.5, 10 | DIN 8     | P.37 |
| MNVGH-00   | SCM440   | N/A      | V Type Guideway      | Hexgan   | Ground          | Hardened HRC 53°-58° | N/A             | DIN 6     | P.38 |
| MNVGH-L    | SCM440   | N/A      | V Type Guideway      | Hexgan   | Ground          | Hardened HRC 53°-58° | N/A             | DIN 6     | P.39 |
| CNVM-L     | S45C     | N/A      | V Type Guideway      | Hexgan   | Milled          | HRC 10~12°           | N/A             | DIN 8     | P.40 |
| MSTGH-CP   | SCM440   | Straight | Guideway Rack        | Tetragon | Teeth Ground    | Hardened HRC 53°-58° | CP / 5, 7.5, 10 | DIN 6     | P.41 |
| MSTGH-CP-L | SCM440   | Straight | Guideway Rack        | Tetragon | Teeth Ground    | Hardened HRC 53°-58° | CP / 5, 7.5, 10 | DIN 6     | P.42 |
| CSTM-CP-L  | S45C     | Straight | Guideway Rack        | Tetragon | Milled          | HRC 10~12°           | CP / 5, 7.5, 10 | DIN 8     | P.43 |
| MNTGH-00   | SCM440   | N/A      | Guideway             | Tetragon | Ground          | Hardened HRC 53°-58° | N/A             | DIN 6     | P.44 |
| MNTGH-L    | SCM440   | N/A      | Guideway             | Tetragon | Ground          | Hardened HRC 53°-58° | N/A             | DIN 6     | P.45 |
| CNTM-L     | S45C     | N/A      | Guideway             | Tetragon | Milled          | HRC 10~12°           | N/A             | DIN 8     | P.46 |
| MHVGH-L    | SCM440   | Helical  | V Type Guideway Rack | Hexgan   | Teeth Ground    | Hardened HRC 53°-58° | M1.5, 2.5, 3    | DIN 6     | P.47 |
| CHVM-L     | S45C     | Helical  | V Type Guideway Rack | Hexgan   | Milled          | HRC 10~12°           | M1.5, 2.5, 3    | DIN 8     | P.48 |

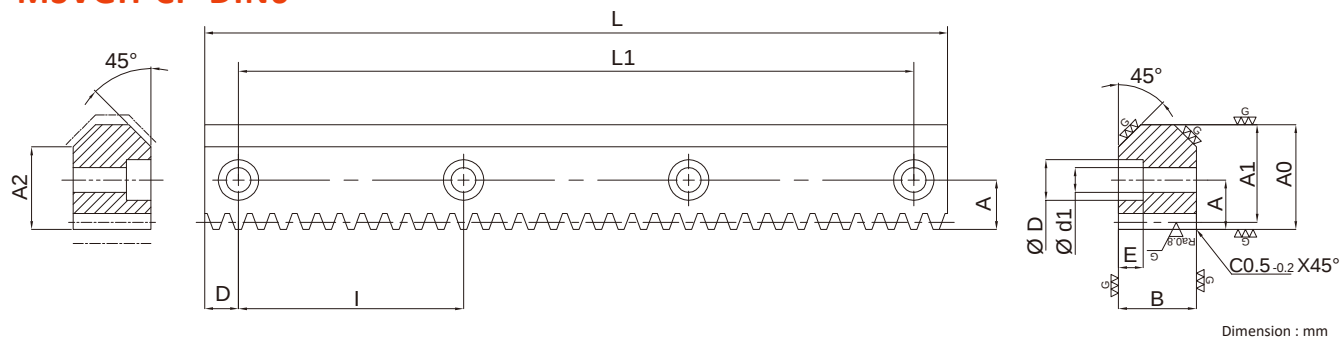
## Guideway Rack Code Instruction



Example : MSVGH-CP-L-DIN6



## MSVGH-CP-DIN6



## Series MSVGH-CP-DIN6 Straight V Type Ground Guideway Racks

Quality Grade DIN 6

Material SCM440

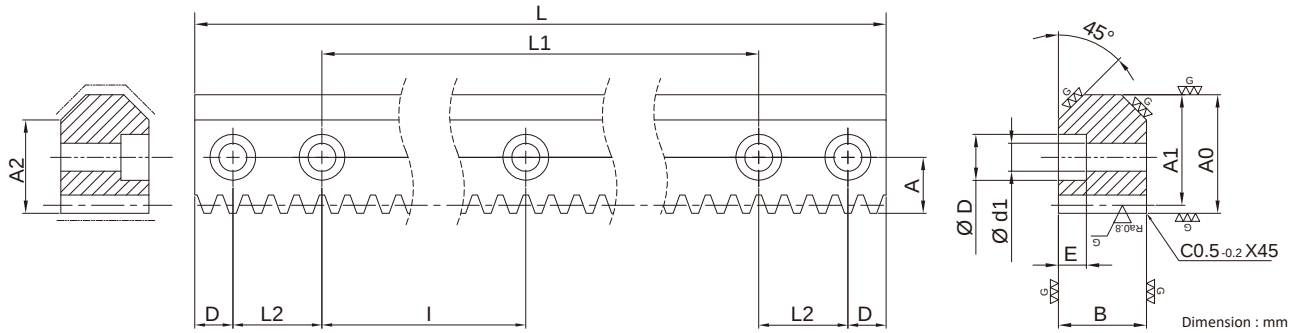
Total Pitch Error:  $F_p/1000 \leq 0.036\text{mm}$

Hardness: HRC 53~58°

6 Sides Ground and Teeth Ground after hardening.

| Code                 | CP  | No. of<br>Teeth | L    | L1   | Module | B    | A0   | A1    | D  | I   | A    | øD | ød1 | E  | A2   | F <sub>ta</sub><br>kN | KG   |
|----------------------|-----|-----------------|------|------|--------|------|------|-------|----|-----|------|----|-----|----|------|-----------------------|------|
| MSVGH-CP05010-1-DIN6 | 5   | 206             | 1030 | 1000 | 1.5915 | 14.5 | 24.5 | 22.91 | 15 | 100 | 11.5 | 11 | 7   | 7  | 20.0 | 2.74                  | 2.2  |
| MSVGH-CP05010-2-DIN6 | 5   | 206             | 1030 | 1000 | 1.5915 | 19.5 | 29.5 | 27.91 | 15 | 100 | 14.0 | 15 | 9   | 9  | 23.5 | 3.68                  | 3.5  |
| MSVGH-CP07512-1-DIN6 | 7.5 | 164             | 1230 | 1200 | 2.3873 | 24.7 | 33.0 | 30.61 | 15 | 100 | 14.5 | 15 | 9   | 9  | 25.2 | 6.99                  | 5.8  |
| MSVGH-CP10012-1-DIN6 | 10  | 123             | 1230 | 1200 | 3.1831 | 34.6 | 46.6 | 43.42 | 15 | 100 | 18.0 | 18 | 11  | 11 | 36.7 | 13.06                 | 11.7 |

## MSVGH-CP-L-DIN6



Series MSVGH-CP-L-DIN6 Straight V Type Ground Guideway Racks

Quality Grade DIN 6

Material SCM440

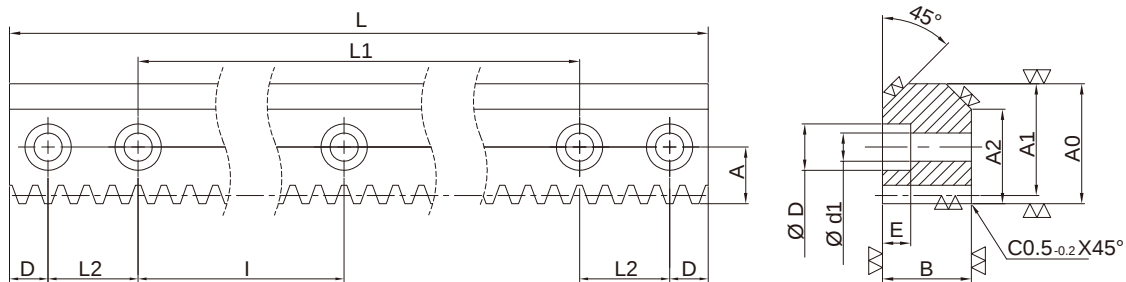
Total Pitch Error:  $F_p/1000 \leq 0.036\text{mm}$

Hardness: HRC 53~58°

6 Sides Ground and Teeth Ground after hardening.

| Code                    | CP  | No. of Teeth | L    | L1   | L2 | Module | B    | A0   | A1    | D  | I   | A    | øD   | ød1 | E  | A2    | F <sub>ta</sub><br>kN | KG   |
|-------------------------|-----|--------------|------|------|----|--------|------|------|-------|----|-----|------|------|-----|----|-------|-----------------------|------|
| MSVGH-CP050-1200-1-DIN6 | 5   | 240          | 1200 | 1100 | 35 | 1.5915 | 14.5 | 24.5 | 22.91 | 15 | 100 | 11.5 | 11   | 7   | 7  | 20.00 | 2.74                  | 2.5  |
| MSVGH-CP050-1200-2-DIN6 | 5   | 240          | 1200 | 1100 | 35 | 1.5915 | 19.5 | 29.5 | 27.91 | 15 | 100 | 14   | 15   | 9   | 9  | 23.50 | 3.68                  | 4.0  |
| MSVGH-CP075-1200-1-DIN6 | 7.5 | 160          | 1200 | 1100 | 35 | 2.3873 | 24.7 | 33.0 | 30.61 | 15 | 100 | 14.5 | 15   | 9   | 9  | 25.20 | 6.99                  | 5.5  |
| MSVGH-CP100-1200-1-DIN6 | 10  | 120          | 1200 | 1100 | 35 | 3.1831 | 34.6 | 46.6 | 43.42 | 15 | 100 | 18   | 18.0 | 11  | 11 | 36.70 | 13.06                 | 11.4 |

# CSVM-CP-L-DIN8



Dimension : mm

Series CSVM-CP-L-DIN8 Straight V Type Milled Guideway Racks

Quality Grade DIN 8

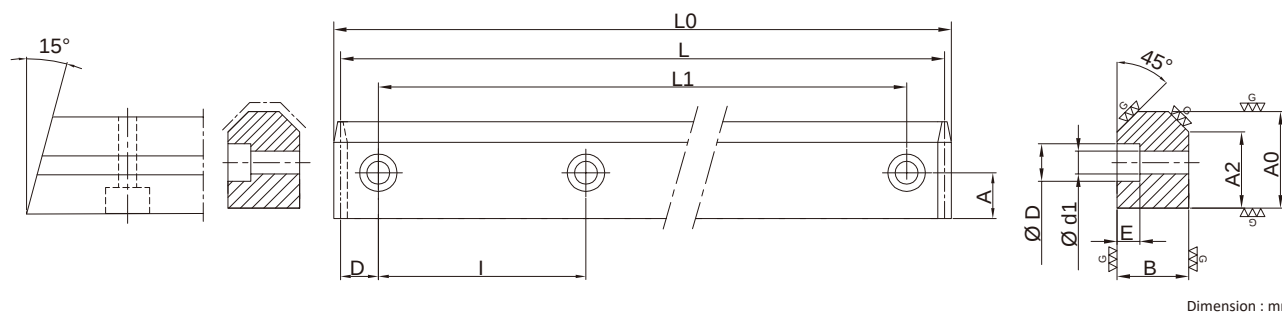
Material S45C

Hardness: HRC 10~12°

Total Pitch Error:  $F_p/1000 \leq 0.060\text{mm}$

| Code                   | CP  | No. of Teeth | L    | L1   | L2 | Module | B    | A0   | A1    | D  | I   | A    | øD | ød1 | E  | A2    | F <sub>ta</sub><br>kN | KG   |
|------------------------|-----|--------------|------|------|----|--------|------|------|-------|----|-----|------|----|-----|----|-------|-----------------------|------|
| CSVM-CP050-1200-1-DIN8 | 5   | 240          | 1200 | 1100 | 35 | 1.5915 | 14.5 | 24.5 | 22.91 | 15 | 100 | 11.5 | 11 | 7   | 7  | 20.00 | 0.31                  | 2.5  |
| CSVM-CP050-1200-2-DIN8 | 5   | 240          | 1200 | 1100 | 35 | 1.5915 | 19.5 | 29.5 | 27.91 | 15 | 100 | 14.0 | 15 | 9   | 9  | 23.50 | 0.42                  | 4.0  |
| CSVM-CP075-1200-1-DIN8 | 7.5 | 160          | 1200 | 1100 | 35 | 2.3873 | 24.7 | 33.0 | 30.61 | 15 | 100 | 14.5 | 15 | 9   | 9  | 25.20 | 0.80                  | 5.5  |
| CSVM-CP100-1200-1-DIN8 | 10  | 120          | 1200 | 1100 | 35 | 3.1831 | 34.6 | 46.6 | 43.42 | 15 | 100 | 18.0 | 18 | 11  | 11 | 36.70 | 1.50                  | 11.4 |

## MNVGH-00-DIN8



Dimension : mm

Series MNVGH-00-DIN6 V Type Ground Guideway

Quality Grade DIN 6

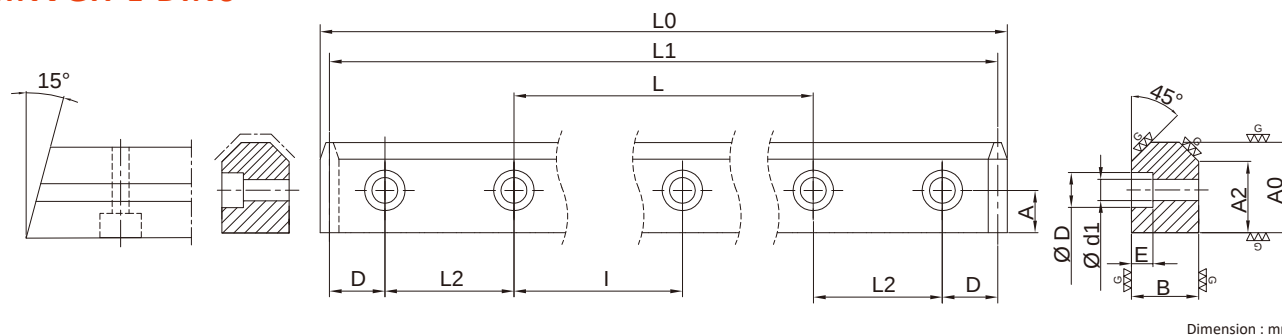
Material SCM440

Hardness: HRC 53~58°

6 Sides Ground after hardening.

| Code           | L0      | L    | L1   | B    | A0   | D  | I   | A    | øD | ød1 | E  | A2   | KG   |
|----------------|---------|------|------|------|------|----|-----|------|----|-----|----|------|------|
| MNVGH-001-DIN6 | 1033.89 | 1030 | 1000 | 14.5 | 24.5 | 15 | 100 | 11.5 | 11 | 7   | 7  | 20.0 | 2.3  |
| MNVGH-002-DIN6 | 1035.23 | 1030 | 1000 | 19.5 | 29.5 | 15 | 100 | 14.0 | 15 | 9   | 9  | 23.5 | 3.6  |
| MNVGH-003-DIN6 | 1236.62 | 1230 | 1200 | 24.7 | 33.0 | 15 | 100 | 14.5 | 15 | 9   | 9  | 25.2 | 6.3  |
| MNVGH-004-DIN6 | 1239.27 | 1230 | 1200 | 34.6 | 46.6 | 15 | 100 | 18.0 | 18 | 11  | 11 | 36.7 | 12.5 |

## MNVGH-L-DIN6



Series MNVGH-L-DIN6 V Type Ground Guideway

Quality Grade DIN 6

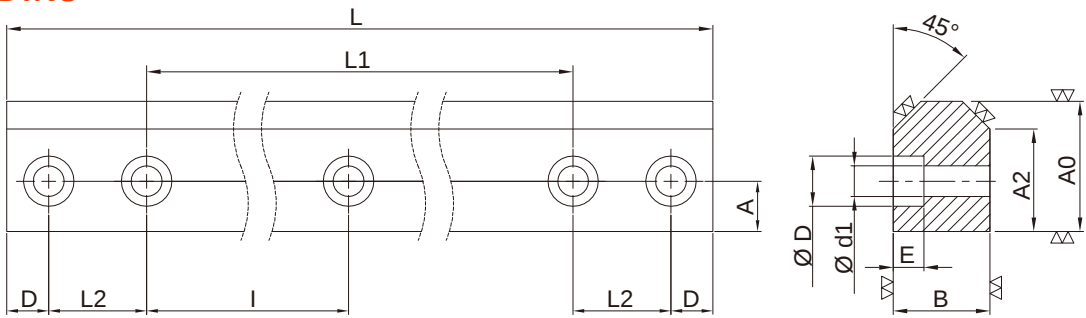
Material SCM440

Hardness: HRC 53~58°

6 Sides Ground after hardening.

| Code              | L0      | L    | L1   | L2 | B    | A0   | D  | I   | A    | øD | ød1 | E  | A2   | KG   |
|-------------------|---------|------|------|----|------|------|----|-----|------|----|-----|----|------|------|
| MNVGH-1200-1-DIN6 | 1203.89 | 1200 | 1100 | 35 | 14.5 | 24.5 | 15 | 100 | 11.5 | 11 | 7   | 7  | 20.0 | 2.8  |
| MNVGH-1200-2-DIN6 | 1205.23 | 1200 | 1100 | 35 | 19.5 | 29.5 | 15 | 100 | 14.0 | 15 | 9   | 9  | 23.5 | 4.3  |
| MNVGH-1200-3-DIN6 | 1206.62 | 1200 | 1100 | 35 | 24.7 | 33.0 | 15 | 100 | 14.5 | 15 | 9   | 9  | 25.2 | 7.6  |
| MNVGH-1200-4-DIN6 | 1209.27 | 1200 | 1100 | 35 | 34.6 | 46.6 | 15 | 100 | 18.0 | 18 | 11  | 11 | 36.7 | 15.0 |

CNVM-L-DIN8

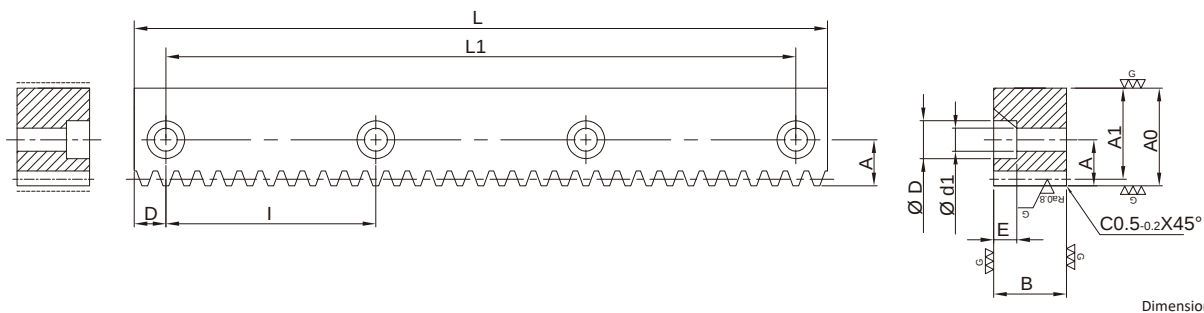


Series CNVM-L-DIN8 V Type Milled Guideway  
Quality Grade DIN 8  
Material S45C  
Hardness: HRC 10~12°

| Code             | L    | L1   | L2 | B    | A0   | D  | I   | A    | øD | ød1 | E  | A2   | KG   |
|------------------|------|------|----|------|------|----|-----|------|----|-----|----|------|------|
| CNVM-1200-1-DIN8 | 1200 | 1100 | 35 | 14.5 | 24.5 | 15 | 100 | 11.5 | 11 | 7   | 7  | 20.0 | 2.8  |
| CNVM-1200-2-DIN8 | 1200 | 1100 | 35 | 19.5 | 29.5 | 15 | 100 | 14.0 | 15 | 9   | 9  | 23.5 | 4.3  |
| CNVM-1200-3-DIN8 | 1200 | 1100 | 35 | 24.7 | 33.0 | 15 | 100 | 14.5 | 15 | 9   | 9  | 25.2 | 7.6  |
| CNVM-1200-4-DIN8 | 1200 | 1100 | 35 | 34.6 | 46.6 | 15 | 100 | 18.0 | 18 | 11  | 11 | 36.7 | 15.0 |

※Weight only for reference. Actual scale should be Weighing.

## MSTGH-CP-DIN6



Series MSTGH-CP-DIN6 Ground Guideway Racks

Quality Grade DIN 6

Material SCM440

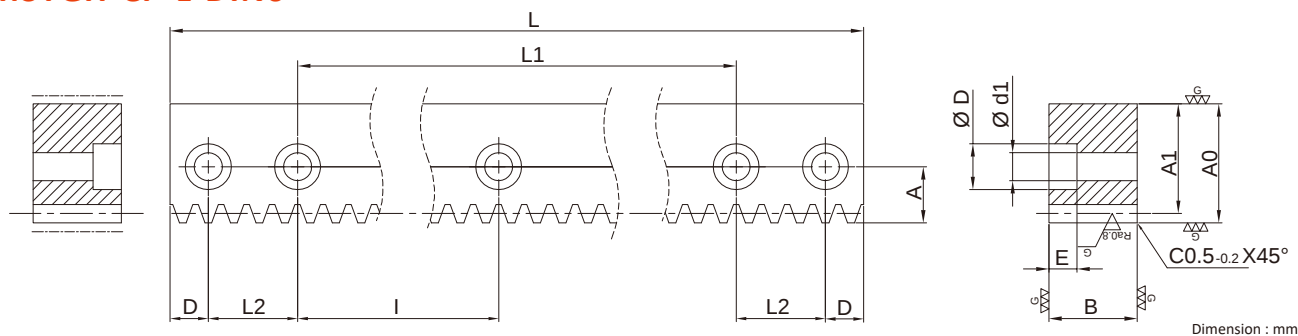
Total Pitch Error:  $F_p/1000 \leq 0.036\text{mm}$ 

Hardness: HRC 53~58°

4 Sides Ground and Teeth Ground after hardening.

| Code                 | CP  | No. of Teeth | L    | L1   | Module | B    | A0   | A1    | D  | I   | A    | ØD | Ød1 | E  | F <sub>ta</sub><br>kN | KG   |
|----------------------|-----|--------------|------|------|--------|------|------|-------|----|-----|------|----|-----|----|-----------------------|------|
| MSTGH-CP05010-1-DIN6 | 5   | 206          | 1030 | 1000 | 1.5915 | 14.5 | 24.5 | 22.91 | 15 | 100 | 11.5 | 11 | 7   | 7  | 2.74                  | 2.2  |
| MSTGH-CP05010-2-DIN6 | 5   | 206          | 1030 | 1000 | 1.5915 | 19.5 | 29.5 | 27.91 | 15 | 100 | 14.0 | 15 | 9   | 9  | 3.68                  | 3.8  |
| MSTGH-CP07512-1-DIN6 | 7.5 | 164          | 1230 | 1200 | 2.3873 | 24.7 | 33.0 | 30.61 | 15 | 100 | 14.5 | 15 | 9   | 9  | 6.99                  | 6.3  |
| MSTGH-CP10012-1-DIN6 | 10  | 123          | 1230 | 1200 | 3.1831 | 34.6 | 46.6 | 43.42 | 15 | 100 | 18.0 | 18 | 11  | 11 | 13.06                 | 12.5 |

## MSTGH-CP-L-DIN6



Series MSTGH-CP-L-DIN6 Ground Guideway Racks

Quality Grade DIN 6

Material SCM440

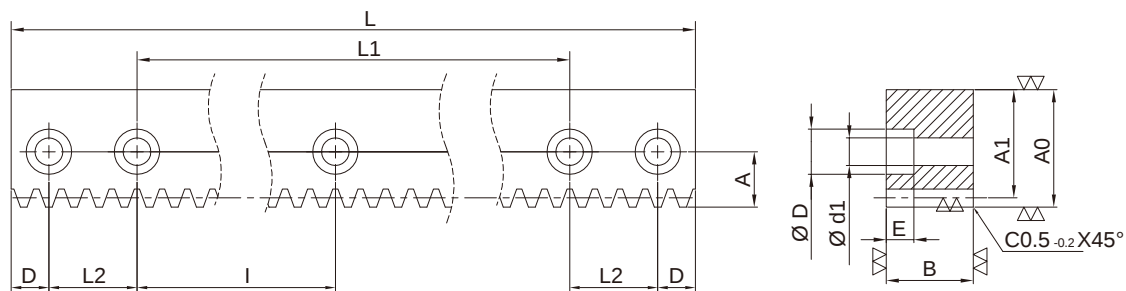
Total Pitch Error:  $F_p/1000 \leq 0.036\text{mm}$ 

Hardness: HRC 53~58°

4 Sides Ground and Teeth Ground after hardening.

| Code                    | CP  | No. of Teeth | L    | L1   | L2 | Module | B    | A0   | A1    | D  | I   | A    | ØD | Ød1 | E  | F <sub>ta</sub><br>kN | KG   |
|-------------------------|-----|--------------|------|------|----|--------|------|------|-------|----|-----|------|----|-----|----|-----------------------|------|
| MSTGH-CP050-1200-1-DIN6 | 5   | 240          | 1200 | 1100 | 35 | 1.5915 | 14.5 | 24.5 | 22.91 | 15 | 100 | 11.5 | 11 | 7   | 7  | 2.74                  | 2.6  |
| MSTGH-CP050-1200-2-DIN6 | 5   | 240          | 1200 | 1100 | 35 | 1.5915 | 19.5 | 29.5 | 27.91 | 15 | 100 | 14.0 | 15 | 9   | 9  | 3.68                  | 4.6  |
| MSTGH-CP075-1200-1-DIN6 | 7.5 | 160          | 1200 | 1100 | 35 | 2.3873 | 24.7 | 33.0 | 30.61 | 15 | 100 | 14.5 | 15 | 9   | 9  | 6.99                  | 7.6  |
| MSTGH-CP100-1200-1-DIN6 | 10  | 120          | 1200 | 1100 | 35 | 3.1831 | 34.6 | 46.6 | 43.42 | 15 | 100 | 18.0 | 18 | 11  | 11 | 13.06                 | 15.0 |

## CSTM-CP-L-DIN8



Dimension : mm

Series CSTM-CP-L-DIN8 Milled Guideway Racks

Quality Grade DIN 8

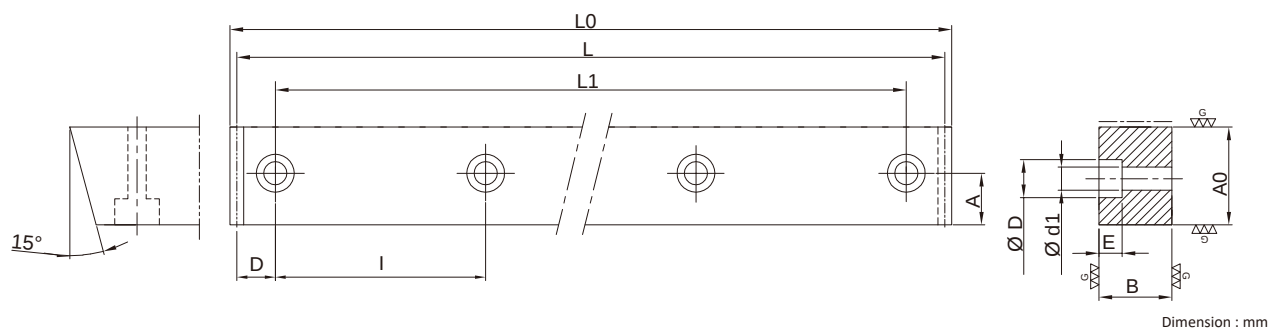
Material S45C

Hardness: HRC 10~12°

Total Pitch Error:  $F_p/1000 \leq 0.060\text{mm}$ 

| Code                   | CP  | No. of Teeth | L    | L1   | L2 | Module | B    | A0   | A1    | D  | I   | A    | ØD | Ød1 | E  | F <sub>ta</sub><br>kN | KG   |
|------------------------|-----|--------------|------|------|----|--------|------|------|-------|----|-----|------|----|-----|----|-----------------------|------|
| CSTM-CP050-1200-1-DIN8 | 5   | 240          | 1200 | 1100 | 35 | 1.5915 | 14.5 | 24.5 | 22.91 | 15 | 100 | 11.5 | 11 | 7   | 7  | 0.31                  | 2.6  |
| CSTM-CP050-1200-2-DIN8 | 5   | 240          | 1200 | 1100 | 35 | 1.5915 | 19.5 | 29.5 | 27.91 | 15 | 100 | 14.0 | 15 | 9   | 9  | 0.42                  | 4.6  |
| CSTM-CP075-1200-1-DIN8 | 7.5 | 160          | 1200 | 1100 | 35 | 2.3873 | 24.7 | 33.0 | 30.61 | 15 | 100 | 14.5 | 15 | 9   | 9  | 0.80                  | 7.6  |
| CSTM-CP100-1200-1-DIN8 | 10  | 120          | 1200 | 1100 | 35 | 3.1831 | 34.6 | 46.6 | 43.42 | 15 | 100 | 18.0 | 18 | 11  | 11 | 1.50                  | 15.0 |

## MNTGH-00-DIN6



Series MNTGH-00-DIN6 Ground Guideway

Quality Grade DIN 6

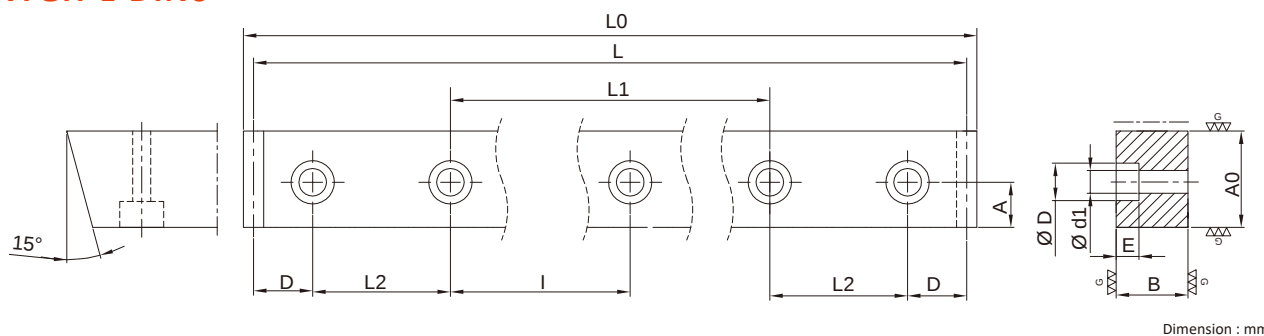
Material SCM440

Hardness: HRC 53~58°

4 Sides Ground after hardening.

| Code           | L0      | L    | L1   | B    | A0   | D  | I   | A    | ØD | Ød1 | E  | KG   |
|----------------|---------|------|------|------|------|----|-----|------|----|-----|----|------|
| MNTGH-001-DIN6 | 1033.89 | 1030 | 1000 | 14.5 | 24.5 | 15 | 100 | 11.5 | 11 | 7   | 7  | 2.5  |
| MNTGH-002-DIN6 | 1035.23 | 1030 | 1000 | 19.5 | 29.5 | 15 | 100 | 14.0 | 15 | 9   | 9  | 4.0  |
| MNTGH-003-DIN6 | 1236.62 | 1230 | 1200 | 24.7 | 33.0 | 15 | 100 | 14.5 | 15 | 9   | 9  | 6.8  |
| MNTGH-004-DIN6 | 1239.27 | 1230 | 1200 | 34.6 | 46.6 | 15 | 100 | 18.0 | 18 | 11  | 11 | 13.4 |

## MNTGH-L-DIN6



Series MNTGH-L-DIN6 Ground Guideway

Quality Grade DIN 6

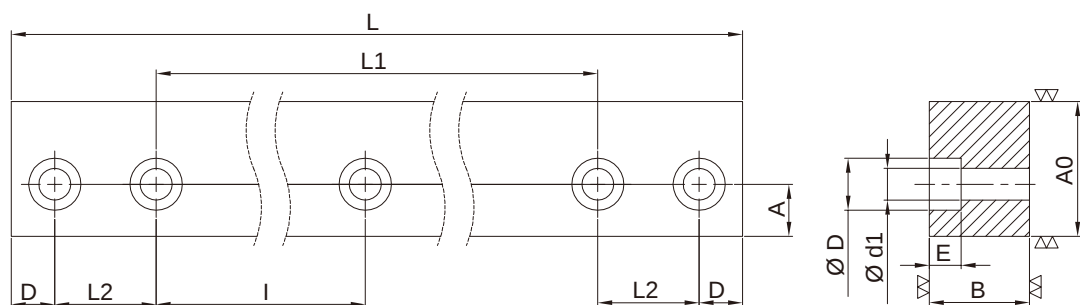
Material SCM440

Hardness: HRC 53~58°

4 Sides Ground after hardening.

| Code              | L0      | L    | L1   | L2 | B    | A0   | D  | I   | A    | ØD | Ød1 | E  | KG   |
|-------------------|---------|------|------|----|------|------|----|-----|------|----|-----|----|------|
| MNTGH-1200-1-DIN6 | 1203.89 | 1200 | 1100 | 35 | 14.5 | 24.5 | 15 | 100 | 11.5 | 11 | 7   | 7  | 3.0  |
| MNTGH-1200-2-DIN6 | 1205.23 | 1200 | 1100 | 35 | 19.5 | 29.5 | 15 | 100 | 14.0 | 15 | 9   | 9  | 4.8  |
| MNTGH-1200-3-DIN6 | 1206.62 | 1200 | 1100 | 35 | 24.7 | 33.0 | 15 | 100 | 14.5 | 15 | 9   | 9  | 8.2  |
| MNTGH-1200-4-DIN6 | 1209.27 | 1200 | 1100 | 35 | 34.6 | 46.6 | 15 | 100 | 18.0 | 18 | 11  | 11 | 16.1 |

## CNTM-L-DIN8



Dimension : mm

Series CNTM-L-DIN8 Milled Guideway

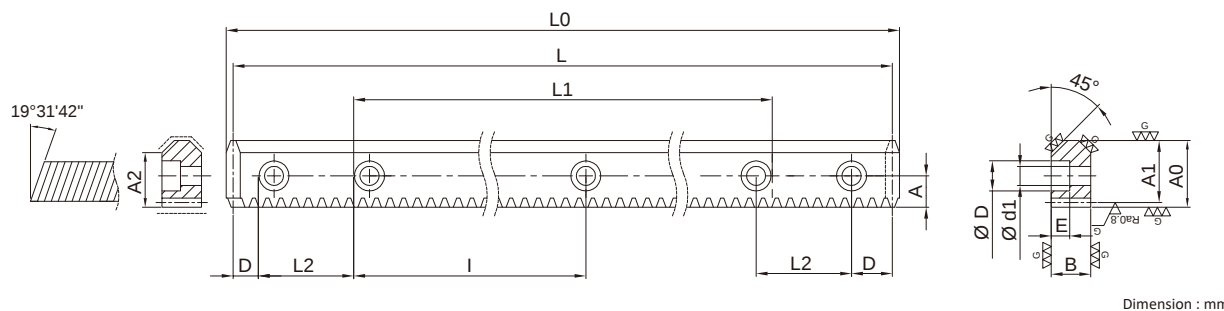
Quality Grade DIN 8

Material S45C

Hardness: HRC 10~12°

| Code             | L    | L1   | L2 | B    | A0   | D  | I   | A    | ØD | Ød1 | E  | KG   |
|------------------|------|------|----|------|------|----|-----|------|----|-----|----|------|
| CNTM-1200-1-DIN8 | 1200 | 1100 | 35 | 14.5 | 24.5 | 15 | 100 | 11.5 | 11 | 7   | 7  | 3.0  |
| CNTM-1200-2-DIN8 | 1200 | 1100 | 35 | 19.5 | 29.5 | 15 | 100 | 14.0 | 15 | 9   | 9  | 4.8  |
| CNTM-1200-3-DIN8 | 1200 | 1100 | 35 | 24.7 | 33.0 | 15 | 100 | 14.5 | 15 | 9   | 9  | 8.2  |
| CNTM-1200-4-DIN8 | 1200 | 1100 | 35 | 34.6 | 46.6 | 15 | 100 | 18.0 | 18 | 11  | 11 | 16.1 |

## MHVGH-L-DIN6



Series MHVGH-L-DIN6 Helical V Type Ground Guideway Racks

Quality Grade DIN 6

Material SCM440

Right Hand Angle 19°31'42"

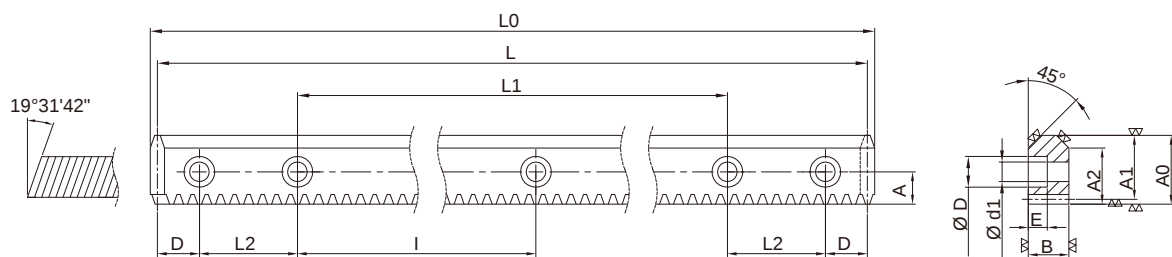
Hardness: HRC 53-58°

6 Sides Ground and Teeth Ground after hardening.

Total Pitch Error:  $F_p/1000 \leq 0.036\text{mm}$ 

| Code                  | Module | No. of Teeth | L0      | L    | L1   | L2 | B    | A0   | A1    | D  | I   | A    | ØD | Ød1 | E  | A2   | F <sub>ta</sub><br>kN | KG   |
|-----------------------|--------|--------------|---------|------|------|----|------|------|-------|----|-----|------|----|-----|----|------|-----------------------|------|
| MHVGH-015-1200-1-DIN6 | 1.5    | 240          | 1205.14 | 1200 | 1100 | 35 | 14.5 | 24.5 | 23.00 | 15 | 100 | 11.5 | 11 | 7   | 7  | 20.0 | 4.73                  | 2.6  |
| MHVGH-015-1200-2-DIN6 | 1.5    | 240          | 1206.92 | 1200 | 1100 | 35 | 19.5 | 29.5 | 28.00 | 15 | 100 | 14.0 | 15 | 9   | 9  | 23.5 | 6.36                  | 3.2  |
| MHVGH-025-1200-1-DIN6 | 2.5    | 144          | 1208.76 | 1200 | 1100 | 35 | 24.7 | 33.0 | 30.50 | 15 | 100 | 14.5 | 15 | 9   | 9  | 25.2 | 13.42                 | 5.8  |
| MHVGH-030-1200-1-DIN6 | 3      | 120          | 1212.27 | 1200 | 1100 | 35 | 34.6 | 46.6 | 43.60 | 15 | 100 | 18.0 | 18 | 11  | 11 | 36.7 | 22.56                 | 11.4 |

## CHVM-L-DIN8



Dimension : mm

Series CHVM-L-DIN8 Helical V Type Milled Guideway Racks

Quality Grade DIN 8

Material S45C

Total Pitch Error:  $F_p/1000 \leq 0.060$  mm

Right Hand Angle 19°31'42"

Hardness: HRC 10-12°

| Code                 | Module | No. of Teeth | L0      | L    | L1   | L2 | B    | A0   | A1    | D  | I   | A    | øD | ød1 | E  | A2   | F <sub>ta</sub><br>kN | KG   |
|----------------------|--------|--------------|---------|------|------|----|------|------|-------|----|-----|------|----|-----|----|------|-----------------------|------|
| CHVM-015-1200-1-DIN8 | 1.5    | 240          | 1205.14 | 1200 | 1100 | 35 | 14.5 | 24.5 | 23.00 | 15 | 100 | 11.5 | 11 | 7   | 7  | 20.0 | 0.54                  | 2.6  |
| CHVM-015-1200-2-DIN8 | 1.5    | 240          | 1206.92 | 1200 | 1100 | 35 | 19.5 | 29.5 | 28.00 | 15 | 100 | 14.0 | 15 | 9   | 9  | 23.5 | 0.73                  | 3.2  |
| CHVM-025-1200-1-DIN8 | 2.5    | 144          | 1208.76 | 1200 | 1100 | 35 | 24.7 | 33.0 | 30.50 | 15 | 100 | 14.5 | 15 | 9   | 9  | 25.2 | 1.54                  | 5.8  |
| CHVM-030-1200-1-DIN8 | 3      | 120          | 1212.27 | 1200 | 1100 | 35 | 34.6 | 46.6 | 43.60 | 15 | 100 | 18.0 | 18 | 11  | 11 | 36.7 | 2.59                  | 11.4 |

## Contents of Pinions

### DIN

| Code   | DIN 3962 | Material         | Type                           | Teeth Treatment | Hardness   | Module                            | Page |
|--------|----------|------------------|--------------------------------|-----------------|------------|-----------------------------------|------|
| MHGH   | DIN 6    | SCM415<br>SCM440 | Helical Left Hand<br>19°31'42" | Teeth Ground    | HRC 50-55° | 1.5, 2, 3, 4, 5, 6, 8, 10         | P.51 |
| MHGH-L | DIN 6    | SCM415<br>SCM440 |                                |                 | HRC 50-55° | 1.5, 2.5, 3                       | P.55 |
| MHSH   | DIN 7    | SCM415<br>SCM440 |                                | Skiving         | HRC 50-55° | 1.5, 2, 3, 4, 5, 6, 8, 10         | P.56 |
| CHM    | DIN 8    | S45C             |                                | Milled          | *          | 1.5, 2, 3, 4, 5, 6, 8, 10         | P.59 |
| MHMH   | DIN 10   | SCM415<br>SCM440 |                                |                 | HRC 50-55° | 1.5, 2, 3, 4, 5, 6, 8, 10         | P.62 |
| MSGH   | DIN 6    | SCM415<br>SCM440 | Straight                       | Teeth Ground    | HRC 50-55° | 2, 3, 4, 5, 6, 8                  | P.65 |
| MSSH   | DIN 7    | SCM415<br>SCM440 |                                | Skiving         | HRC 50-55° | 2, 3, 4, 5, 6, 8                  | P.70 |
| CSM    | DIN 8    | S45C             |                                | Milled          | *          | 1, 1.5, 2, 2.5, 3, 4, 5, 6, 8, 10 | P.75 |
| MSMH   | DIN 10   | SCM415<br>SCM440 |                                |                 | HRC 50-55° | 1, 1.5, 2, 2.5, 3, 4, 5, 6, 8, 10 | P.84 |
| MHFGH  | DIN 6    | SCM415<br>SCM440 | Flange Helical                 | Teeth Ground    | HRC 50-55° | 2, 3, 4, 5                        | P.93 |

### JIS

| Code | JIS        | Material         | Type                     | Teeth Treatment | Hardness   | Module                            | Page  |
|------|------------|------------------|--------------------------|-----------------|------------|-----------------------------------|-------|
| MHGH | JIS 2 (N6) | SCM415<br>SCM440 | Helical Left Hand 21°30' | Teeth Ground    | HRC 50-55° | 1, 1.5, 2, 2.5, 3                 | P.94  |
| CHM  | JIS 4 (N8) | S45C             | Helical Left Hand 15°    | Milled          | *          | 2, 3                              | P.99  |
| MSGH | JIS 2 (N6) | SCM415<br>SCM440 | Straight                 | Teeth Ground    | HRC 50-55° | 1, 1.5, 2, 2.5, 3, 4              | P.100 |
| CSSH | JIS 3 (N7) | S45C             |                          | Skiving         | HRC 50-55° | 1, 1.5, 2, 2.5, 3, 4, 5, 6        | P.106 |
| CSM  | JIS 4 (N8) | S45C             |                          | Milled          | *          | 1, 1.5, 2, 2.5, 3, 4, 5, 6, 8, 10 | P.112 |

### CP

| Code    | JIS        | Material         | Type     | Teeth Treatment | Hardness   | CP                 | Page  |
|---------|------------|------------------|----------|-----------------|------------|--------------------|-------|
| MSGH-CP | DIN 6      | SCM415<br>SCM440 | Straight | Teeth Ground    | HRC 50-55° | 5, 7.5, 10, 15, 20 | P.123 |
| MSSH-CP | JIS 3 (N7) | SCM415<br>SCM440 |          | Skiving         | HRC 50-55° | 5, 10, 15, 20      | P.124 |
| CSM-CP  | JIS 4 (N8) | S45C             |          | Milled          | *          | 5, 10, 15, 20      | P.125 |

## Pinion Code Instruction



Example: MHGH0200301-DIN6

| M | H | (F) | G | H | 020 | 030 | 1 | DIN 6                                                                                 |
|---|---|-----|---|---|-----|-----|---|---------------------------------------------------------------------------------------|
|   |   |     |   |   |     |     |   | Grade<br>DIN 6-10<br>JIS 2-4                                                          |
|   |   |     |   |   |     |     |   | Series<br>1~11                                                                        |
|   |   |     |   |   |     |     |   | No.of Teeth<br>12~120                                                                 |
|   |   |     |   |   |     |     |   | Module Circular Pitch<br>M1.5~M10<br>CP5~CP20                                         |
|   |   |     |   |   |     |     |   | Hardness<br>H=Hardened<br>High Frequency<br>Carburized.                               |
|   |   |     |   |   |     |     |   | Teeth Treatment<br>G=Ground<br>S=Skiving<br>M=Milled                                  |
|   |   |     |   |   |     |     |   | Series<br>F=Flange                                                                    |
|   |   |     |   |   |     |     |   | Type<br>S=Straight H=Helical                                                          |
|   |   |     |   |   |     |     |   | Material<br>C=Carbon Steel    M=Alloy Steel<br>=S45C                =SCM440<br>=SC415 |

## MHGH-DIN6

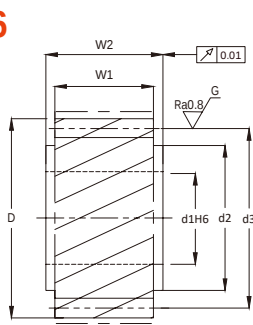


Fig. 1

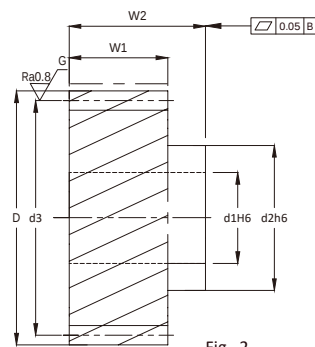
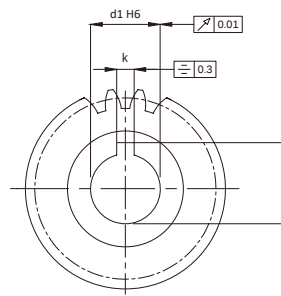


Fig. 2



Dimension : mm

## Series MHGH-DIN6 Helical Teeth Ground Pinions

## Quality Grade DIN 6

Material SCM415/SCM440

Teeth Ground after Hardening

Left Hand Angle 19°31'42"

Hardness: HRC 50~55°

| Code              | Fig. | DIN   | No. of Teeth | d1 | d2 | d3     | D     | W1 | W2 | k | h    | F <sub>ta</sub><br>kN | KG   |
|-------------------|------|-------|--------------|----|----|--------|-------|----|----|---|------|-----------------------|------|
| <b>Module 1.5</b> |      |       |              |    |    |        |       |    |    |   |      |                       |      |
| MHGH0150201       | 1    | -DIN6 | 20           | 11 | 25 | 31.83  | 34.83 | 20 | 22 | 4 | 12.8 | 4.48                  | 0.10 |
| MHGH0150202       | 1    | -DIN6 | 20           | 13 | 25 | 31.83  | 34.83 | 20 | 22 | 5 | 15.3 | 4.48                  | 0.10 |
| MHGH0150203       | 1    | -DIN6 | 20           | 14 | 25 | 31.83  | 34.83 | 20 | 22 | 5 | 16.3 | 4.48                  | 0.10 |
| MHGH0150204       | 1    | -DIN6 | 20           | 16 | 25 | 31.83  | 34.83 | 20 | 22 | 5 | 18.3 | 4.48                  | 0.10 |
| MHGH0150205       | 2    | -DIN6 | 20           | 16 | 25 | 31.83  | 34.83 | 20 | 30 | 5 | 18.3 | 4.48                  | 0.11 |
| MHGH0150206       | 2    | -DIN6 | 20           | 16 | 24 | 31.83  | 34.83 | 20 | 50 | * | *    | 4.48                  | 0.15 |
| MHGH0150211       | 2    | -DIN6 | 21           | 16 | 30 | 33.42  | 36.42 | 20 | 46 | 5 | 18.3 | 5.29                  | 0.30 |
| MHGH0150221       | 2    | -DIN6 | 22           | 16 | 25 | 35.01  | 38.01 | 20 | 30 | 5 | 18.3 | 5.56                  | 0.14 |
| MHGH0150222       | 2    | -DIN6 | 22           | 16 | 24 | 35.01  | 38.01 | 20 | 50 | * | *    | 5.56                  | 0.18 |
| MHGH0150251       | 2    | -DIN6 | 25           | 16 | 30 | 39.78  | 42.78 | 20 | 46 | 5 | 18.3 | 6.37                  | 0.18 |
| MHGH0150252       | 2    | -DIN6 | 25           | 16 | 25 | 39.79  | 42.79 | 20 | 30 | 5 | 18.3 | 6.37                  | 0.18 |
| MHGH0150253       | 2    | -DIN6 | 25           | 16 | 24 | 39.79  | 42.79 | 20 | 50 | * | *    | 6.37                  | 0.22 |
| MHGH0150301       | 2    | -DIN6 | 30           | 16 | 25 | 47.75  | 50.75 | 20 | 30 | 5 | 18.3 | 7.12                  | 0.27 |
| MHGH0150302       | 2    | -DIN6 | 30           | 16 | 24 | 47.75  | 50.75 | 20 | 50 | * | *    | 7.12                  | 0.31 |
| <b>Module 2</b>   |      |       |              |    |    |        |       |    |    |   |      |                       |      |
| MHGH0200181       | 1    | -DIN6 | 18           | 16 | 25 | 38.197 | 42.20 | 28 | 30 | 5 | 18.3 | 7.47                  | 0.20 |
| MHGH0200201       | 1    | -DIN6 | 20           | 19 | 30 | 42.44  | 46.40 | 28 | 30 | 6 | 21.8 | 8.36                  | 0.20 |
| MHGH0200202       | 2    | -DIN6 | 20           | 19 | 30 | 42.44  | 46.40 | 28 | 56 | 6 | 21.8 | 8.36                  | 0.20 |
| MHGH0200203       | 1    | -DIN6 | 20           | 20 | 30 | 42.44  | 46.40 | 28 | 30 | 6 | 22.8 | 8.36                  | 0.20 |
| MHGH0200204       | 2    | -DIN6 | 20           | 22 | 36 | 42.44  | 46.40 | 28 | 56 | 6 | 24.8 | 8.36                  | 0.20 |
| MHGH0200205       | 1    | -DIN6 | 20           | 22 | 30 | 42.44  | 46.40 | 28 | 30 | 6 | 24.8 | 8.36                  | 0.20 |
| MHGH0200206       | 2    | -DIN6 | 20           | 22 | 36 | 42.44  | 46.40 | 28 | 36 | 6 | 24.8 | 8.36                  | 0.20 |
| MHGH0200207       | 2    | -DIN6 | 20           | 22 | 35 | 42.44  | 46.44 | 25 | 40 | 6 | 24.8 | 8.36                  | 0.26 |
| MHGH0200208       | 2    | -DIN6 | 20           | 22 | 30 | 42.44  | 46.44 | 25 | 60 | * | *    | 8.36                  | 0.29 |
| MHGH0200211       | 1    | -DIN6 | 21           | 16 | 25 | 44.56  | 48.60 | 28 | 30 | 5 | 18.3 | 8.81                  | 0.30 |
| MHGH0200212       | 2    | -DIN6 | 21           | 22 | 36 | 44.56  | 48.60 | 28 | 30 | 6 | 24.8 | 8.81                  | 0.30 |
| MHGH0200221       | 1    | -DIN6 | 22           | 19 | 30 | 46.69  | 50.70 | 28 | 30 | 6 | 21.8 | 10.38                 | 0.30 |
| MHGH0200222       | 2    | -DIN6 | 22           | 19 | 30 | 46.69  | 50.70 | 28 | 56 | 6 | 21.8 | 10.38                 | 0.30 |
| MHGH0200223       | 1    | -DIN6 | 22           | 22 | 30 | 46.69  | 50.70 | 28 | 30 | 6 | 24.8 | 10.38                 | 0.30 |
| MHGH0200224       | 2    | -DIN6 | 22           | 22 | 36 | 46.69  | 50.70 | 28 | 56 | 6 | 24.8 | 10.38                 | 0.30 |
| MHGH0200225       | 2    | -DIN6 | 22           | 22 | 35 | 46.69  | 50.69 | 25 | 40 | 6 | 24.8 | 9.27                  | 0.32 |
| MHGH0200226       | 2    | -DIN6 | 22           | 22 | 35 | 46.69  | 50.69 | 25 | 60 | * | *    | 9.27                  | 0.35 |
| MHGH0200251       | 1    | -DIN6 | 25           | 19 | 30 | 53.05  | 57.10 | 28 | 30 | 6 | 21.8 | 11.90                 | 0.40 |
| MHGH0200252       | 2    | -DIN6 | 25           | 19 | 30 | 53.05  | 57.10 | 28 | 56 | 6 | 21.8 | 11.90                 | 0.40 |
| MHGH0200253       | 1    | -DIN6 | 25           | 20 | 30 | 53.05  | 57.10 | 28 | 30 | 6 | 22.8 | 11.90                 | 0.40 |
| MHGH0200254       | 1    | -DIN6 | 25           | 22 | 30 | 53.05  | 57.10 | 28 | 30 | 6 | 24.8 | 11.90                 | 0.40 |
| MHGH0200255       | 2    | -DIN6 | 25           | 22 | 36 | 53.05  | 57.10 | 28 | 56 | 6 | 24.8 | 11.90                 | 0.40 |
| MHGH0200256       | 1    | -DIN6 | 25           | 25 | 36 | 53.05  | 57.10 | 28 | 30 | 6 | 27.8 | 11.90                 | 0.40 |
| MHGH0200257       | 2    | -DIN6 | 25           | 22 | 35 | 53.05  | 57.05 | 25 | 40 | 6 | 24.8 | 10.62                 | 0.42 |
| MHGH0200258       | 2    | -DIN6 | 25           | 22 | 30 | 53.05  | 57.05 | 25 | 60 | * | *    | 10.62                 | 0.45 |
| MHGH0200281       | 1    | -DIN6 | 28           | 19 | 30 | 59.42  | 63.40 | 28 | 30 | 6 | 21.8 | 13.06                 | 0.40 |
| MHGH0200282       | 2    | -DIN6 | 28           | 19 | 30 | 59.42  | 63.40 | 28 | 56 | 6 | 21.8 | 13.06                 | 0.40 |
| MHGH0200283       | 1    | -DIN6 | 28           | 22 | 30 | 59.42  | 63.40 | 28 | 30 | 6 | 24.8 | 13.06                 | 0.40 |
| MHGH0200284       | 2    | -DIN6 | 28           | 22 | 36 | 59.42  | 63.40 | 28 | 56 | 6 | 24.8 | 13.06                 | 0.40 |

※Weight only for reference. Actual scale should be Weighing.

## MHGH-DIN6

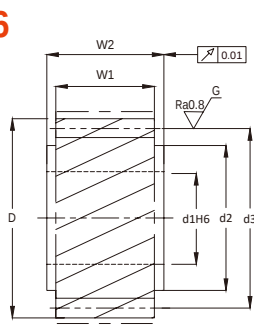


Fig. 1

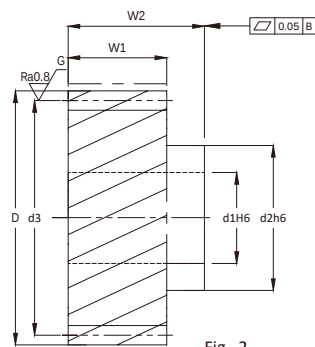
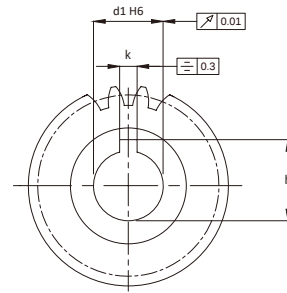


Fig. 2



Dimension : mm

## Series MHGH-DIN6 Helical Teeth Ground Pinions

## Quality Grade DIN 6

Material SCM415/SCM440

Teeth Ground after Hardening

Left Hand Angle 19°31'42"

Hardness: HRC 50~55°



| Code            | Fig. | DIN   | No. of Teeth | d1 | d2 | d3    | D     | W1 | W2 | k  | h    | F <sub>ta</sub><br>kN | KG   |
|-----------------|------|-------|--------------|----|----|-------|-------|----|----|----|------|-----------------------|------|
| <b>Module 2</b> |      |       |              |    |    |       |       |    |    |    |      |                       |      |
| MHGH0200285     | 1    | -DIN6 | 28           | 35 | 48 | 59.42 | 63.40 | 28 | 30 | 10 | 38.3 | 13.06                 | 0.40 |
| MHGH0200301     | 1    | -DIN6 | 30           | 16 | 25 | 63.66 | 67.70 | 28 | 30 | 5  | 18.3 | 13.30                 | 0.70 |
| MHGH0200302     | 1    | -DIN6 | 30           | 20 | 30 | 63.66 | 67.70 | 28 | 30 | 6  | 22.8 | 13.30                 | 0.70 |
| MHGH0200303     | 2    | -DIN6 | 30           | 22 | 36 | 63.66 | 67.70 | 28 | 56 | 6  | 24.8 | 13.30                 | 0.70 |
| MHGH0200304     | 1    | -DIN6 | 30           | 25 | 36 | 63.66 | 67.70 | 28 | 30 | 8  | 28.3 | 13.30                 | 0.70 |
| MHGH0200305     | 1    | -DIN6 | 30           | 30 | 45 | 63.66 | 67.70 | 28 | 30 | 8  | 33.3 | 13.30                 | 0.70 |
| MHGH0200306     | 2    | -DIN6 | 30           | 30 | 50 | 63.66 | 67.70 | 28 | 60 | 8  | 33.3 | 13.30                 | 0.70 |
| MHGH0200307     | 2    | -DIN6 | 30           | 32 | 55 | 63.66 | 67.70 | 28 | 65 | 10 | 35.3 | 13.30                 | 0.70 |
| MHGH0200308     | 2    | -DIN6 | 30           | 22 | 35 | 63.66 | 67.66 | 25 | 40 | 6  | 24.8 | 11.87                 | 0.61 |
| MHGH0200309     | 2    | -DIN6 | 30           | 22 | 30 | 63.66 | 67.66 | 25 | 60 | *  | *    | 11.87                 | 0.64 |
| MHGH0200321     | 1    | -DIN6 | 32           | 20 | 30 | 67.91 | 71.90 | 28 | 30 | 6  | 22.8 | 13.49                 | 0.70 |
| MHGH0200322     | 1    | -DIN6 | 32           | 22 | 30 | 67.91 | 71.90 | 28 | 30 | 6  | 24.8 | 13.49                 | 0.70 |
| MHGH0200323     | 2    | -DIN6 | 32           | 22 | 36 | 67.91 | 71.90 | 28 | 56 | 6  | 24.8 | 13.49                 | 0.70 |
| MHGH0200324     | 1    | -DIN6 | 32           | 25 | 36 | 67.91 | 71.90 | 28 | 30 | 8  | 28.3 | 13.49                 | 0.70 |
| MHGH0200325     | 1    | -DIN6 | 32           | 35 | 48 | 67.91 | 71.90 | 28 | 30 | 10 | 38.3 | 13.49                 | 0.70 |
| MHGH0200361     | 1    | -DIN6 | 36           | 35 | 48 | 76.39 | 80.40 | 28 | 30 | 10 | 38.3 | 13.84                 | 0.80 |
| MHGH0200391     | 2    | -DIN6 | 39           | 32 | 55 | 82.76 | 86.80 | 28 | 65 | 10 | 35.3 | 14.06                 | 1.40 |
| MHGH0200401     | 1    | -DIN6 | 40           | 35 | 48 | 84.88 | 88.90 | 28 | 30 | 10 | 38.3 | 14.13                 | 1.20 |
| <b>Module 3</b> |      |       |              |    |    |       |       |    |    |    |      |                       |      |
| MHGH0300181     | 1    | -DIN6 | 18           | 25 | 36 | 54.00 | 60.00 | 28 | 30 | 8  | 28.3 | 12.51                 | 0.40 |
| MHGH0300201     | 1    | -DIN6 | 20           | 25 | 36 | 60.00 | 66.00 | 28 | 30 | 8  | 28.3 | 14.00                 | 0.50 |
| MHGH0300202     | 2    | -DIN6 | 20           | 25 | 44 | 63.66 | 69.70 | 28 | 60 | 8  | 28.3 | 14.00                 | 1.10 |
| MHGH0300203     | 1    | -DIN6 | 20           | 30 | 45 | 63.66 | 69.70 | 28 | 30 | 8  | 33.3 | 14.00                 | 0.50 |
| MHGH0300204     | 2    | -DIN6 | 20           | 30 | 50 | 63.66 | 69.70 | 28 | 60 | 8  | 33.3 | 14.00                 | 1.10 |
| MHGH0300205     | 2    | -DIN6 | 20           | 32 | 55 | 63.66 | 69.70 | 28 | 65 | 10 | 35.3 | 14.00                 | 1.20 |
| MHGH0300206     | 1    | -DIN6 | 20           | 35 | 48 | 63.66 | 69.70 | 28 | 30 | 10 | 38.3 | 14.00                 | 0.50 |
| MHGH0300207     | 2    | -DIN6 | 20           | 22 | 35 | 63.66 | 69.66 | 30 | 40 | 6  | 24.8 | 15.06                 | 0.69 |
| MHGH0300208     | 2    | -DIN6 | 20           | 22 | 30 | 63.66 | 69.66 | 30 | 65 | *  | *    | 15.06                 | 0.74 |
| MHGH0300209     | 2    | -DIN6 | 20           | 32 | 50 | 63.66 | 69.66 | 30 | 60 | 10 | 35.3 | 15.06                 | 0.81 |
| MHGH0300210     | 2    | -DIN6 | 20           | 32 | 44 | 63.66 | 69.66 | 30 | 70 | *  | *    | 15.06                 | 0.78 |
| MHGH0300221     | 1    | -DIN6 | 22           | 25 | 36 | 70.03 | 76.00 | 28 | 30 | 8  | 28.3 | 17.65                 | 0.60 |
| MHGH0300222     | 1    | -DIN6 | 22           | 30 | 45 | 70.03 | 76.00 | 28 | 30 | 8  | 33.3 | 17.65                 | 0.60 |
| MHGH0300223     | 2    | -DIN6 | 22           | 32 | 55 | 70.03 | 76.00 | 28 | 65 | 10 | 35.3 | 17.65                 | 1.40 |
| MHGH0300224     | 1    | -DIN6 | 22           | 35 | 48 | 70.03 | 76.00 | 28 | 30 | 10 | 38.3 | 17.65                 | 0.60 |
| MHGH0300225     | 2    | -DIN6 | 22           | 40 | 62 | 70.03 | 76.00 | 28 | 65 | 12 | 43.3 | 17.65                 | 1.40 |
| MHGH0300226     | 2    | -DIN6 | 22           | 22 | 35 | 70.03 | 76.03 | 30 | 40 | 6  | 24.8 | 16.68                 | 0.85 |
| MHGH0300227     | 2    | -DIN6 | 22           | 22 | 30 | 70.03 | 76.03 | 30 | 65 | *  | *    | 16.68                 | 0.90 |
| MHGH0300228     | 2    | -DIN6 | 22           | 32 | 50 | 70.03 | 76.03 | 30 | 60 | 10 | 35.3 | 16.68                 | 0.96 |
| MHGH0300229     | 2    | -DIN6 | 22           | 32 | 44 | 70.03 | 76.03 | 30 | 70 | *  | *    | 16.68                 | 0.93 |
| MHGH0300251     | 2    | -DIN6 | 25           | 22 | 36 | 79.58 | 85.60 | 28 | 56 | 6  | 24.8 | 19.01                 | 1.50 |
| MHGH0300252     | 1    | -DIN6 | 25           | 25 | 36 | 79.58 | 85.60 | 28 | 30 | 8  | 28.3 | 19.01                 | 0.80 |
| MHGH0300253     | 2    | -DIN6 | 25           | 25 | 44 | 79.58 | 85.60 | 28 | 60 | 8  | 28.3 | 19.01                 | 1.60 |
| MHGH0300254     | 1    | -DIN6 | 25           | 30 | 45 | 79.58 | 85.60 | 28 | 30 | 8  | 33.3 | 19.01                 | 0.80 |
| MHGH0300255     | 2    | -DIN6 | 25           | 30 | 50 | 79.58 | 85.60 | 28 | 60 | 8  | 33.3 | 19.01                 | 1.60 |

※Weight only for reference. Actual scale should be Weighing.

## MHGH-DIN6

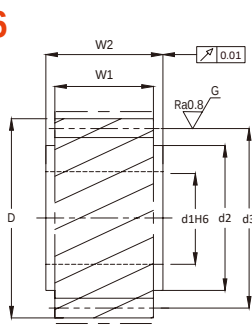


Fig. 1

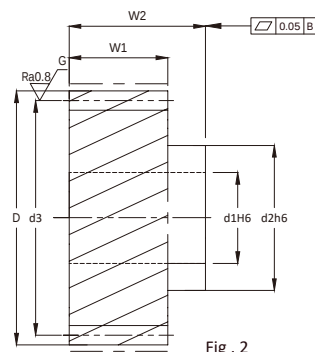
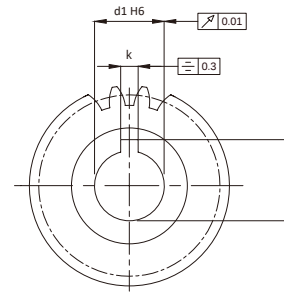


Fig. 2



Dimension : mm

## Series MHGH-DIN6 Helical Teeth Ground Pinions

## Quality Grade DIN 6

Material SCM415/SCM440

Teeth Ground after Hardening

Left Hand Angle 19°31'42"

Hardness: HRC 50~55°

| Code         | Fig. | DIN   | No. of Teeth | d1 | d2 | d3     | D      | W1 | W2 | k  | h    | F <sub>ta</sub><br>kN | KG   |
|--------------|------|-------|--------------|----|----|--------|--------|----|----|----|------|-----------------------|------|
| Module 3     |      |       |              |    |    |        |        |    |    |    |      |                       |      |
| MHGH0300256  | 2    | -DIN6 | 25           | 32 | 55 | 79.58  | 85.60  | 28 | 65 | 10 | 35.3 | 19.01                 | 1.80 |
| MHGH0300257  | 1    | -DIN6 | 25           | 35 | 48 | 79.58  | 85.60  | 28 | 30 | 10 | 38.3 | 19.01                 | 0.80 |
| MHGH0300258  | 2    | -DIN6 | 25           | 35 | 55 | 79.58  | 85.60  | 28 | 65 | 10 | 38.3 | 19.01                 | 1.80 |
| MHGH0300259  | 1    | -DIN6 | 25           | 40 | 70 | 79.58  | 85.60  | 28 | 50 | 12 | 43.3 | 19.01                 | 1.40 |
| MHGH03002510 | 2    | -DIN6 | 25           | 40 | 62 | 79.58  | 85.60  | 28 | 65 | 12 | 43.3 | 19.01                 | 1.80 |
| MHGH03002511 | 2    | -DIN6 | 25           | 22 | 35 | 79.58  | 85.58  | 30 | 40 | 6  | 24.8 | 20.37                 | 1.11 |
| MHGH03002512 | 2    | -DIN6 | 25           | 22 | 30 | 79.58  | 85.58  | 30 | 65 | *  | *    | 20.37                 | 1.17 |
| MHGH03002513 | 2    | -DIN6 | 25           | 32 | 50 | 79.58  | 85.58  | 30 | 60 | 10 | 35.3 | 20.37                 | 1.23 |
| MHGH03002514 | 2    | -DIN6 | 25           | 32 | 44 | 79.58  | 85.58  | 30 | 70 | *  | *    | 20.37                 | 1.20 |
| MHGH0300281  | 2    | -DIN6 | 28           | 32 | 55 | 89.13  | 95.10  | 28 | 65 | 10 | 35.3 | 19.59                 | 2.20 |
| MHGH0300282  | 2    | -DIN6 | 28           | 40 | 62 | 89.13  | 95.10  | 28 | 65 | 12 | 43.3 | 19.59                 | 2.20 |
| MHGH0300301  | 2    | -DIN6 | 30           | 22 | 35 | 95.49  | 101.49 | 30 | 40 | 6  | 24.8 | 21.37                 | 1.62 |
| MHGH0300302  | 2    | -DIN6 | 30           | 22 | 30 | 95.49  | 101.49 | 30 | 65 | *  | *    | 21.37                 | 1.67 |
| MHGH0300303  | 2    | -DIN6 | 30           | 32 | 50 | 95.49  | 101.49 | 30 | 60 | 10 | 35.3 | 21.37                 | 1.74 |
| MHGH0300304  | 2    | -DIN6 | 30           | 32 | 44 | 95.49  | 101.49 | 30 | 70 | *  | *    | 21.37                 | 1.71 |
| MHGH0300321  | 2    | -DIN6 | 32           | 32 | 55 | 101.86 | 107.85 | 28 | 65 | 10 | 35.3 | 20.24                 | 2.80 |
| MHGH0300322  | 2    | -DIN6 | 32           | 40 | 62 | 101.86 | 107.85 | 28 | 65 | 12 | 43.3 | 20.24                 | 2.00 |
| Module 4     |      |       |              |    |    |        |        |    |    |    |      |                       |      |
| MHGH0400151  | 1    | -DIN6 | 15           | 35 | 52 | 63.66  | 71.70  | 40 | 50 | 10 | 38.3 | 17.53                 | 0.80 |
| MHGH0400181  | 2    | -DIN6 | 18           | 32 | 55 | 76.39  | 84.40  | 40 | 75 | 10 | 35.3 | 23.92                 | 1.60 |
| MHGH0400201  | 1    | -DIN6 | 20           | 35 | 52 | 84.88  | 92.90  | 40 | 50 | 10 | 38.3 | 26.78                 | 1.30 |
| MHGH0400202  | 1    | -DIN6 | 20           | 45 | 65 | 84.88  | 92.90  | 40 | 50 | 14 | 48.8 | 26.78                 | 1.30 |
| MHGH0400203  | 2    | -DIN6 | 20           | 32 | 50 | 84.88  | 92.88  | 40 | 60 | 10 | 35.3 | 26.78                 | 1.67 |
| MHGH0400204  | 2    | -DIN6 | 20           | 32 | 44 | 84.88  | 92.88  | 40 | 80 | *  | *    | 26.78                 | 1.73 |
| MHGH0400205  | 2    | -DIN6 | 20           | 40 | 60 | 84.88  | 92.88  | 40 | 85 | 12 | 43.3 | 26.78                 | 1.89 |
| MHGH0400206  | 2    | -DIN6 | 20           | 40 | 50 | 84.88  | 92.88  | 40 | 85 | *  | *    | 26.78                 | 1.58 |
| MHGH0400211  | 2    | -DIN6 | 21           | 32 | 55 | 89.13  | 97.10  | 40 | 75 | 10 | 35.3 | 28.23                 | 2.20 |
| MHGH0400212  | 2    | -DIN6 | 21           | 35 | 55 | 89.13  | 97.10  | 40 | 75 | 10 | 38.3 | 28.23                 | 2.20 |
| MHGH0400213  | 2    | -DIN6 | 21           | 40 | 62 | 89.13  | 97.10  | 40 | 75 | 12 | 43.3 | 28.23                 | 2.20 |
| MHGH0400214  | 2    | -DIN6 | 21           | 45 | 68 | 89.13  | 97.10  | 40 | 75 | 14 | 48.8 | 28.23                 | 2.20 |
| MHGH0400221  | 1    | -DIN6 | 22           | 35 | 52 | 93.37  | 101.40 | 40 | 50 | 10 | 38.3 | 29.66                 | 1.60 |
| MHGH0400222  | 1    | -DIN6 | 22           | 45 | 65 | 93.37  | 101.40 | 40 | 50 | 14 | 48.8 | 29.66                 | 1.60 |
| MHGH0400223  | 2    | -DIN6 | 22           | 32 | 50 | 93.37  | 101.37 | 40 | 60 | 10 | 35.3 | 29.66                 | 2.04 |
| MHGH0400224  | 2    | -DIN6 | 22           | 32 | 44 | 93.37  | 101.37 | 40 | 80 | *  | *    | 29.66                 | 2.10 |
| MHGH0400225  | 2    | -DIN6 | 22           | 40 | 60 | 93.37  | 101.37 | 40 | 85 | 12 | 43.3 | 29.66                 | 2.26 |
| MHGH0400226  | 2    | -DIN6 | 22           | 40 | 50 | 93.37  | 101.37 | 40 | 85 | *  | *    | 29.66                 | 1.95 |
| MHGH0400241  | 2    | -DIN6 | 24           | 32 | 55 | 101.86 | 109.90 | 40 | 75 | 10 | 35.3 | 35.79                 | 2.80 |
| MHGH0400242  | 2    | -DIN6 | 24           | 35 | 55 | 101.86 | 109.90 | 40 | 75 | 10 | 38.3 | 35.79                 | 2.80 |
| MHGH0400243  | 2    | -DIN6 | 24           | 40 | 62 | 101.86 | 109.90 | 40 | 75 | 12 | 43.3 | 35.79                 | 2.80 |
| MHGH0400244  | 2    | -DIN6 | 24           | 45 | 68 | 101.86 | 109.90 | 40 | 75 | 14 | 48.8 | 35.79                 | 2.80 |
| MHGH0400245  | 2    | -DIN6 | 24           | 55 | 80 | 101.86 | 109.90 | 40 | 80 | 16 | 59.3 | 35.79                 | 3.00 |
| MHGH0400251  | 1    | -DIN6 | 25           | 35 | 52 | 106.10 | 114.10 | 40 | 50 | 10 | 38.3 | 36.22                 | 2.00 |
| MHGH0400252  | 1    | -DIN6 | 25           | 45 | 65 | 106.10 | 114.10 | 40 | 50 | 14 | 48.8 | 36.22                 | 2.00 |

※Weight only for reference. Actual scale should be Weighing.

## MHGH-DIN6

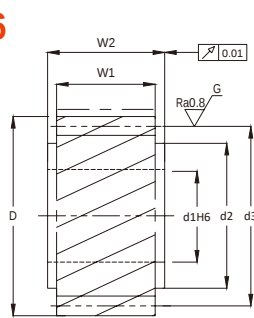


Fig. 1

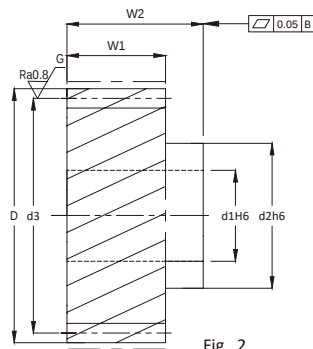
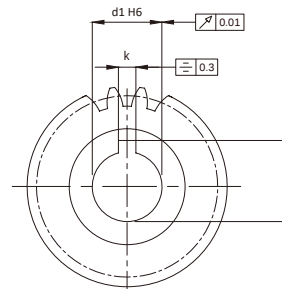


Fig. 2



Dimension : mm

## Series MHGH-DIN6 Helical Teeth Ground Pinions

## Quality Grade DIN 6

Material SCM415/SCM440

Teeth Ground after Hardening

Left Hand Angle 19°31'42"

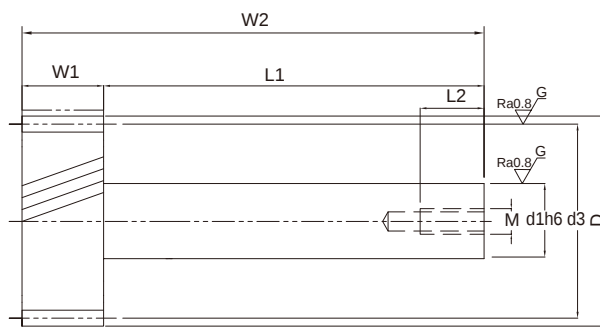
Hardness: HRC 50~55°



| Code             | Fig. | DIN   | No. of Teeth | d1 | d2  | d3     | D      | W1  | W2  | k  | h    | F <sub>ta</sub><br>kN | KG    |
|------------------|------|-------|--------------|----|-----|--------|--------|-----|-----|----|------|-----------------------|-------|
| <b>Module 4</b>  |      |       |              |    |     |        |        |     |     |    |      |                       |       |
| MHGH0400253      | 2    | -DIN6 | 25           | 55 | 80  | 106.10 | 114.10 | 40  | 80  | 16 | 59.3 | 36.22                 | 3.20  |
| MHGH0400254      | 2    | -DIN6 | 25           | 32 | 50  | 106.10 | 114.10 | 40  | 60  | 10 | 35.3 | 36.22                 | 2.66  |
| MHGH0400255      | 2    | -DIN6 | 25           | 32 | 44  | 106.10 | 114.10 | 40  | 80  | *  | *    | 36.22                 | 2.72  |
| MHGH0400256      | 2    | -DIN6 | 25           | 40 | 60  | 106.10 | 114.10 | 40  | 85  | 12 | 43.3 | 36.22                 | 2.88  |
| MHGH0400257      | 2    | -DIN6 | 25           | 40 | 50  | 106.10 | 114.10 | 40  | 85  | *  | *    | 36.22                 | 2.58  |
| MHGH0400301      | 2    | -DIN6 | 30           | 32 | 50  | 127.32 | 135.32 | 40  | 60  | 10 | 35.3 | 38.00                 | 3.88  |
| MHGH0400302      | 2    | -DIN6 | 30           | 32 | 44  | 127.32 | 135.32 | 40  | 80  | 10 | *    | 38.00                 | 3.94  |
| MHGH0400303      | 2    | -DIN6 | 30           | 40 | 60  | 127.32 | 135.32 | 40  | 85  | 12 | 43.3 | 38.00                 | 4.10  |
| MHGH0400304      | 2    | -DIN6 | 30           | 40 | 50  | 127.32 | 135.32 | 40  | 85  | *  | *    | 38.00                 | 3.80  |
| <b>Module 5</b>  |      |       |              |    |     |        |        |     |     |    |      |                       |       |
| MHGH0500181      | 2    | -DIN6 | 18           | 45 | 68  | 95.49  | 105.50 | 50  | 85  | 14 | 48.8 | 37.38                 | 2.90  |
| MHGH0500201      | 2    | -DIN6 | 20           | 40 | 60  | 106.10 | 116.10 | 50  | 85  | 12 | 43.3 | 41.84                 | 3.34  |
| MHGH0500202      | 2    | -DIN6 | 20           | 40 | 50  | 106.10 | 116.10 | 50  | 90  | *  | *    | 41.84                 | 3.16  |
| MHGH0500221      | 2    | -DIN6 | 22           | 40 | 60  | 116.71 | 126.71 | 50  | 85  | 12 | 43.3 | 46.34                 | 4.06  |
| MHGH0500222      | 2    | -DIN6 | 22           | 40 | 50  | 116.71 | 126.71 | 50  | 90  | *  | *    | 46.34                 | 3.88  |
| MHGH0500241      | 2    | -DIN6 | 24           | 45 | 68  | 127.32 | 137.30 | 50  | 85  | 14 | 48.8 | 55.93                 | 4.90  |
| MHGH0500242      | 2    | -DIN6 | 24           | 55 | 80  | 127.32 | 137.30 | 50  | 90  | 16 | 59.3 | 55.93                 | 5.20  |
| MHGH0500243      | 2    | -DIN6 | 24           | 75 | 110 | 127.32 | 137.30 | 50  | 110 | 20 | 79.9 | 55.93                 | 6.40  |
| MHGH0500251      | 2    | -DIN6 | 25           | 40 | 60  | 132.63 | 142.63 | 50  | 85  | 12 | 43.3 | 56.58                 | 5.28  |
| MHGH0500252      | 2    | -DIN6 | 25           | 40 | 50  | 132.63 | 142.63 | 50  | 90  | *  | *    | 56.58                 | 5.10  |
| MHGH0500301      | 2    | -DIN6 | 30           | 40 | 60  | 159.16 | 169.16 | 50  | 85  | 12 | 43.3 | 59.37                 | 7.66  |
| MHGH0500302      | 2    | -DIN6 | 30           | 40 | 50  | 159.16 | 169.16 | 50  | 90  | *  | *    | 59.37                 | 7.48  |
| <b>Module 6</b>  |      |       |              |    |     |        |        |     |     |    |      |                       |       |
| MHGH0600201      | 2    | -DIN6 | 20           | 55 | 80  | 127.32 | 139.30 | 60  | 100 | 16 | 59.3 | 60.26                 | 6.00  |
| MHGH0600202      | 2    | -DIN6 | 20           | 75 | 110 | 127.32 | 139.30 | 60  | 120 | 20 | 79.9 | 60.26                 | 7.20  |
| MHGH0600203      | 2    | -DIN6 | 20           | 55 | 80  | 127.32 | 139.32 | 60  | 85  | 16 | 59.3 | 60.26                 | 5.28  |
| MHGH0600204      | 2    | -DIN6 | 20           | 55 | 68  | 127.32 | 139.32 | 60  | 105 | *  | *    | 60.26                 | 5.25  |
| MHGH0600221      | 2    | -DIN6 | 22           | 55 | 80  | 140.06 | 152.06 | 60  | 85  | 16 | 59.3 | 66.74                 | 6.53  |
| MHGH0600222      | 2    | -DIN6 | 22           | 55 | 68  | 140.06 | 152.06 | 60  | 105 | *  | *    | 66.74                 | 6.50  |
| MHGH0600251      | 2    | -DIN6 | 25           | 55 | 80  | 159.16 | 171.20 | 60  | 100 | 16 | 59.3 | 81.49                 | 9.00  |
| MHGH0600252      | 2    | -DIN6 | 25           | 75 | 110 | 159.16 | 171.20 | 60  | 120 | 20 | 79.9 | 81.49                 | 10.80 |
| MHGH0600253      | 2    | -DIN6 | 25           | 55 | 80  | 159.16 | 171.16 | 60  | 85  | 16 | 59.3 | 81.49                 | 8.64  |
| MHGH0600254      | 2    | -DIN6 | 25           | 55 | 68  | 159.16 | 171.16 | 60  | 105 | *  | *    | 81.49                 | 8.61  |
| MHGH0600301      | 2    | -DIN6 | 30           | 55 | 80  | 190.99 | 212.99 | 60  | 85  | 16 | 59.3 | 85.49                 | 12.74 |
| MHGH0600302      | 2    | -DIN6 | 30           | 55 | 68  | 190.99 | 212.99 | 60  | 105 | *  | *    | 85.49                 | 12.71 |
| <b>Module 8</b>  |      |       |              |    |     |        |        |     |     |    |      |                       |       |
| MHGH0800181      | 2    | -DIN6 | 18           | 75 | 110 | 152.79 | 168.80 | 80  | 140 | 20 | 79.9 | 95.68                 | 11.00 |
| MHGH0800202      | 2    | -DIN6 | 20           | 85 | 125 | 169.80 | 185.80 | 80  | 145 | 22 | 90.4 | 107.12                | 14.00 |
| <b>Module 10</b> |      |       |              |    |     |        |        |     |     |    |      |                       |       |
| MHGH1000201      | 2    | -DIN6 | 20           | 85 | 125 | 212.21 | 232.20 | 100 | 165 | 22 | 90.4 | 167.38                | 26.00 |

※Weight only for reference. Actual scale should be Weighing.

## MHGH-L-DIN6



Dimension : mm

Series MHGH-L-DIN6 Helical Teeth Ground Pinion Shaft

Quality Grade DIN 6

Material SCM415 / SCM440

Teeth Gound after Hardening

Left Hand Angle 19°31'42"

Hardness: HRC 50~55°

| Code              | DIN   | Module | No. of Teeth | d1   | d3     | D      | W1   | W2  | L1    | L2 | Hole | F <sub>ta</sub><br>kN | KG  |
|-------------------|-------|--------|--------------|------|--------|--------|------|-----|-------|----|------|-----------------------|-----|
| <b>Module 1.5</b> |       |        |              |      |        |        |      |     |       |    |      |                       |     |
| MHGH-L-0150201    | -DIN6 | 1.5    | 20           | 20h6 | 31.831 | 34.831 | 11.5 | 110 | 98.5  | 19 | M8   | 2.96                  | 0.5 |
| MHGH-L-0150202    | -DIN6 | 1.5    | 20           | 20h6 | 31.831 | 34.831 | 14.5 | 90  | 75.5  | 19 | M8   | 3.64                  | 0.6 |
| <b>Module 2.5</b> |       |        |              |      |        |        |      |     |       |    |      |                       |     |
| MHGH-L-0250161    | -DIN6 | 2.5    | 16           | 25h6 | 42.441 | 47.441 | 19.5 | 108 | 88.5  | 22 | M10  | 5.86                  | 0.6 |
| MHGH-L-0250181    | -DIN6 | 2.5    | 18           | 25h6 | 47.747 | 52.747 | 19.5 | 108 | 88.5  | 22 | M10  | 6.63                  | 0.7 |
| <b>Module 3</b>   |       |        |              |      |        |        |      |     |       |    |      |                       |     |
| MHGH-L-0300201    | -DIN6 | 3      | 20           | 40h6 | 63.662 | 69.662 | 29.5 | 162 | 132.5 | 28 | M12  | 14.81                 | 1.9 |
| MHGH-L-0300281    | -DIN6 | 3      | 28           | 40h6 | 89.127 | 95.127 | 29.5 | 162 | 132.5 | 28 | M12  | 20.64                 | 2.0 |

## MHSH-DIN7

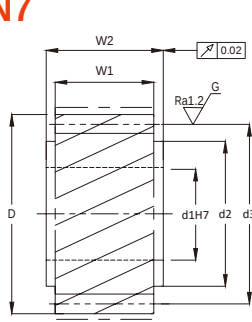


Fig. 1

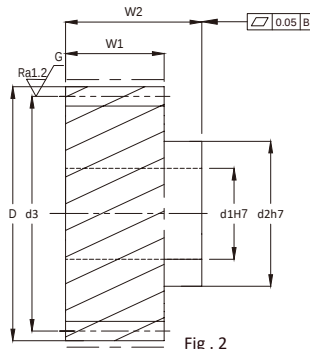
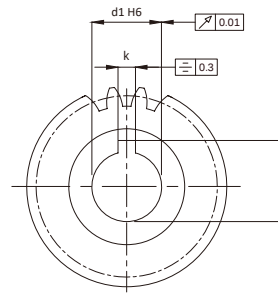


Fig. 2



Dimension : mm

## Series MHSH-DIN7 Helical Skiving Pinions

## Quality Grade DIN 7

Material SCM415/SCM440

Skiving after Hardening

Left Hand Angle 19°31'42"

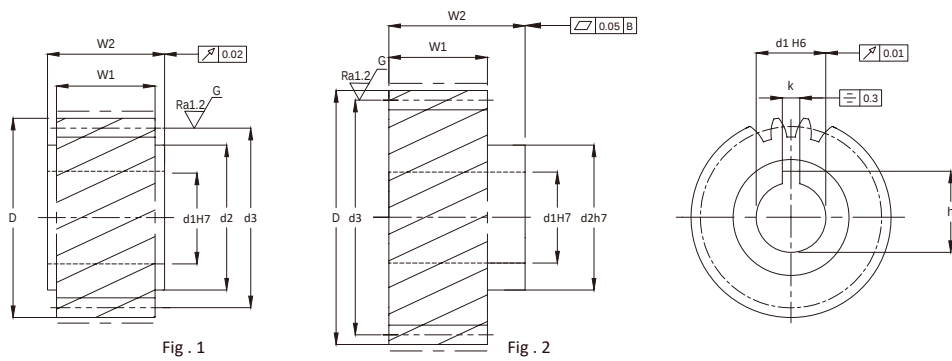
Hardness: HRC 50~55°

Helical  
DIN

| Code              | Fig. | DIN   | No. of Teeth | d1 | d2 | d3     | D     | W1 | W2 | k  | h    | F <sub>ta</sub><br>kN | KG  |
|-------------------|------|-------|--------------|----|----|--------|-------|----|----|----|------|-----------------------|-----|
| <b>Module 1.5</b> |      |       |              |    |    |        |       |    |    |    |      |                       |     |
| MHSH0150201       | 1    | -DIN7 | 20           | 11 | 25 | 31.83  | 34.83 | 20 | 22 | 4  | 12.8 | 3.67                  | 0.1 |
| MHSH0150202       | 1    | -DIN7 | 20           | 13 | 25 | 31.83  | 34.83 | 20 | 22 | 5  | 15.3 | 3.67                  | 0.1 |
| MHSH0150203       | 1    | -DIN7 | 20           | 14 | 25 | 31.83  | 34.83 | 20 | 22 | 5  | 16.3 | 3.67                  | 0.1 |
| MHSH0150204       | 1    | -DIN7 | 20           | 16 | 25 | 31.83  | 34.83 | 20 | 22 | 5  | 18.3 | 3.67                  | 0.1 |
| MHSH0150211       | 2    | -DIN7 | 21           | 16 | 30 | 33.42  | 36.42 | 20 | 46 | 5  | 18.3 | 4.33                  | 0.3 |
| <b>Module 2</b>   |      |       |              |    |    |        |       |    |    |    |      |                       |     |
| MHSH0200181       | 1    | -DIN7 | 18           | 16 | 25 | 38.197 | 42.20 | 28 | 30 | 5  | 18.3 | 6.12                  | 0.2 |
| MHSH0200201       | 1    | -DIN7 | 20           | 19 | 30 | 42.44  | 46.40 | 28 | 30 | 6  | 21.8 | 6.85                  | 0.3 |
| MHSH0200202       | 2    | -DIN7 | 20           | 19 | 30 | 42.44  | 46.40 | 28 | 56 | 6  | 21.8 | 6.85                  | 0.6 |
| MHSH0200203       | 1    | -DIN7 | 20           | 20 | 30 | 42.44  | 46.40 | 28 | 30 | 6  | 22.8 | 6.85                  | 0.3 |
| MHSH0200204       | 2    | -DIN7 | 20           | 22 | 36 | 42.44  | 46.40 | 28 | 56 | 6  | 24.8 | 6.85                  | 0.6 |
| MHSH0200205       | 1    | -DIN7 | 20           | 22 | 30 | 42.44  | 46.40 | 28 | 30 | 6  | 24.8 | 6.85                  | 0.3 |
| MHSH0200211       | 1    | -DIN7 | 21           | 16 | 25 | 44.56  | 48.60 | 28 | 30 | 5  | 18.3 | 7.22                  | 0.3 |
| MHSH0200212       | 2    | -DIN7 | 21           | 22 | 36 | 44.56  | 48.60 | 28 | 30 | 6  | 24.8 | 7.22                  | 0.3 |
| MHSH0200221       | 1    | -DIN7 | 22           | 19 | 30 | 46.69  | 50.70 | 28 | 30 | 6  | 21.8 | 8.50                  | 0.4 |
| MHSH0200222       | 2    | -DIN7 | 22           | 19 | 30 | 46.69  | 50.70 | 28 | 56 | 6  | 21.8 | 8.50                  | 0.7 |
| MHSH0200223       | 1    | -DIN7 | 22           | 22 | 30 | 46.69  | 50.70 | 28 | 30 | 6  | 24.8 | 8.50                  | 0.4 |
| MHSH0200224       | 2    | -DIN7 | 22           | 22 | 36 | 46.69  | 50.70 | 28 | 56 | 6  | 24.8 | 8.50                  | 0.7 |
| MHSH0200251       | 1    | -DIN7 | 25           | 19 | 30 | 53.05  | 57.10 | 28 | 30 | 6  | 21.8 | 9.75                  | 0.5 |
| MHSH0200252       | 2    | -DIN7 | 25           | 19 | 30 | 53.05  | 57.10 | 28 | 56 | 6  | 21.8 | 9.75                  | 0.8 |
| MHSH0200253       | 1    | -DIN7 | 25           | 20 | 30 | 53.05  | 57.10 | 28 | 30 | 6  | 22.8 | 9.75                  | 0.5 |
| MHSH0200254       | 1    | -DIN7 | 25           | 22 | 30 | 53.05  | 57.10 | 28 | 30 | 6  | 24.8 | 9.75                  | 0.5 |
| MHSH0200255       | 2    | -DIN7 | 25           | 22 | 36 | 53.05  | 57.10 | 28 | 56 | 6  | 24.8 | 9.75                  | 0.8 |
| MHSH0200256       | 1    | -DIN7 | 25           | 25 | 36 | 53.05  | 57.10 | 28 | 30 | 6  | 24.8 | 9.75                  | 0.5 |
| MHSH0200281       | 1    | -DIN7 | 28           | 19 | 30 | 59.42  | 63.40 | 28 | 30 | 6  | 21.8 | 11.00                 | 0.6 |
| MHSH0200282       | 2    | -DIN7 | 28           | 19 | 30 | 59.42  | 63.40 | 28 | 56 | 6  | 21.8 | 10.99                 | 1.0 |
| MHSH0200283       | 1    | -DIN7 | 28           | 22 | 30 | 59.42  | 63.40 | 28 | 30 | 6  | 24.8 | 10.99                 | 0.6 |
| MHSH0200284       | 2    | -DIN7 | 28           | 22 | 36 | 59.42  | 63.40 | 28 | 56 | 6  | 24.8 | 10.99                 | 1.0 |
| MHSH0200285       | 1    | -DIN7 | 28           | 35 | 48 | 59.42  | 63.40 | 28 | 30 | 10 | 38.3 | 10.99                 | 0.6 |
| MHSH0200301       | 1    | -DIN7 | 30           | 16 | 25 | 63.66  | 67.70 | 28 | 30 | 5  | 18.3 | 11.83                 | 0.6 |
| MHSH0200302       | 1    | -DIN7 | 30           | 20 | 30 | 63.66  | 67.70 | 28 | 30 | 6  | 22.8 | 11.83                 | 0.6 |
| MHSH0200303       | 2    | -DIN7 | 30           | 22 | 36 | 63.66  | 67.70 | 28 | 56 | 6  | 24.8 | 11.83                 | 1.2 |
| MHSH0200304       | 1    | -DIN7 | 30           | 25 | 36 | 63.66  | 67.70 | 28 | 30 | 8  | 28.3 | 11.83                 | 0.6 |
| MHSH0200305       | 1    | -DIN7 | 30           | 30 | 45 | 63.66  | 67.70 | 28 | 30 | 8  | 33.3 | 11.83                 | 0.6 |
| MHSH0200306       | 2    | -DIN7 | 30           | 30 | 50 | 63.66  | 67.70 | 28 | 60 | 8  | 33.3 | 11.83                 | 1.3 |
| MHSH0200307       | 2    | -DIN7 | 30           | 32 | 55 | 63.66  | 67.70 | 28 | 65 | 10 | 35.3 | 11.83                 | 1.4 |
| MHSH0200321       | 1    | -DIN7 | 32           | 20 | 30 | 67.91  | 71.90 | 28 | 30 | 6  | 22.8 | 12.37                 | 0.7 |
| MHSH0200322       | 1    | -DIN7 | 32           | 22 | 30 | 67.91  | 71.90 | 28 | 30 | 6  | 24.8 | 12.37                 | 0.7 |
| MHSH0200323       | 2    | -DIN7 | 32           | 22 | 36 | 67.91  | 71.90 | 28 | 56 | 6  | 27.8 | 12.37                 | 1.3 |
| MHSH0200324       | 1    | -DIN7 | 32           | 25 | 36 | 67.91  | 71.90 | 28 | 30 | 8  | 28.3 | 12.37                 | 0.7 |
| MHSH0200325       | 1    | -DIN7 | 32           | 35 | 48 | 67.91  | 71.90 | 28 | 30 | 10 | 38.3 | 12.37                 | 0.7 |
| MHSH0200361       | 1    | -DIN7 | 36           | 35 | 48 | 76.39  | 80.40 | 28 | 30 | 10 | 38.3 | 12.69                 | 0.9 |
| MHSH0200391       | 2    | -DIN7 | 39           | 32 | 55 | 82.76  | 86.80 | 28 | 65 | 10 | 35.3 | 12.89                 | 2.3 |
| MHSH0200401       | 1    | -DIN7 | 40           | 35 | 48 | 84.88  | 88.90 | 28 | 30 | 10 | 38.3 | 12.95                 | 1.1 |

※Weight only for reference. Actual scale should be Weighing.

## MHSH-DIN7



Dimension : mm

### Series MHSH-DIN7 Helical Skiving Pinions

Quality Grade DIN 7

Material SCM415/SCM440

Skiving after Hardening

Left Hand Angle 19°31'42"

Hardness: HRC 50~55°

| Code         | Fig. | DIN   | No. of Teeth | d1 | d2 | d3     | D      | W1 | W2 | k  | h    | F <sub>ta</sub><br>kN | KG  |
|--------------|------|-------|--------------|----|----|--------|--------|----|----|----|------|-----------------------|-----|
| Module 3     |      |       |              |    |    |        |        |    |    |    |      |                       |     |
| MHSH0300201  | 2    | -DIN7 | 20           | 22 | 36 | 63.66  | 69.70  | 28 | 56 | 6  | 24.8 | 11.47                 | 1.0 |
| MHSH0300202  | 2    | -DIN7 | 20           | 25 | 44 | 63.66  | 69.70  | 28 | 60 | 8  | 28.3 | 11.47                 | 1.1 |
| MHSH0300203  | 1    | -DIN7 | 20           | 30 | 45 | 63.66  | 69.70  | 28 | 30 | 8  | 33.3 | 11.47                 | 0.5 |
| MHSH0300204  | 2    | -DIN7 | 20           | 30 | 50 | 63.66  | 69.70  | 28 | 60 | 8  | 33.3 | 11.47                 | 1.1 |
| MHSH0300205  | 2    | -DIN7 | 20           | 32 | 55 | 63.66  | 69.70  | 28 | 65 | 10 | 35.3 | 11.47                 | 1.2 |
| MHSH0300206  | 1    | -DIN7 | 20           | 35 | 48 | 63.66  | 69.70  | 28 | 30 | 10 | 38.3 | 11.47                 | 0.5 |
| MHSH0300221  | 1    | -DIN7 | 22           | 25 | 36 | 70.03  | 76.00  | 28 | 30 | 8  | 28.3 | 14.45                 | 0.6 |
| MHSH0300222  | 1    | -DIN7 | 22           | 30 | 45 | 70.03  | 76.00  | 28 | 30 | 8  | 33.3 | 14.45                 | 0.6 |
| MHSH0300223  | 2    | -DIN7 | 22           | 32 | 55 | 70.03  | 76.00  | 28 | 65 | 10 | 35.3 | 14.45                 | 1.4 |
| MHSH0300224  | 1    | -DIN7 | 22           | 35 | 48 | 70.03  | 76.00  | 28 | 30 | 10 | 38.3 | 14.45                 | 0.6 |
| MHSH0300225  | 2    | -DIN7 | 22           | 40 | 62 | 70.03  | 76.00  | 28 | 65 | 12 | 43.3 | 14.45                 | 1.4 |
| MHSH0300251  | 2    | -DIN7 | 25           | 22 | 36 | 79.58  | 85.60  | 28 | 56 | 6  | 24.8 | 16.56                 | 1.5 |
| MHSH0300252  | 1    | -DIN7 | 25           | 25 | 36 | 79.58  | 85.60  | 28 | 30 | 8  | 28.3 | 16.56                 | 0.8 |
| MHSH0300253  | 2    | -DIN7 | 25           | 25 | 44 | 79.58  | 85.60  | 28 | 60 | 8  | 28.3 | 16.56                 | 1.6 |
| MHSH0300254  | 1    | -DIN7 | 25           | 30 | 45 | 79.58  | 85.60  | 28 | 30 | 8  | 33.3 | 16.56                 | 0.8 |
| MHSH0300255  | 2    | -DIN7 | 25           | 30 | 50 | 79.58  | 85.60  | 28 | 60 | 8  | 33.3 | 16.56                 | 1.6 |
| MHSH0300256  | 2    | -DIN7 | 25           | 32 | 55 | 79.58  | 85.60  | 28 | 65 | 10 | 35.3 | 16.56                 | 1.8 |
| MHSH0300257  | 1    | -DIN7 | 25           | 35 | 48 | 79.58  | 85.60  | 28 | 30 | 10 | 38.3 | 16.56                 | 0.8 |
| MHSH0300258  | 2    | -DIN7 | 25           | 35 | 55 | 79.58  | 85.60  | 28 | 65 | 10 | 38.3 | 16.56                 | 1.8 |
| MHSH0300259  | 1    | -DIN7 | 25           | 40 | 70 | 79.58  | 85.60  | 28 | 50 | 12 | 43.3 | 16.56                 | 1.4 |
| MHSH03002510 | 2    | -DIN7 | 25           | 40 | 62 | 79.58  | 85.60  | 28 | 65 | 12 | 43.3 | 16.56                 | 1.8 |
| MHSH0300281  | 2    | -DIN7 | 28           | 32 | 55 | 89.13  | 95.10  | 28 | 65 | 10 | 35.3 | 17.96                 | 2.2 |
| MHSH0300282  | 2    | -DIN7 | 28           | 40 | 62 | 89.13  | 95.10  | 28 | 65 | 12 | 43.3 | 17.96                 | 2.2 |
| MHSH0300321  | 2    | -DIN7 | 32           | 32 | 55 | 101.86 | 107.85 | 28 | 65 | 10 | 35.3 | 18.55                 | 2.8 |
| MHSH0300322  | 2    | -DIN7 | 32           | 40 | 62 | 101.86 | 107.85 | 28 | 65 | 12 | 43.3 | 18.55                 | 2.8 |

## MHSH-DIN7

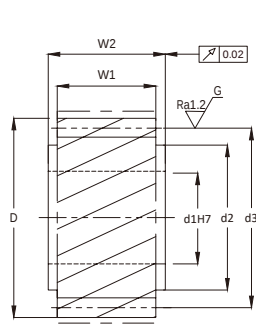


Fig. 1

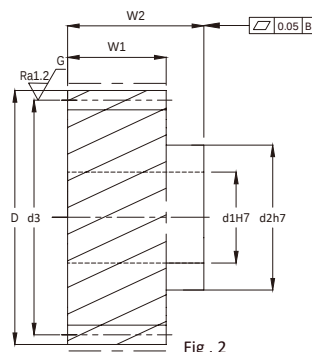
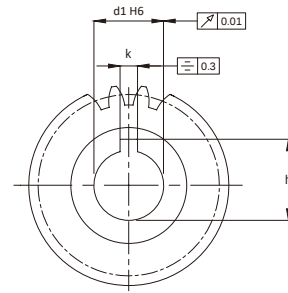


Fig. 2



Dimension : mm

## Series MHSH-DIN7 Helical Skiving Pinions

## Quality Grade DIN 7

Material SCM415/SCM440

Skiving after Hardening

Left Hand Angle 19°31'42"

Hardness: HRC 50~55°



| Code             | Fig. | DIN   | No. of Teeth | d1 | d2  | d3     | D      | W1  | W2  | k  | h    | F <sub>ta</sub><br>kN | KG   |
|------------------|------|-------|--------------|----|-----|--------|--------|-----|-----|----|------|-----------------------|------|
| <b>Module 4</b>  |      |       |              |    |     |        |        |     |     |    |      |                       |      |
| MHSH0400151      | 1    | -DIN7 | 15           | 35 | 52  | 63.66  | 71.70  | 40  | 50  | 10 | 38.3 | 14.36                 | 0.8  |
| MHSH0400181      | 2    | -DIN7 | 18           | 32 | 55  | 76.39  | 84.40  | 40  | 75  | 10 | 35.3 | 19.59                 | 1.6  |
| MHSH0400201      | 1    | -DIN7 | 20           | 35 | 52  | 84.88  | 92.90  | 40  | 50  | 10 | 38.3 | 21.93                 | 1.3  |
| MHSH0400202      | 1    | -DIN7 | 20           | 45 | 65  | 84.88  | 92.90  | 40  | 50  | 14 | 48.8 | 21.93                 | 1.3  |
| MHSH0400211      | 2    | -DIN7 | 21           | 32 | 55  | 89.13  | 97.10  | 40  | 75  | 10 | 35.3 | 23.11                 | 2.2  |
| MHSH0400212      | 2    | -DIN7 | 21           | 35 | 55  | 89.13  | 97.10  | 40  | 75  | 10 | 38.3 | 23.11                 | 2.2  |
| MHSH0400213      | 2    | -DIN7 | 21           | 40 | 62  | 89.13  | 97.10  | 40  | 75  | 12 | 43.3 | 23.11                 | 2.2  |
| MHSH0400214      | 2    | -DIN7 | 21           | 45 | 68  | 89.13  | 97.10  | 40  | 75  | 14 | 48.8 | 23.11                 | 2.2  |
| MHSH0400221      | 1    | -DIN7 | 22           | 35 | 52  | 93.37  | 101.40 | 40  | 50  | 10 | 38.3 | 24.29                 | 1.6  |
| MHSH0400222      | 1    | -DIN7 | 22           | 45 | 65  | 93.37  | 101.40 | 40  | 50  | 14 | 48.8 | 24.29                 | 1.6  |
| MHSH0400241      | 2    | -DIN7 | 24           | 32 | 55  | 101.86 | 109.90 | 40  | 75  | 10 | 35.3 | 30.34                 | 2.8  |
| MHSH0400242      | 2    | -DIN7 | 24           | 35 | 55  | 101.86 | 109.90 | 40  | 75  | 10 | 38.3 | 30.34                 | 2.8  |
| MHSH0400243      | 2    | -DIN7 | 24           | 40 | 62  | 101.86 | 109.90 | 40  | 75  | 12 | 43.3 | 30.34                 | 2.8  |
| MHSH0400244      | 2    | -DIN7 | 24           | 45 | 68  | 101.86 | 109.90 | 40  | 75  | 14 | 48.8 | 30.34                 | 2.8  |
| MHSH0400245      | 2    | -DIN7 | 24           | 55 | 80  | 101.86 | 109.90 | 40  | 80  | 16 | 59.3 | 30.34                 | 3.0  |
| MHSH0400251      | 1    | -DIN7 | 25           | 35 | 52  | 106.10 | 114.10 | 40  | 50  | 10 | 38.3 | 31.68                 | 2.0  |
| MHSH0400252      | 1    | -DIN7 | 25           | 45 | 65  | 106.10 | 114.10 | 40  | 50  | 14 | 48.8 | 31.68                 | 2.0  |
| MHSH0400253      | 2    | -DIN7 | 25           | 55 | 80  | 106.10 | 114.10 | 40  | 80  | 16 | 59.3 | 31.68                 | 3.2  |
| <b>Module 5</b>  |      |       |              |    |     |        |        |     |     |    |      |                       |      |
| MHSH0500181      | 2    | -DIN7 | 18           | 45 | 68  | 95.49  | 105.50 | 50  | 85  | 14 | 48.8 | 30.61                 | 2.9  |
| MHSH0500241      | 2    | -DIN7 | 24           | 45 | 68  | 127.32 | 137.30 | 50  | 85  | 14 | 48.8 | 47.41                 | 4.9  |
| MHSH0500242      | 2    | -DIN7 | 24           | 55 | 80  | 127.32 | 137.30 | 50  | 90  | 16 | 59.3 | 47.41                 | 5.2  |
| MHSH0500243      | 2    | -DIN7 | 24           | 75 | 110 | 127.32 | 137.30 | 50  | 110 | 20 | 79.9 | 47.41                 | 6.4  |
| <b>Module 6</b>  |      |       |              |    |     |        |        |     |     |    |      |                       |      |
| MHSH0600201      | 2    | -DIN7 | 20           | 55 | 80  | 127.32 | 139.30 | 60  | 100 | 16 | 59.3 | 49.35                 | 6.0  |
| MHSH0600202      | 2    | -DIN7 | 20           | 75 | 110 | 127.32 | 139.30 | 60  | 120 | 20 | 79.9 | 49.35                 | 7.2  |
| MHSH0600251      | 2    | -DIN7 | 25           | 55 | 80  | 159.16 | 171.20 | 60  | 100 | 16 | 59.3 | 71.29                 | 9.0  |
| MHSH0600252      | 2    | -DIN7 | 25           | 75 | 110 | 159.16 | 171.20 | 60  | 120 | 20 | 79.9 | 71.29                 | 10.8 |
| <b>Module 8</b>  |      |       |              |    |     |        |        |     |     |    |      |                       |      |
| MHSH0800181      | 2    | -DIN7 | 18           | 75 | 110 | 152.79 | 168.80 | 80  | 140 | 20 | 79.9 | 78.36                 | 12.3 |
| MHSH0800202      | 2    | -DIN7 | 20           | 85 | 125 | 169.80 | 185.80 | 80  | 145 | 22 | 90.4 | 87.72                 | 15.4 |
| <b>Module 10</b> |      |       |              |    |     |        |        |     |     |    |      |                       |      |
| MHSH1000201      | 2    | -DIN7 | 20           | 85 | 125 | 212.21 | 232.20 | 100 | 165 | 22 | 90.4 | 137.07                | 27.4 |

## CHM-DIN8

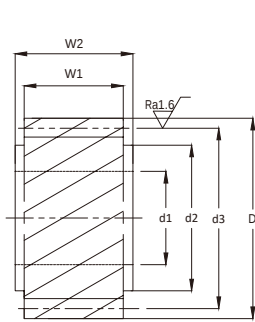


Fig. 1

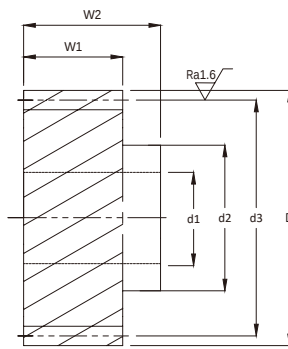
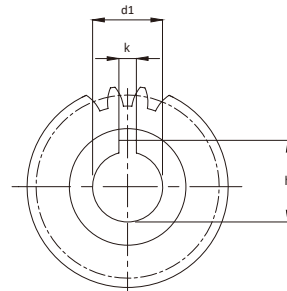


Fig. 2



Dimension : mm

Series CHM-DIN8 Helical Soft Pinions

Quality Grade DIN 8

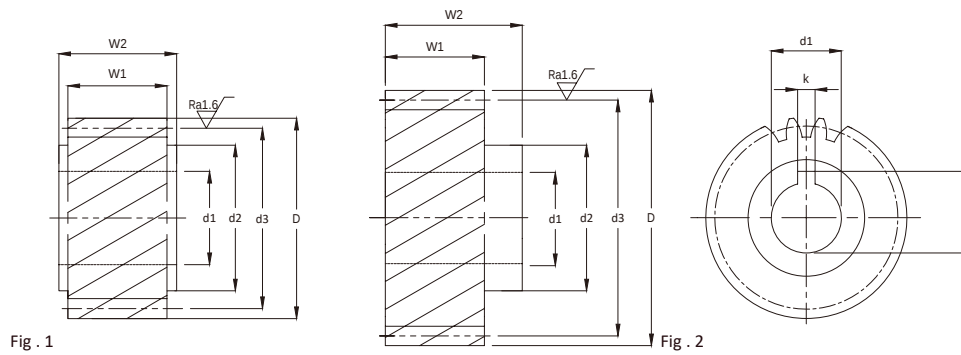
Material S45C

Left Hand Angle 19°31'42"

| Code              | Fig. | DIN   | No. of Teeth | d1 | d2 | d3     | D     | W1 | W2 | k  | h    | F <sub>ta</sub><br>kN | KG  |
|-------------------|------|-------|--------------|----|----|--------|-------|----|----|----|------|-----------------------|-----|
| <b>Module 1.5</b> |      |       |              |    |    |        |       |    |    |    |      |                       |     |
| CHM0150201        | 1    | -DIN8 | 20           | 11 | 25 | 31.83  | 34.83 | 20 | 22 | 4  | 12.8 | 0.51                  | 0.1 |
| CHM0150202        | 1    | -DIN8 | 20           | 13 | 25 | 31.83  | 34.83 | 20 | 22 | 5  | 15.3 | 0.51                  | 0.1 |
| CHM0150203        | 1    | -DIN8 | 20           | 14 | 25 | 31.83  | 34.83 | 20 | 22 | 5  | 16.3 | 0.51                  | 0.1 |
| CHM0150204        | 1    | -DIN8 | 20           | 16 | 25 | 31.83  | 34.83 | 20 | 22 | 5  | 18.3 | 0.51                  | 0.1 |
| CHM0150211        | 2    | -DIN8 | 21           | 16 | 30 | 33.42  | 36.42 | 20 | 46 | 5  | 18.3 | 0.61                  | 0.3 |
| <b>Module 2</b>   |      |       |              |    |    |        |       |    |    |    |      |                       |     |
| CHM0200181        | 1    | -DIN8 | 18           | 16 | 25 | 38.197 | 42.2  | 28 | 30 | 5  | 18.3 | 0.86                  | 0.2 |
| CHM0200201        | 1    | -DIN8 | 20           | 19 | 30 | 42.44  | 46.4  | 28 | 30 | 6  | 21.8 | 0.96                  | 0.3 |
| CHM0200202        | 2    | -DIN8 | 20           | 19 | 30 | 42.44  | 46.4  | 28 | 56 | 6  | 21.8 | 0.96                  | 0.6 |
| CHM0200203        | 1    | -DIN8 | 20           | 20 | 30 | 42.44  | 46.4  | 28 | 30 | 6  | 22.8 | 0.96                  | 0.3 |
| CHM0200204        | 2    | -DIN8 | 20           | 22 | 36 | 42.44  | 46.4  | 28 | 56 | 6  | 24.8 | 0.96                  | 0.6 |
| CHM0200205        | 1    | -DIN8 | 20           | 22 | 30 | 42.44  | 46.4  | 28 | 30 | 6  | 24.8 | 0.96                  | 0.3 |
| CHM0200211        | 1    | -DIN8 | 21           | 16 | 25 | 44.56  | 48.6  | 28 | 30 | 5  | 18.3 | 1.01                  | 0.3 |
| CHM0200212        | 2    | -DIN8 | 21           | 22 | 36 | 44.56  | 48.6  | 28 | 30 | 6  | 24.8 | 1.01                  | 0.3 |
| CHM0200221        | 1    | -DIN8 | 22           | 19 | 30 | 46.69  | 50.7  | 28 | 30 | 6  | 21.8 | 1.19                  | 0.4 |
| CHM0200222        | 2    | -DIN8 | 22           | 19 | 30 | 46.69  | 50.7  | 28 | 56 | 6  | 21.8 | 1.19                  | 0.7 |
| CHM0200223        | 1    | -DIN8 | 22           | 22 | 30 | 46.69  | 50.7  | 28 | 30 | 6  | 24.8 | 1.19                  | 0.4 |
| CHM0200224        | 2    | -DIN8 | 22           | 22 | 36 | 46.69  | 50.7  | 28 | 56 | 6  | 24.8 | 1.19                  | 0.7 |
| CHM0200251        | 1    | -DIN8 | 25           | 19 | 30 | 53.05  | 57.1  | 28 | 30 | 6  | 21.8 | 1.37                  | 0.5 |
| CHM0200252        | 2    | -DIN8 | 25           | 19 | 30 | 53.05  | 57.1  | 28 | 56 | 6  | 21.8 | 1.37                  | 0.8 |
| CHM0200253        | 1    | -DIN8 | 25           | 20 | 30 | 53.05  | 57.1  | 28 | 30 | 6  | 22.8 | 1.37                  | 0.5 |
| CHM0200254        | 1    | -DIN8 | 25           | 22 | 30 | 53.05  | 57.1  | 28 | 30 | 6  | 24.8 | 1.37                  | 0.5 |
| CHM0200255        | 2    | -DIN8 | 25           | 22 | 36 | 53.05  | 57.1  | 28 | 56 | 6  | 24.8 | 1.37                  | 0.8 |
| CHM0200256        | 1    | -DIN8 | 25           | 25 | 36 | 53.05  | 57.1  | 28 | 30 | 6  | 27.8 | 1.37                  | 0.5 |
| CHM0200281        | 1    | -DIN8 | 28           | 19 | 30 | 59.42  | 63.4  | 28 | 30 | 6  | 21.8 | 1.54                  | 0.6 |
| CHM0200282        | 2    | -DIN8 | 28           | 19 | 30 | 59.42  | 63.4  | 28 | 56 | 6  | 21.8 | 1.54                  | 1.0 |
| CHM0200283        | 1    | -DIN8 | 28           | 22 | 30 | 59.42  | 63.4  | 28 | 30 | 6  | 24.8 | 1.54                  | 0.6 |
| CHM0200284        | 2    | -DIN8 | 28           | 22 | 36 | 59.42  | 63.4  | 28 | 56 | 6  | 24.8 | 1.54                  | 1.0 |
| CHM0200285        | 1    | -DIN8 | 28           | 35 | 48 | 59.42  | 63.4  | 28 | 30 | 10 | 38.3 | 1.54                  | 0.6 |
| CHM0200301        | 1    | -DIN8 | 30           | 16 | 25 | 63.66  | 67.7  | 28 | 30 | 5  | 18.3 | 1.66                  | 0.6 |
| CHM0200302        | 1    | -DIN8 | 30           | 20 | 30 | 63.66  | 67.7  | 28 | 30 | 6  | 22.8 | 1.66                  | 0.6 |
| CHM0200303        | 2    | -DIN8 | 30           | 22 | 36 | 63.66  | 67.7  | 28 | 56 | 6  | 24.8 | 1.66                  | 1.2 |
| CHM0200304        | 1    | -DIN8 | 30           | 25 | 36 | 63.66  | 67.7  | 28 | 30 | 8  | 28.3 | 1.66                  | 0.6 |
| CHM0200305        | 1    | -DIN8 | 30           | 30 | 45 | 63.66  | 67.7  | 28 | 30 | 8  | 33.3 | 1.66                  | 0.6 |
| CHM0200306        | 2    | -DIN8 | 30           | 30 | 50 | 63.66  | 67.7  | 28 | 60 | 8  | 33.3 | 1.66                  | 1.3 |
| CHM0200307        | 2    | -DIN8 | 30           | 32 | 55 | 63.66  | 67.7  | 28 | 65 | 10 | 35.3 | 1.66                  | 1.4 |
| CHM0200321        | 1    | -DIN8 | 32           | 20 | 30 | 67.91  | 71.9  | 28 | 30 | 6  | 22.8 | 1.78                  | 0.7 |
| CHM0200322        | 1    | -DIN8 | 32           | 22 | 30 | 67.91  | 71.9  | 28 | 30 | 6  | 24.8 | 1.78                  | 0.7 |
| CHM0200323        | 2    | -DIN8 | 32           | 22 | 36 | 67.91  | 71.9  | 28 | 56 | 6  | 27.8 | 1.78                  | 1.3 |
| CHM0200324        | 1    | -DIN8 | 32           | 25 | 36 | 67.91  | 71.9  | 28 | 30 | 8  | 28.3 | 1.78                  | 0.7 |
| CHM0200325        | 1    | -DIN8 | 32           | 35 | 48 | 67.91  | 71.9  | 28 | 30 | 10 | 38.3 | 1.78                  | 0.7 |
| CHM0200361        | 1    | -DIN8 | 36           | 35 | 48 | 76.39  | 80.4  | 28 | 30 | 10 | 38.3 | 2.29                  | 0.9 |
| CHM0200391        | 2    | -DIN8 | 39           | 32 | 55 | 82.76  | 86.8  | 28 | 65 | 10 | 35.3 | 2.49                  | 2.3 |
| CHM0200401        | 1    | -DIN8 | 40           | 35 | 48 | 84.88  | 88.9  | 28 | 30 | 10 | 38.3 | 2.56                  | 1.1 |

※Weight only for reference. Actual scale should be Weighing.

## CHM-DIN8



Dimension : mm

Series CHM-DIN8 Helical Soft Pinions

Quality Grade DIN 8

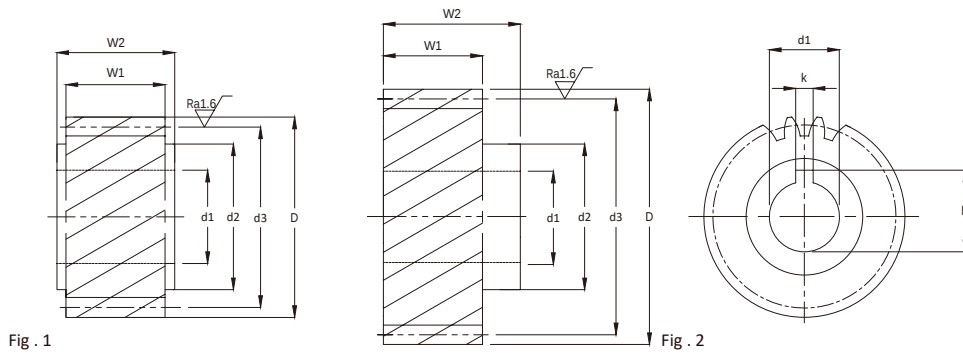
Material S45C

Left Hand Angle 19°31'42"


Helical  
DIN

| Code        | Fig. | DIN   | No. of Teeth | d1 | d2 | d3     | D      | W1 | W2 | k  | h    | F <sub>ta</sub><br>kN | KG  |
|-------------|------|-------|--------------|----|----|--------|--------|----|----|----|------|-----------------------|-----|
| Module 3    |      |       |              |    |    |        |        |    |    |    |      |                       |     |
| CHM0300201  | 2    | -DIN8 | 20           | 22 | 36 | 63.66  | 69.7   | 28 | 56 | 6  | 24.8 | 1.61                  | 1.0 |
| CHM0300202  | 2    | -DIN8 | 20           | 25 | 44 | 63.66  | 69.7   | 28 | 60 | 8  | 28.3 | 1.61                  | 1.1 |
| CHM0300203  | 1    | -DIN8 | 20           | 30 | 45 | 63.66  | 69.7   | 28 | 30 | 8  | 33.3 | 1.61                  | 0.5 |
| CHM0300204  | 2    | -DIN8 | 20           | 30 | 50 | 63.66  | 69.7   | 28 | 60 | 8  | 33.3 | 1.61                  | 1.1 |
| CHM0300205  | 2    | -DIN8 | 20           | 32 | 55 | 63.66  | 69.7   | 28 | 65 | 10 | 35.3 | 1.61                  | 1.2 |
| CHM0300206  | 1    | -DIN8 | 20           | 35 | 48 | 63.66  | 69.7   | 28 | 30 | 10 | 38.3 | 1.61                  | 0.5 |
| CHM0300221  | 1    | -DIN8 | 22           | 25 | 36 | 70.03  | 76.0   | 28 | 30 | 8  | 28.3 | 2.03                  | 0.6 |
| CHM0300222  | 1    | -DIN8 | 22           | 30 | 45 | 70.03  | 76.0   | 28 | 30 | 8  | 33.3 | 2.03                  | 0.6 |
| CHM0300223  | 2    | -DIN8 | 22           | 32 | 55 | 70.03  | 76.0   | 28 | 65 | 10 | 35.3 | 2.03                  | 1.4 |
| CHM0300224  | 1    | -DIN8 | 22           | 35 | 48 | 70.03  | 76.0   | 28 | 30 | 10 | 38.3 | 2.03                  | 0.6 |
| CHM0300225  | 2    | -DIN8 | 22           | 40 | 62 | 70.03  | 76.0   | 28 | 65 | 12 | 43.3 | 2.03                  | 1.4 |
| CHM0300251  | 2    | -DIN8 | 25           | 22 | 36 | 79.58  | 85.6   | 28 | 56 | 6  | 24.8 | 2.32                  | 1.5 |
| CHM0300252  | 1    | -DIN8 | 25           | 25 | 36 | 79.58  | 85.6   | 28 | 30 | 8  | 28.3 | 2.32                  | 0.8 |
| CHM0300253  | 2    | -DIN8 | 25           | 25 | 44 | 79.58  | 85.6   | 28 | 60 | 8  | 28.3 | 2.32                  | 1.6 |
| CHM0300254  | 1    | -DIN8 | 25           | 30 | 45 | 79.58  | 85.6   | 28 | 30 | 8  | 33.3 | 2.32                  | 0.8 |
| CHM0300255  | 2    | -DIN8 | 25           | 30 | 50 | 79.58  | 85.6   | 28 | 60 | 8  | 33.3 | 2.32                  | 1.6 |
| CHM0300256  | 2    | -DIN8 | 25           | 32 | 55 | 79.58  | 85.6   | 28 | 65 | 10 | 35.3 | 2.32                  | 1.8 |
| CHM0300257  | 1    | -DIN8 | 25           | 35 | 48 | 79.58  | 85.6   | 28 | 30 | 10 | 38.3 | 2.32                  | 0.8 |
| CHM0300258  | 2    | -DIN8 | 25           | 35 | 55 | 79.58  | 85.6   | 28 | 65 | 10 | 38.3 | 2.32                  | 1.8 |
| CHM0300259  | 1    | -DIN8 | 25           | 40 | 70 | 79.58  | 85.6   | 28 | 50 | 12 | 43.3 | 2.32                  | 1.4 |
| CHM03002510 | 2    | -DIN8 | 25           | 40 | 62 | 79.58  | 85.6   | 28 | 65 | 12 | 43.3 | 2.32                  | 1.8 |
| CHM0300281  | 2    | -DIN8 | 28           | 32 | 55 | 89.13  | 95.1   | 28 | 65 | 10 | 35.3 | 2.62                  | 2.2 |
| CHM0300282  | 2    | -DIN8 | 28           | 40 | 62 | 89.13  | 95.1   | 28 | 65 | 12 | 43.3 | 2.62                  | 2.2 |
| CHM0300321  | 2    | -DIN8 | 32           | 32 | 55 | 101.86 | 107.85 | 28 | 65 | 10 | 35.3 | 3.02                  | 2.8 |
| CHM0300322  | 2    | -DIN8 | 32           | 40 | 62 | 101.86 | 107.85 | 28 | 65 | 12 | 43.3 | 3.02                  | 2.8 |

## CHM-DIN8



Dimension : mm

Series CHM-DIN8 Helical Soft Pinions

Quality Grade DIN 8

Material S45C

Left Hand Angle 19°31'42"

| Code             | Fig. | DIN   | No. of Teeth | d1 | d2  | d3     | D     | W1  | W2  | k  | h    | F <sub>ta</sub><br>kN | KG   |
|------------------|------|-------|--------------|----|-----|--------|-------|-----|-----|----|------|-----------------------|------|
| <b>Module 4</b>  |      |       |              |    |     |        |       |     |     |    |      |                       |      |
| CHM0400151       | 1    | -DIN8 | 15           | 35 | 52  | 63.66  | 71.7  | 40  | 50  | 10 | 38.3 | 2.01                  | 0.8  |
| CHM0400181       | 2    | -DIN8 | 18           | 32 | 55  | 76.39  | 84.4  | 40  | 75  | 10 | 35.3 | 2.74                  | 1.6  |
| CHM0400201       | 1    | -DIN8 | 20           | 35 | 52  | 84.88  | 92.9  | 40  | 50  | 10 | 38.3 | 3.07                  | 1.3  |
| CHM0400202       | 1    | -DIN8 | 20           | 45 | 65  | 84.88  | 92.9  | 40  | 50  | 14 | 48.8 | 3.07                  | 1.3  |
| CHM0400211       | 2    | -DIN8 | 21           | 32 | 55  | 89.13  | 97.1  | 40  | 75  | 10 | 35.3 | 3.24                  | 2.2  |
| CHM0400212       | 2    | -DIN8 | 21           | 35 | 55  | 89.13  | 97.1  | 40  | 75  | 10 | 38.3 | 3.24                  | 2.2  |
| CHM0400213       | 2    | -DIN8 | 21           | 40 | 62  | 89.13  | 97.1  | 40  | 75  | 12 | 43.3 | 3.24                  | 2.2  |
| CHM0400214       | 2    | -DIN8 | 21           | 45 | 68  | 89.13  | 97.1  | 40  | 75  | 14 | 48.8 | 3.24                  | 2.2  |
| CHM0400221       | 1    | -DIN8 | 22           | 35 | 52  | 93.37  | 101.4 | 40  | 50  | 10 | 38.3 | 3.40                  | 1.6  |
| CHM0400222       | 1    | -DIN8 | 22           | 45 | 65  | 93.37  | 101.4 | 40  | 50  | 14 | 48.8 | 3.40                  | 1.6  |
| CHM0400241       | 2    | -DIN8 | 24           | 32 | 55  | 101.86 | 109.9 | 40  | 75  | 10 | 35.3 | 4.25                  | 2.8  |
| CHM0400242       | 2    | -DIN8 | 24           | 35 | 55  | 101.86 | 109.9 | 40  | 75  | 10 | 38.3 | 4.25                  | 2.8  |
| CHM0400243       | 2    | -DIN8 | 24           | 40 | 62  | 101.86 | 109.9 | 40  | 75  | 12 | 43.3 | 4.25                  | 2.8  |
| CHM0400244       | 2    | -DIN8 | 24           | 45 | 68  | 101.86 | 109.9 | 40  | 75  | 14 | 48.8 | 4.25                  | 2.8  |
| CHM0400245       | 2    | -DIN8 | 24           | 55 | 80  | 101.86 | 109.9 | 40  | 80  | 16 | 59.3 | 4.25                  | 3.0  |
| CHM0400251       | 1    | -DIN8 | 25           | 35 | 52  | 106.1  | 114.1 | 40  | 50  | 10 | 38.3 | 4.44                  | 2.0  |
| CHM0400252       | 1    | -DIN8 | 25           | 45 | 65  | 106.1  | 114.1 | 40  | 50  | 14 | 48.8 | 4.44                  | 2.0  |
| CHM0400253       | 2    | -DIN8 | 25           | 55 | 80  | 106.1  | 114.1 | 40  | 80  | 16 | 59.3 | 4.44                  | 3.2  |
| <b>Module 5</b>  |      |       |              |    |     |        |       |     |     |    |      |                       |      |
| CHM0500181       | 2    | -DIN8 | 18           | 45 | 68  | 95.49  | 105.5 | 50  | 85  | 14 | 48.8 | 4.29                  | 2.9  |
| CHM0500241       | 2    | -DIN8 | 24           | 45 | 68  | 127.32 | 137.3 | 50  | 85  | 14 | 48.8 | 6.64                  | 4.9  |
| CHM0500242       | 2    | -DIN8 | 24           | 55 | 80  | 127.32 | 137.3 | 50  | 90  | 16 | 59.3 | 6.64                  | 5.2  |
| CHM0500243       | 2    | -DIN8 | 24           | 75 | 110 | 127.32 | 137.3 | 50  | 110 | 20 | 79.9 | 6.64                  | 6.4  |
| <b>Module 6</b>  |      |       |              |    |     |        |       |     |     |    |      |                       |      |
| CHM0600201       | 2    | -DIN8 | 20           | 55 | 80  | 127.32 | 139.3 | 60  | 100 | 16 | 59.3 | 6.91                  | 6.0  |
| CHM0600202       | 2    | -DIN8 | 20           | 75 | 110 | 127.32 | 139.3 | 60  | 120 | 20 | 79.9 | 6.91                  | 7.2  |
| CHM0600251       | 2    | -DIN8 | 25           | 55 | 80  | 159.16 | 171.2 | 60  | 100 | 16 | 59.3 | 9.99                  | 9.0  |
| CHM0600252       | 2    | -DIN8 | 25           | 75 | 110 | 159.16 | 171.2 | 60  | 120 | 20 | 79.9 | 9.99                  | 10.8 |
| <b>Module 8</b>  |      |       |              |    |     |        |       |     |     |    |      |                       |      |
| CHM0800181       | 2    | -DIN8 | 18           | 75 | 110 | 152.79 | 168.8 | 80  | 140 | 20 | 79.9 | 10.98                 | 12.3 |
| CHM0800202       | 2    | -DIN8 | 20           | 85 | 125 | 169.8  | 185.8 | 80  | 145 | 22 | 90.4 | 12.29                 | 15.4 |
| <b>Module 10</b> |      |       |              |    |     |        |       |     |     |    |      |                       |      |
| CHM1000201       | 2    | -DIN8 | 20           | 85 | 125 | 212.21 | 232.2 | 100 | 165 | 22 | 90.4 | 19.20                 | 27.4 |

## MHMH-DIN10

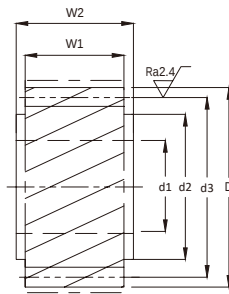


Fig. 1

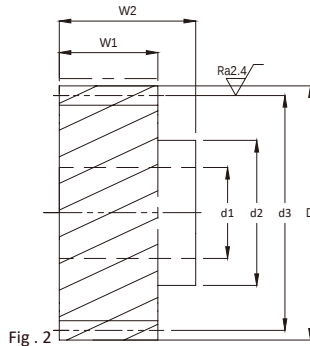
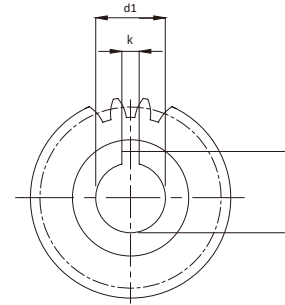


Fig. 2



Dimension : mm

## Series MHMH-DIN10 Helical Hardened Pinions

## Quality Grade DIN 10

Material SCM415/SCM440

Surfaces: Sand-blasted

Left Hand Angle 19°31'42"

Hardness: HRC 50~55°

Helical  
DIN

| Code              | Fig. | DIN    | No. of Teeth | d1 | d2 | d3     | D     | W1 | W2 | k  | h    | F <sub>ta</sub><br>kN | KG  |
|-------------------|------|--------|--------------|----|----|--------|-------|----|----|----|------|-----------------------|-----|
| <b>Module 1.5</b> |      |        |              |    |    |        |       |    |    |    |      |                       |     |
| MHMH0150201       | 1    | -DIN10 | 20           | 11 | 25 | 31.83  | 34.83 | 20 | 22 | 4  | 12.8 | 2.93                  | 0.1 |
| MHMH0150202       | 1    | -DIN10 | 20           | 13 | 25 | 31.83  | 34.83 | 20 | 22 | 5  | 15.3 | 2.93                  | 0.1 |
| MHMH0150203       | 1    | -DIN10 | 20           | 14 | 25 | 31.83  | 34.83 | 20 | 22 | 5  | 16.3 | 2.93                  | 0.1 |
| MHMH0150204       | 1    | -DIN10 | 20           | 16 | 25 | 31.83  | 34.83 | 20 | 22 | 5  | 18.3 | 2.93                  | 0.1 |
| MHMH0150211       | 2    | -DIN10 | 21           | 16 | 30 | 33.42  | 36.42 | 20 | 46 | 5  | 18.3 | 3.47                  | 0.3 |
| <b>Module 2</b>   |      |        |              |    |    |        |       |    |    |    |      |                       |     |
| MHMH0200181       | 1    | -DIN10 | 18           | 16 | 25 | 38.197 | 42.2  | 28 | 30 | 5  | 18.3 | 4.89                  | 0.2 |
| MHMH0200201       | 1    | -DIN10 | 20           | 19 | 30 | 42.44  | 46.4  | 28 | 30 | 6  | 21.8 | 5.48                  | 0.3 |
| MHMH0200202       | 2    | -DIN10 | 20           | 19 | 30 | 42.44  | 46.4  | 28 | 56 | 6  | 21.8 | 5.48                  | 0.6 |
| MHMH0200203       | 1    | -DIN10 | 20           | 20 | 30 | 42.44  | 46.4  | 28 | 30 | 6  | 22.8 | 5.48                  | 0.3 |
| MHMH0200204       | 2    | -DIN10 | 20           | 22 | 36 | 42.44  | 46.4  | 28 | 56 | 6  | 24.8 | 5.48                  | 0.6 |
| MHMH0200205       | 1    | -DIN10 | 20           | 22 | 30 | 42.44  | 46.4  | 28 | 30 | 6  | 24.8 | 5.48                  | 0.3 |
| MHMH0200211       | 1    | -DIN10 | 21           | 16 | 25 | 44.56  | 48.6  | 28 | 30 | 5  | 18.3 | 5.77                  | 0.3 |
| MHMH0200212       | 2    | -DIN10 | 21           | 22 | 36 | 44.56  | 48.6  | 28 | 30 | 6  | 24.8 | 5.77                  | 0.3 |
| MHMH0200221       | 1    | -DIN10 | 22           | 19 | 30 | 46.69  | 50.7  | 28 | 30 | 6  | 21.8 | 6.80                  | 0.4 |
| MHMH0200222       | 2    | -DIN10 | 22           | 19 | 30 | 46.69  | 50.7  | 28 | 56 | 6  | 21.8 | 6.80                  | 0.7 |
| MHMH0200223       | 1    | -DIN10 | 22           | 22 | 30 | 46.69  | 50.7  | 28 | 30 | 6  | 24.8 | 6.80                  | 0.4 |
| MHMH0200224       | 2    | -DIN10 | 22           | 22 | 36 | 46.69  | 50.7  | 28 | 56 | 6  | 24.8 | 6.80                  | 0.7 |
| MHMH0200251       | 1    | -DIN10 | 25           | 19 | 30 | 53.05  | 57.1  | 28 | 30 | 6  | 21.8 | 7.80                  | 0.5 |
| MHMH0200252       | 2    | -DIN10 | 25           | 19 | 30 | 53.05  | 57.1  | 28 | 56 | 6  | 21.8 | 7.80                  | 0.8 |
| MHMH0200253       | 1    | -DIN10 | 25           | 20 | 30 | 53.05  | 57.1  | 28 | 30 | 6  | 22.8 | 7.80                  | 0.5 |
| MHMH0200254       | 1    | -DIN10 | 25           | 22 | 30 | 53.05  | 57.1  | 28 | 30 | 6  | 24.8 | 7.80                  | 0.5 |
| MHMH0200255       | 2    | -DIN10 | 25           | 22 | 36 | 53.05  | 57.1  | 28 | 56 | 6  | 24.8 | 7.80                  | 0.8 |
| MHMH0200256       | 1    | -DIN10 | 25           | 25 | 36 | 53.05  | 57.1  | 28 | 30 | 6  | 27.8 | 7.80                  | 0.5 |
| MHMH0200281       | 1    | -DIN10 | 28           | 19 | 30 | 59.42  | 63.4  | 28 | 30 | 6  | 21.8 | 8.80                  | 0.6 |
| MHMH0200282       | 2    | -DIN10 | 28           | 19 | 30 | 59.42  | 63.4  | 28 | 56 | 6  | 21.8 | 8.80                  | 1.0 |
| MHMH0200283       | 1    | -DIN10 | 28           | 22 | 30 | 59.42  | 63.4  | 28 | 30 | 6  | 24.8 | 8.80                  | 0.6 |
| MHMH0200284       | 2    | -DIN10 | 28           | 22 | 36 | 59.42  | 63.4  | 28 | 56 | 6  | 24.8 | 8.80                  | 1.0 |
| MHMH0200285       | 1    | -DIN10 | 28           | 35 | 48 | 59.42  | 63.4  | 28 | 30 | 10 | 38.3 | 8.80                  | 0.6 |
| MHMH0200301       | 1    | -DIN10 | 30           | 16 | 25 | 63.66  | 67.7  | 28 | 30 | 5  | 18.3 | 9.47                  | 0.6 |
| MHMH0200302       | 1    | -DIN10 | 30           | 20 | 30 | 63.66  | 67.7  | 28 | 30 | 6  | 22.8 | 9.47                  | 0.6 |
| MHMH0200303       | 2    | -DIN10 | 30           | 22 | 36 | 63.66  | 67.7  | 28 | 56 | 6  | 24.8 | 9.47                  | 1.2 |
| MHMH0200304       | 1    | -DIN10 | 30           | 25 | 36 | 63.66  | 67.7  | 28 | 30 | 8  | 28.3 | 9.47                  | 0.6 |
| MHMH0200305       | 1    | -DIN10 | 30           | 30 | 45 | 63.66  | 67.7  | 28 | 30 | 8  | 33.3 | 9.47                  | 0.6 |
| MHMH0200306       | 2    | -DIN10 | 30           | 30 | 50 | 63.66  | 67.7  | 28 | 60 | 8  | 33.3 | 9.47                  | 1.3 |
| MHMH0200307       | 2    | -DIN10 | 30           | 32 | 55 | 63.66  | 67.7  | 28 | 65 | 10 | 35.3 | 9.47                  | 1.4 |
| MHMH0200321       | 1    | -DIN10 | 32           | 20 | 30 | 67.91  | 71.9  | 28 | 30 | 6  | 22.8 | 9.90                  | 0.7 |
| MHMH0200322       | 1    | -DIN10 | 32           | 22 | 30 | 67.91  | 71.9  | 28 | 30 | 6  | 24.8 | 9.90                  | 0.7 |
| MHMH0200323       | 2    | -DIN10 | 32           | 22 | 36 | 67.91  | 71.9  | 28 | 56 | 6  | 27.8 | 9.90                  | 1.3 |
| MHMH0200324       | 1    | -DIN10 | 32           | 25 | 36 | 67.91  | 71.9  | 28 | 30 | 8  | 28.3 | 9.90                  | 0.7 |
| MHMH0200325       | 1    | -DIN10 | 32           | 35 | 48 | 67.91  | 71.9  | 28 | 30 | 10 | 38.3 | 9.90                  | 0.7 |
| MHMH0200361       | 1    | -DIN10 | 36           | 35 | 48 | 76.39  | 80.4  | 28 | 30 | 10 | 38.3 | 10.15                 | 0.9 |
| MHMH0200391       | 2    | -DIN10 | 39           | 32 | 55 | 82.76  | 86.8  | 28 | 65 | 10 | 35.3 | 10.31                 | 2.3 |
| MHMH0200401       | 1    | -DIN10 | 40           | 35 | 48 | 84.88  | 88.9  | 28 | 30 | 10 | 38.3 | 10.36                 | 1.1 |

※Weight only for reference. Actual scale should be Weighing.

## MHMH-DIN10

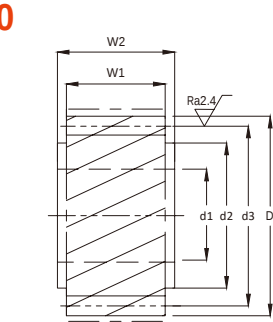


Fig. 1

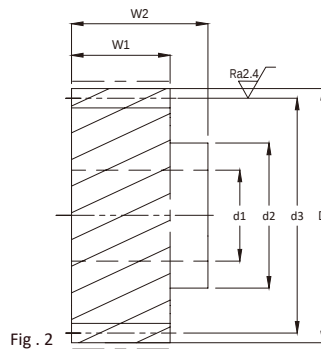
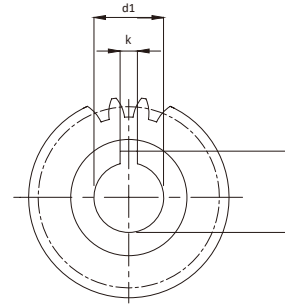


Fig. 2



Dimension : mm

Series MHMH-DIN10 Helical Hardened Pinions

Quality Grade DIN 10

Material SCM415/SCM440

Surfaces: Sand-blasted

Left Hand Angle 19°31'42"

Hardness: HRC 50~55°

| Code         | Fig. | DIN    | No. of Teeth | d1 | d2 | d3     | D      | W1 | W2 | k  | h    | F <sub>ta</sub><br>kN | KG  |
|--------------|------|--------|--------------|----|----|--------|--------|----|----|----|------|-----------------------|-----|
| Module 3     |      |        |              |    |    |        |        |    |    |    |      |                       |     |
| MHMH0300201  | 2    | -DIN10 | 20           | 22 | 36 | 63.66  | 69.7   | 28 | 56 | 6  | 24.8 | 9.17                  | 1.0 |
| MHMH0300202  | 2    | -DIN10 | 20           | 25 | 44 | 63.66  | 69.7   | 28 | 60 | 8  | 28.3 | 9.17                  | 1.1 |
| MHMH0300203  | 1    | -DIN10 | 20           | 30 | 45 | 63.66  | 69.7   | 28 | 30 | 8  | 33.3 | 9.17                  | 0.5 |
| MHMH0300204  | 2    | -DIN10 | 20           | 30 | 50 | 63.66  | 69.7   | 28 | 60 | 8  | 33.3 | 9.17                  | 1.1 |
| MHMH0300205  | 2    | -DIN10 | 20           | 32 | 55 | 63.66  | 69.7   | 28 | 65 | 10 | 35.3 | 9.17                  | 1.2 |
| MHMH0300206  | 1    | -DIN10 | 20           | 35 | 48 | 63.66  | 69.7   | 28 | 30 | 10 | 38.3 | 9.17                  | 0.5 |
| MHMH0300221  | 1    | -DIN10 | 22           | 25 | 36 | 70.03  | 76     | 28 | 30 | 8  | 28.3 | 11.56                 | 0.6 |
| MHMH0300222  | 1    | -DIN10 | 22           | 30 | 45 | 70.03  | 76     | 28 | 30 | 8  | 33.3 | 11.56                 | 0.6 |
| MHMH0300223  | 2    | -DIN10 | 22           | 32 | 55 | 70.03  | 76     | 28 | 65 | 10 | 35.3 | 11.56                 | 1.4 |
| MHMH0300224  | 1    | -DIN10 | 22           | 35 | 48 | 70.03  | 76     | 28 | 30 | 10 | 38.3 | 11.56                 | 0.6 |
| MHMH0300225  | 2    | -DIN10 | 22           | 40 | 62 | 70.03  | 76     | 28 | 65 | 12 | 43.3 | 11.56                 | 1.4 |
| MHMH0300251  | 2    | -DIN10 | 25           | 22 | 36 | 79.58  | 85.6   | 28 | 56 | 6  | 24.8 | 13.25                 | 1.5 |
| MHMH0300252  | 1    | -DIN10 | 25           | 25 | 36 | 79.58  | 85.6   | 28 | 30 | 8  | 28.3 | 13.25                 | 0.8 |
| MHMH0300253  | 2    | -DIN10 | 25           | 25 | 44 | 79.58  | 85.6   | 28 | 60 | 8  | 28.3 | 13.25                 | 1.6 |
| MHMH0300254  | 1    | -DIN10 | 25           | 30 | 45 | 79.58  | 85.6   | 28 | 30 | 8  | 33.3 | 13.25                 | 0.8 |
| MHMH0300255  | 2    | -DIN10 | 25           | 30 | 50 | 79.58  | 85.6   | 28 | 60 | 8  | 33.3 | 13.25                 | 1.6 |
| MHMH0300256  | 2    | -DIN10 | 25           | 32 | 55 | 79.58  | 85.6   | 28 | 65 | 10 | 35.3 | 13.25                 | 1.8 |
| MHMH0300257  | 1    | -DIN10 | 25           | 35 | 48 | 79.58  | 85.6   | 28 | 30 | 10 | 38.3 | 13.25                 | 0.8 |
| MHMH0300258  | 2    | -DIN10 | 25           | 35 | 55 | 79.58  | 85.6   | 28 | 65 | 10 | 38.3 | 13.25                 | 1.8 |
| MHMH0300259  | 1    | -DIN10 | 25           | 40 | 70 | 79.58  | 85.6   | 28 | 50 | 12 | 43.3 | 13.25                 | 1.4 |
| MHMH03002510 | 2    | -DIN10 | 25           | 40 | 62 | 79.58  | 85.6   | 28 | 65 | 12 | 43.3 | 13.25                 | 1.8 |
| MHMH0300281  | 2    | -DIN10 | 28           | 32 | 55 | 89.13  | 95.1   | 28 | 65 | 10 | 35.3 | 14.37                 | 2.2 |
| MHMH0300282  | 2    | -DIN10 | 28           | 40 | 62 | 89.13  | 95.1   | 28 | 65 | 12 | 43.3 | 14.37                 | 2.2 |
| MHMH0300321  | 2    | -DIN10 | 32           | 32 | 55 | 101.86 | 107.85 | 28 | 65 | 10 | 35.3 | 14.84                 | 2.8 |
| MHMH0300322  | 2    | -DIN10 | 32           | 40 | 62 | 101.86 | 107.85 | 28 | 65 | 12 | 43.3 | 14.84                 | 2.8 |

## MHMH-DIN10

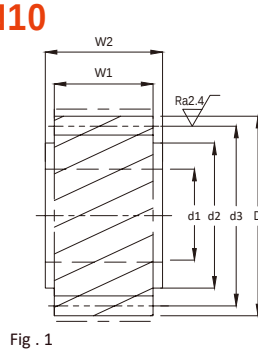


Fig. 1

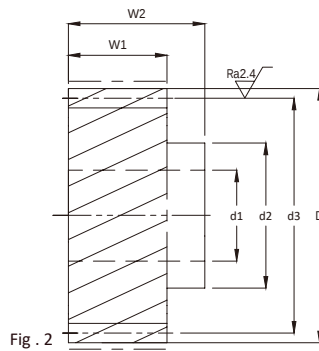
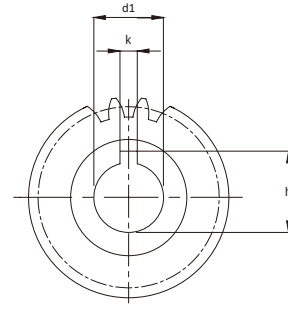


Fig. 2



Dimension : mm

## Series MHMH-DIN10 Helical Hardened Pinions

## Quality Grade DIN 10

Material SCM415/SCM440

Surfaces: Sand-blasted

Left Hand Angle 19°31'42"

Hardness: HRC 50~55°



| Code             | Fig. | DIN    | No. of Teeth | d1 | d2  | d3     | D     | W1  | W2  | k  | h    | F <sub>ta</sub><br>kN | KG   |
|------------------|------|--------|--------------|----|-----|--------|-------|-----|-----|----|------|-----------------------|------|
| <b>Module 4</b>  |      |        |              |    |     |        |       |     |     |    |      |                       |      |
| MHMH0400151      | 1    | -DIN10 | 15           | 35 | 52  | 63.66  | 71.7  | 40  | 50  | 10 | 38.3 | 11.49                 | 0.8  |
| MHMH0400181      | 2    | -DIN10 | 18           | 32 | 55  | 76.39  | 84.4  | 40  | 75  | 10 | 35.3 | 15.67                 | 1.6  |
| MHMH0400201      | 1    | -DIN10 | 20           | 35 | 52  | 84.88  | 92.9  | 40  | 50  | 10 | 38.3 | 17.55                 | 1.3  |
| MHMH0400202      | 1    | -DIN10 | 20           | 45 | 65  | 84.88  | 92.9  | 40  | 50  | 14 | 48.8 | 17.55                 | 1.3  |
| MHMH0400211      | 2    | -DIN10 | 21           | 32 | 55  | 89.13  | 97.1  | 40  | 75  | 10 | 35.3 | 18.49                 | 2.2  |
| MHMH0400212      | 2    | -DIN10 | 21           | 35 | 55  | 89.13  | 97.1  | 40  | 75  | 10 | 38.3 | 18.49                 | 2.2  |
| MHMH0400213      | 2    | -DIN10 | 21           | 40 | 62  | 89.13  | 97.1  | 40  | 75  | 12 | 43.3 | 18.49                 | 2.2  |
| MHMH0400214      | 2    | -DIN10 | 21           | 45 | 68  | 89.13  | 97.1  | 40  | 75  | 14 | 48.8 | 18.49                 | 2.2  |
| MHMH0400221      | 1    | -DIN10 | 22           | 35 | 52  | 93.37  | 101.4 | 40  | 50  | 10 | 38.3 | 19.43                 | 1.6  |
| MHMH0400222      | 1    | -DIN10 | 22           | 45 | 65  | 93.37  | 101.4 | 40  | 50  | 14 | 48.8 | 19.43                 | 1.6  |
| MHMH0400241      | 2    | -DIN10 | 24           | 32 | 55  | 101.86 | 109.9 | 40  | 75  | 10 | 35.3 | 24.27                 | 2.8  |
| MHMH0400242      | 2    | -DIN10 | 24           | 35 | 55  | 101.86 | 109.9 | 40  | 75  | 10 | 38.3 | 24.27                 | 2.8  |
| MHMH0400243      | 2    | -DIN10 | 24           | 40 | 62  | 101.86 | 109.9 | 40  | 75  | 12 | 43.3 | 24.27                 | 2.8  |
| MHMH0400244      | 2    | -DIN10 | 24           | 45 | 68  | 101.86 | 109.9 | 40  | 75  | 14 | 48.8 | 24.27                 | 2.8  |
| MHMH0400245      | 2    | -DIN10 | 24           | 55 | 80  | 101.86 | 109.9 | 40  | 80  | 16 | 59.3 | 24.27                 | 3.0  |
| MHMH0400251      | 1    | -DIN10 | 25           | 35 | 52  | 106.1  | 114.1 | 40  | 50  | 10 | 38.3 | 25.35                 | 2.0  |
| MHMH0400252      | 1    | -DIN10 | 25           | 45 | 65  | 106.1  | 114.1 | 40  | 50  | 14 | 48.8 | 25.35                 | 2.0  |
| MHMH0400253      | 2    | -DIN10 | 25           | 55 | 80  | 106.1  | 114.1 | 40  | 80  | 16 | 59.3 | 25.35                 | 3.2  |
| <b>Module 5</b>  |      |        |              |    |     |        |       |     |     |    |      |                       |      |
| MHMH0500181      | 2    | -DIN10 | 18           | 45 | 68  | 95.49  | 105.5 | 50  | 85  | 14 | 48.8 | 24.49                 | 2.9  |
| MHMH0500241      | 2    | -DIN10 | 24           | 45 | 68  | 127.32 | 137.3 | 50  | 85  | 14 | 48.8 | 37.93                 | 4.9  |
| MHMH0500242      | 2    | -DIN10 | 24           | 55 | 80  | 127.32 | 137.3 | 50  | 90  | 16 | 59.3 | 37.93                 | 5.2  |
| MHMH0500243      | 2    | -DIN10 | 24           | 75 | 110 | 127.32 | 137.3 | 50  | 110 | 20 | 79.9 | 37.93                 | 6.4  |
| <b>Module 6</b>  |      |        |              |    |     |        |       |     |     |    |      |                       |      |
| MHMH0600201      | 2    | -DIN10 | 20           | 55 | 80  | 127.32 | 139.3 | 60  | 100 | 16 | 59.3 | 39.48                 | 6.0  |
| MHMH0600202      | 2    | -DIN10 | 20           | 75 | 110 | 127.32 | 139.3 | 60  | 120 | 20 | 79.9 | 39.48                 | 7.2  |
| MHMH0600251      | 2    | -DIN10 | 25           | 55 | 80  | 159.16 | 171.2 | 60  | 100 | 16 | 59.3 | 57.03                 | 9.0  |
| MHMH0600252      | 2    | -DIN10 | 25           | 75 | 110 | 159.16 | 171.2 | 60  | 120 | 20 | 79.9 | 57.03                 | 10.8 |
| <b>Module 8</b>  |      |        |              |    |     |        |       |     |     |    |      |                       |      |
| MHMH0800181      | 2    | -DIN10 | 18           | 75 | 110 | 152.79 | 168.8 | 80  | 140 | 20 | 79.9 | 62.69                 | 12.3 |
| MHMH0800201      | 2    | -DIN10 | 20           | 85 | 125 | 169.8  | 185.8 | 80  | 145 | 22 | 90.4 | 70.18                 | 15.4 |
| <b>Module 10</b> |      |        |              |    |     |        |       |     |     |    |      |                       |      |
| MHMH1000201      | 2    | -DIN10 | 20           | 85 | 125 | 212.21 | 232.2 | 100 | 165 | 22 | 90.4 | 109.66                | 27.4 |

※Weight only for reference. Actual scale should be Weighing.

## MSGH-DIN6

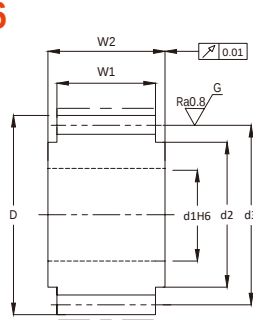


Fig. 1

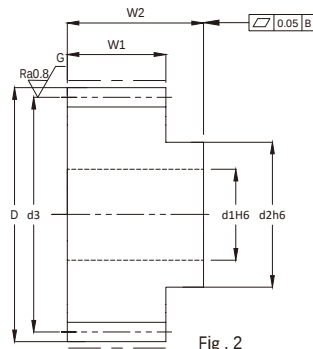
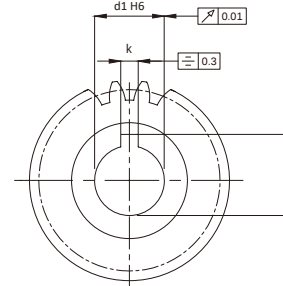


Fig. 2



Dimension : mm

Series MSGH-DIN6 Straight Teeth Ground Pinions  
Quality Grade DIN 6

Material SCM415/SCM440

Hardness: HRC 50~55°

Teeth Ground after Hardening

| Code        | Fig. | DIN   | No. of Teeth | d1 | d2 | d3 | D  | W1 | W2 | k  | h    | F <sub>ta</sub><br>kN | KG  |
|-------------|------|-------|--------------|----|----|----|----|----|----|----|------|-----------------------|-----|
| Module 2    |      |       |              |    |    |    |    |    |    |    |      |                       |     |
| MSGH0200161 | 1    | -DIN6 | 16           | 15 | 25 | 32 | 36 | 28 | 30 | 5  | 17.3 | 3.32                  | 0.2 |
| MSGH0200181 | 1    | -DIN6 | 18           | 15 | 30 | 36 | 40 | 28 | 30 | 5  | 17.3 | 4.04                  | 0.2 |
| MSGH0200182 | 1    | -DIN6 | 18           | 20 | 25 | 36 | 40 | 28 | 30 | 6  | 22.8 | 4.04                  | 0.2 |
| MSGH0200201 | 1    | -DIN6 | 20           | 15 | 25 | 40 | 44 | 28 | 30 | 6  | 17.8 | 4.49                  | 0.3 |
| MSGH0200202 | 1    | -DIN6 | 20           | 19 | 30 | 40 | 44 | 28 | 30 | 6  | 21.8 | 4.49                  | 0.3 |
| MSGH0200203 | 2    | -DIN6 | 20           | 19 | 30 | 40 | 44 | 28 | 56 | 6  | 21.8 | 4.49                  | 0.5 |
| MSGH0200204 | 1    | -DIN6 | 20           | 20 | 30 | 40 | 44 | 28 | 30 | 6  | 22.8 | 4.49                  | 0.3 |
| MSGH0200205 | 1    | -DIN6 | 20           | 22 | 30 | 40 | 44 | 28 | 30 | 6  | 24.8 | 4.49                  | 0.3 |
| MSGH0200206 | 2    | -DIN6 | 20           | 22 | 36 | 40 | 44 | 28 | 56 | 6  | 24.8 | 4.49                  | 0.5 |
| MSGH0200221 | 1    | -DIN6 | 22           | 15 | 25 | 44 | 48 | 28 | 30 | 5  | 17.3 | 4.94                  | 0.3 |
| MSGH0200222 | 1    | -DIN6 | 22           | 19 | 30 | 44 | 48 | 28 | 30 | 6  | 21.8 | 4.94                  | 0.3 |
| MSGH0200223 | 2    | -DIN6 | 22           | 19 | 30 | 44 | 48 | 28 | 56 | 6  | 21.8 | 4.94                  | 0.6 |
| MSGH0200224 | 1    | -DIN6 | 22           | 20 | 30 | 44 | 48 | 28 | 30 | 6  | 22.8 | 4.94                  | 0.3 |
| MSGH0200225 | 2    | -DIN6 | 22           | 22 | 36 | 44 | 48 | 28 | 56 | 6  | 24.8 | 4.94                  | 0.6 |
| MSGH0200226 | 1    | -DIN6 | 22           | 22 | 30 | 44 | 48 | 28 | 30 | 6  | 24.8 | 4.94                  | 0.3 |
| MSGH0200227 | 1    | -DIN6 | 22           | 25 | 36 | 44 | 48 | 28 | 30 | 8  | 28.3 | 4.94                  | 0.3 |
| MSGH0200251 | 2    | -DIN6 | 25           | 16 | 30 | 50 | 54 | 28 | 54 | 5  | 18.3 | 6.29                  | 0.7 |
| MSGH0200252 | 1    | -DIN6 | 25           | 19 | 30 | 50 | 54 | 28 | 30 | 6  | 21.8 | 6.29                  | 0.4 |
| MSGH0200253 | 2    | -DIN6 | 25           | 19 | 30 | 50 | 54 | 28 | 56 | 6  | 21.8 | 6.29                  | 0.8 |
| MSGH0200254 | 1    | -DIN6 | 25           | 20 | 30 | 50 | 54 | 28 | 30 | 6  | 22.8 | 6.29                  | 0.4 |
| MSGH0200255 | 1    | -DIN6 | 25           | 22 | 30 | 50 | 54 | 28 | 30 | 6  | 24.8 | 6.29                  | 0.4 |
| MSGH0200256 | 2    | -DIN6 | 25           | 22 | 36 | 50 | 54 | 28 | 56 | 6  | 24.8 | 6.29                  | 0.8 |
| MSGH0200257 | 1    | -DIN6 | 25           | 25 | 36 | 50 | 54 | 28 | 30 | 8  | 28.3 | 6.29                  | 0.4 |
| MSGH0200258 | 1    | -DIN6 | 25           | 30 | 45 | 50 | 54 | 28 | 30 | 8  | 33.3 | 6.29                  | 0.4 |
| MSGH0200281 | 1    | -DIN6 | 28           | 19 | 30 | 56 | 60 | 28 | 30 | 6  | 21.8 | 7.05                  | 0.5 |
| MSGH0200282 | 2    | -DIN6 | 28           | 19 | 30 | 56 | 60 | 28 | 56 | 6  | 21.8 | 7.05                  | 0.9 |
| MSGH0200283 | 1    | -DIN6 | 28           | 20 | 30 | 56 | 60 | 28 | 30 | 6  | 22.8 | 7.05                  | 0.5 |
| MSGH0200284 | 1    | -DIN6 | 28           | 22 | 30 | 56 | 60 | 28 | 30 | 6  | 24.8 | 7.05                  | 0.5 |
| MSGH0200285 | 2    | -DIN6 | 28           | 22 | 36 | 56 | 60 | 28 | 56 | 6  | 24.8 | 7.05                  | 0.9 |
| MSGH0200286 | 1    | -DIN6 | 28           | 25 | 36 | 56 | 60 | 28 | 30 | 8  | 28.3 | 7.05                  | 0.5 |
| MSGH0200287 | 1    | -DIN6 | 28           | 30 | 45 | 56 | 60 | 28 | 30 | 8  | 33.3 | 7.05                  | 0.5 |
| MSGH0200288 | 2    | -DIN6 | 28           | 30 | 50 | 56 | 60 | 28 | 60 | 8  | 33.3 | 7.05                  | 1.0 |
| MSGH0200289 | 1    | -DIN6 | 28           | 35 | 48 | 56 | 60 | 28 | 30 | 10 | 38.3 | 7.05                  | 0.5 |
| MSGH0200321 | 2    | -DIN6 | 32           | 16 | 30 | 64 | 68 | 28 | 54 | 5  | 18.3 | 8.05                  | 1.2 |
| MSGH0200322 | 1    | -DIN6 | 32           | 20 | 30 | 64 | 68 | 28 | 30 | 6  | 22.8 | 8.05                  | 0.6 |
| MSGH0200323 | 1    | -DIN6 | 32           | 22 | 30 | 64 | 68 | 28 | 30 | 6  | 24.8 | 8.05                  | 0.6 |
| MSGH0200324 | 2    | -DIN6 | 32           | 22 | 36 | 64 | 68 | 28 | 56 | 6  | 24.8 | 8.05                  | 1.2 |
| MSGH0200325 | 1    | -DIN6 | 32           | 25 | 36 | 64 | 68 | 28 | 30 | 8  | 28.3 | 8.05                  | 0.6 |
| MSGH0200326 | 1    | -DIN6 | 32           | 30 | 45 | 64 | 68 | 28 | 30 | 8  | 33.3 | 8.05                  | 0.6 |
| MSGH0200327 | 2    | -DIN6 | 32           | 30 | 50 | 64 | 68 | 28 | 60 | 8  | 33.3 | 8.05                  | 1.3 |
| MSGH0200328 | 2    | -DIN6 | 32           | 32 | 55 | 64 | 68 | 28 | 65 | 10 | 35.3 | 8.05                  | 1.4 |
| MSGH0200329 | 1    | -DIN6 | 32           | 35 | 48 | 64 | 68 | 28 | 30 | 10 | 38.3 | 8.05                  | 0.6 |
| MSGH0200361 | 1    | -DIN6 | 36           | 20 | 30 | 72 | 76 | 28 | 30 | 6  | 22.8 | 10.31                 | 0.8 |

※Weight only for reference. Actual scale should be Weighing.

## MSGH-DIN6

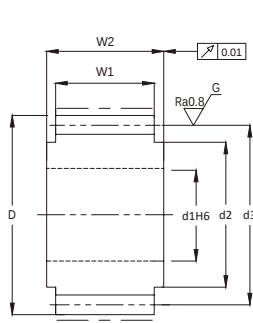


Fig. 1

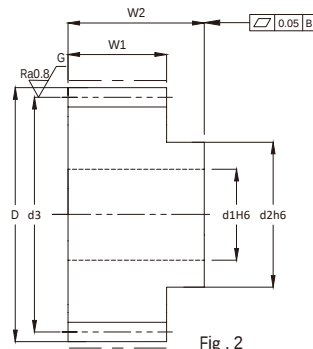
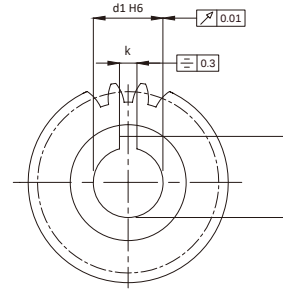


Fig. 2



Dimension : mm

Series MSGH-DIN6 Straight Teeth Ground Pinions

Quality Grade DIN 6

Material SCM415/SCM440

Hardness: HRC 50~55°

Teeth Ground after Hardening


Straight  
DIN

| Code        | Fig. | DIN   | No. of Teeth | d1 | d2 | d3  | D   | W1 | W2 | k  | h    | F <sub>ta</sub><br>kN | KG  |
|-------------|------|-------|--------------|----|----|-----|-----|----|----|----|------|-----------------------|-----|
| Module 2    |      |       |              |    |    |     |     |    |    |    |      |                       |     |
| MSGH0200362 | 1    | -DIN6 | 36           | 25 | 36 | 72  | 76  | 28 | 30 | 8  | 28.3 | 10.31                 | 0.8 |
| MSGH0200363 | 1    | -DIN6 | 36           | 30 | 45 | 72  | 76  | 28 | 30 | 8  | 33.3 | 10.31                 | 0.8 |
| MSGH0200364 | 1    | -DIN6 | 36           | 35 | 48 | 72  | 76  | 28 | 30 | 10 | 38.3 | 10.31                 | 0.8 |
| MSGH0200365 | 2    | -DIN6 | 36           | 40 | 62 | 72  | 76  | 28 | 65 | 12 | 43.3 | 10.31                 | 1.7 |
| MSGH0200366 | 1    | -DIN6 | 36           | 45 | 58 | 72  | 76  | 28 | 30 | 14 | 48.8 | 10.31                 | 0.8 |
| MSGH0200401 | 1    | -DIN6 | 40           | 15 | 36 | 80  | 84  | 28 | 30 | 5  | 17.3 | 11.45                 | 1.0 |
| MSGH0200402 | 1    | -DIN6 | 40           | 20 | 30 | 80  | 84  | 28 | 30 | 6  | 22.8 | 11.45                 | 1.0 |
| MSGH0200403 | 1    | -DIN6 | 40           | 25 | 36 | 80  | 84  | 28 | 30 | 8  | 28.3 | 11.45                 | 1.0 |
| MSGH0200404 | 1    | -DIN6 | 40           | 30 | 45 | 80  | 84  | 28 | 30 | 8  | 33.3 | 11.45                 | 1.0 |
| MSGH0200405 | 2    | -DIN6 | 40           | 32 | 55 | 80  | 84  | 28 | 65 | 10 | 35.3 | 11.45                 | 2.1 |
| MSGH0200406 | 1    | -DIN6 | 40           | 35 | 48 | 80  | 84  | 28 | 30 | 10 | 38.3 | 11.45                 | 1.0 |
| MSGH0200407 | 2    | -DIN6 | 40           | 40 | 62 | 80  | 84  | 28 | 65 | 12 | 43.3 | 11.45                 | 2.1 |
| MSGH0200408 | 1    | -DIN6 | 40           | 45 | 58 | 80  | 84  | 28 | 30 | 14 | 48.8 | 11.45                 | 1.0 |
| MSGH0200409 | 2    | -DIN6 | 40           | 45 | 68 | 80  | 84  | 28 | 65 | 14 | 48.8 | 11.45                 | 2.1 |
| MSGH0200451 | 1    | -DIN6 | 45           | 20 | 30 | 90  | 94  | 28 | 30 | 6  | 22.8 | 11.73                 | 1.2 |
| MSGH0200452 | 1    | -DIN6 | 45           | 25 | 36 | 90  | 94  | 28 | 30 | 8  | 28.3 | 11.73                 | 1.2 |
| MSGH0200453 | 1    | -DIN6 | 45           | 35 | 48 | 90  | 94  | 28 | 30 | 10 | 38.3 | 11.73                 | 1.2 |
| MSGH0200454 | 1    | -DIN6 | 45           | 45 | 58 | 90  | 94  | 28 | 30 | 14 | 48.8 | 11.73                 | 1.2 |
| MSGH0200501 | 1    | -DIN6 | 50           | 20 | 30 | 100 | 104 | 28 | 30 | 6  | 22.8 | 11.96                 | 1.5 |
| MSGH0200502 | 1    | -DIN6 | 50           | 25 | 36 | 100 | 104 | 28 | 30 | 8  | 28.3 | 11.96                 | 1.5 |
| MSGH0200503 | 1    | -DIN6 | 50           | 35 | 48 | 100 | 104 | 28 | 30 | 10 | 38.3 | 11.96                 | 1.5 |
| MSGH0200504 | 1    | -DIN6 | 50           | 45 | 58 | 100 | 104 | 28 | 30 | 14 | 48.8 | 11.96                 | 1.5 |
| MSGH0200505 | 2    | -DIN6 | 50           | 45 | 68 | 100 | 104 | 28 | 65 | 14 | 48.8 | 11.96                 | 3.3 |
| MSGH0200561 | 1    | -DIN6 | 56           | 25 | 36 | 112 | 116 | 28 | 30 | 8  | 28.3 | 12.17                 | 1.9 |
| MSGH0200562 | 1    | -DIN6 | 56           | 35 | 48 | 112 | 116 | 28 | 30 | 10 | 38.3 | 12.17                 | 1.9 |

## MSGH-DIN6

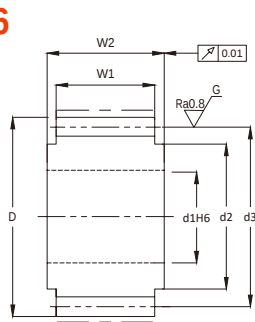


Fig. 1

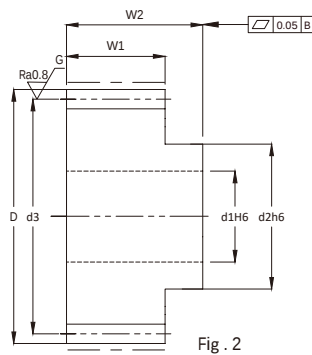
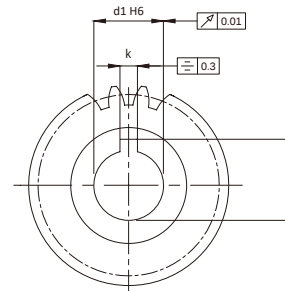


Fig. 2



Dimension : mm

Series MSGH-DIN6 Straight Teeth Ground Pinions

Quality Grade DIN 6

Material SCM415/SCM440

Hardness: HRC 50~55°

Teeth Ground after Hardening

| Code         | Fig. | DIN   | No. of Teeth | d1 | d2 | d3  | D   | W1 | W2 | k  | h    | F <sub>ta</sub><br>kN | KG  |
|--------------|------|-------|--------------|----|----|-----|-----|----|----|----|------|-----------------------|-----|
| Module 3     |      |       |              |    |    |     |     |    |    |    |      |                       |     |
| MSGH0300181  | 1    | -DIN6 | 18           | 25 | 36 | 54  | 60  | 28 | 30 | 8  | 28.3 | 6.79                  | 0.4 |
| MSGH0300201  | 1    | -DIN6 | 20           | 25 | 36 | 60  | 66  | 28 | 30 | 8  | 28.3 | 7.55                  | 0.5 |
| MSGH0300202  | 1    | -DIN6 | 20           | 30 | 45 | 60  | 66  | 28 | 30 | 8  | 33.3 | 7.55                  | 0.5 |
| MSGH0300203  | 1    | -DIN6 | 20           | 35 | 48 | 60  | 66  | 28 | 30 | 10 | 38.3 | 7.55                  | 0.5 |
| MSGH0300221  | 2    | -DIN6 | 22           | 22 | 36 | 66  | 72  | 28 | 56 | 6  | 24.8 | 8.30                  | 1.1 |
| MSGH0300222  | 1    | -DIN6 | 22           | 25 | 36 | 66  | 72  | 28 | 30 | 8  | 28.3 | 8.30                  | 0.6 |
| MSGH0300223  | 2    | -DIN6 | 22           | 25 | 44 | 66  | 72  | 28 | 60 | 8  | 28.3 | 8.30                  | 1.2 |
| MSGH0300224  | 1    | -DIN6 | 22           | 30 | 45 | 66  | 72  | 28 | 30 | 8  | 33.3 | 8.30                  | 0.6 |
| MSGH0300225  | 2    | -DIN6 | 22           | 32 | 55 | 66  | 72  | 28 | 65 | 10 | 35.3 | 8.30                  | 1.2 |
| MSGH0300226  | 2    | -DIN6 | 22           | 30 | 50 | 66  | 72  | 28 | 60 | 8  | 33.3 | 8.30                  | 1.2 |
| MSGH0300227  | 1    | -DIN6 | 22           | 35 | 48 | 66  | 72  | 28 | 30 | 10 | 38.3 | 8.30                  | 0.6 |
| MSGH0300228  | 2    | -DIN6 | 22           | 35 | 55 | 66  | 72  | 28 | 65 | 10 | 38.3 | 8.30                  | 1.2 |
| MSGH0300229  | 2    | -DIN6 | 22           | 40 | 62 | 66  | 72  | 28 | 65 | 12 | 43.3 | 8.30                  | 1.2 |
| MSGH0300251  | 1    | -DIN6 | 25           | 25 | 36 | 75  | 81  | 28 | 30 | 8  | 28.3 | 10.74                 | 0.7 |
| MSGH0300252  | 1    | -DIN6 | 25           | 30 | 45 | 75  | 81  | 28 | 30 | 8  | 33.3 | 10.74                 | 0.7 |
| MSGH0300253  | 2    | -DIN6 | 25           | 32 | 55 | 75  | 81  | 28 | 65 | 10 | 35.3 | 10.74                 | 1.6 |
| MSGH0300254  | 1    | -DIN6 | 25           | 35 | 48 | 75  | 81  | 28 | 30 | 10 | 38.3 | 10.74                 | 0.7 |
| MSGH0300255  | 2    | -DIN6 | 25           | 40 | 62 | 75  | 81  | 28 | 65 | 12 | 43.3 | 10.74                 | 1.6 |
| MSGH0300256  | 1    | -DIN6 | 25           | 45 | 58 | 75  | 81  | 28 | 30 | 14 | 48.8 | 10.74                 | 0.7 |
| MSGH0300281  | 2    | -DIN6 | 28           | 22 | 36 | 84  | 90  | 28 | 56 | 6  | 24.8 | 12.02                 | 1.7 |
| MSGH0300282  | 1    | -DIN6 | 28           | 25 | 36 | 84  | 90  | 28 | 30 | 8  | 28.3 | 12.02                 | 0.9 |
| MSGH0300283  | 2    | -DIN6 | 28           | 25 | 44 | 84  | 90  | 28 | 60 | 8  | 28.3 | 12.02                 | 1.8 |
| MSGH0300284  | 1    | -DIN6 | 28           | 30 | 45 | 84  | 90  | 28 | 30 | 8  | 33.3 | 12.02                 | 0.9 |
| MSGH0300285  | 2    | -DIN6 | 28           | 30 | 50 | 84  | 90  | 28 | 60 | 8  | 33.3 | 12.02                 | 1.8 |
| MSGH0300286  | 2    | -DIN6 | 28           | 32 | 55 | 84  | 90  | 28 | 65 | 10 | 35.3 | 12.02                 | 1.9 |
| MSGH0300287  | 1    | -DIN6 | 28           | 35 | 48 | 84  | 90  | 28 | 30 | 10 | 38.3 | 12.02                 | 0.9 |
| MSGH0300288  | 2    | -DIN6 | 28           | 35 | 55 | 84  | 90  | 28 | 65 | 10 | 38.3 | 12.02                 | 1.9 |
| MSGH0300289  | 2    | -DIN6 | 28           | 40 | 62 | 84  | 90  | 28 | 65 | 12 | 43.3 | 12.02                 | 1.9 |
| MSGH03002810 | 1    | -DIN6 | 28           | 45 | 58 | 84  | 90  | 28 | 30 | 14 | 48.8 | 12.02                 | 0.9 |
| MSGH03002811 | 2    | -DIN6 | 28           | 45 | 68 | 84  | 90  | 28 | 65 | 14 | 48.8 | 12.02                 | 1.9 |
| MSGH0300321  | 1    | -DIN6 | 32           | 25 | 36 | 96  | 102 | 28 | 30 | 8  | 28.3 | 13.74                 | 1.2 |
| MSGH0300322  | 1    | -DIN6 | 32           | 30 | 45 | 96  | 102 | 28 | 30 | 8  | 33.3 | 13.74                 | 1.2 |
| MSGH0300323  | 2    | -DIN6 | 32           | 32 | 55 | 96  | 102 | 28 | 65 | 10 | 35.3 | 13.74                 | 2.5 |
| MSGH0300324  | 1    | -DIN6 | 32           | 35 | 48 | 96  | 102 | 28 | 30 | 10 | 38.3 | 13.74                 | 1.2 |
| MSGH0300325  | 2    | -DIN6 | 32           | 40 | 62 | 96  | 102 | 28 | 65 | 12 | 43.3 | 13.74                 | 2.5 |
| MSGH0300326  | 1    | -DIN6 | 32           | 45 | 58 | 96  | 102 | 28 | 30 | 14 | 48.8 | 13.74                 | 1.2 |
| MSGH0300327  | 1    | -DIN6 | 32           | 60 | 80 | 96  | 102 | 28 | 30 | 18 | 64.4 | 13.74                 | 1.2 |
| MSGH0300361  | 1    | -DIN6 | 36           | 25 | 36 | 108 | 114 | 28 | 30 | 8  | 28.3 | 15.46                 | 1.4 |
| MSGH0300362  | 1    | -DIN6 | 36           | 35 | 48 | 108 | 114 | 28 | 30 | 10 | 38.3 | 15.46                 | 1.4 |
| MSGH0300363  | 1    | -DIN6 | 36           | 45 | 58 | 108 | 114 | 28 | 30 | 14 | 48.8 | 15.46                 | 1.4 |
| MSGH0300364  | 2    | -DIN6 | 36           | 45 | 68 | 108 | 114 | 28 | 65 | 14 | 48.8 | 15.46                 | 1.3 |
| MSGH0300365  | 1    | -DIN6 | 36           | 60 | 80 | 108 | 114 | 28 | 30 | 18 | 64.4 | 15.46                 | 1.4 |
| MSGH0300401  | 1    | -DIN6 | 40           | 25 | 36 | 120 | 126 | 28 | 30 | 8  | 28.3 | 17.18                 | 1.8 |

※Weight only for reference. Actual scale should be Weighing.

## MSGH-DIN6

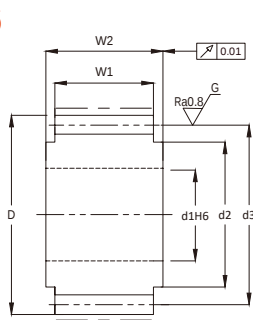


Fig. 1

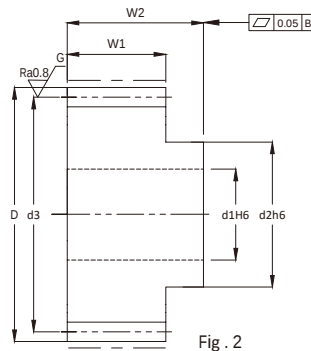
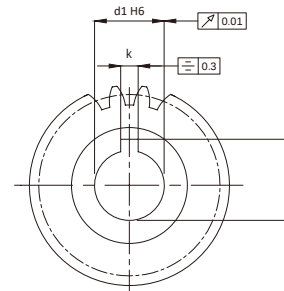


Fig. 2



Dimension : mm

Series MSGH-DIN6 Straight Teeth Ground Pinions

Quality Grade DIN 6

Material SCM415/SCM440

Hardness: HRC 50~55°

Teeth Ground after Hardening


Straight  
DIN

| Code        | Fig. | DIN   | No. of Teeth | d1 | d2 | d3  | D   | W1 | W2 | k  | h    | F <sub>ta</sub><br>kN | KG  |
|-------------|------|-------|--------------|----|----|-----|-----|----|----|----|------|-----------------------|-----|
| Module 3    |      |       |              |    |    |     |     |    |    |    |      |                       |     |
| MSGH0300402 | 1    | -DIN6 | 40           | 35 | 48 | 120 | 126 | 28 | 30 | 10 | 38.3 | 17.18                 | 1.8 |
| MSGH0300403 | 1    | -DIN6 | 40           | 45 | 58 | 120 | 126 | 28 | 30 | 14 | 48.8 | 17.18                 | 1.8 |
| MSGH0300404 | 1    | -DIN6 | 40           | 60 | 80 | 120 | 126 | 28 | 30 | 18 | 64.4 | 17.18                 | 1.8 |
| MSGH0300451 | 1    | -DIN6 | 45           | 25 | 36 | 135 | 141 | 28 | 30 | 8  | 28.3 | 17.60                 | 2.2 |
| MSGH0300452 | 1    | -DIN6 | 45           | 35 | 48 | 135 | 141 | 28 | 30 | 10 | 38.3 | 17.60                 | 2.2 |
| MSGH0300453 | 1    | -DIN6 | 45           | 45 | 58 | 135 | 141 | 28 | 30 | 14 | 48.8 | 17.60                 | 2.2 |
| MSGH0300454 | 1    | -DIN6 | 45           | 60 | 80 | 135 | 141 | 28 | 30 | 18 | 64.4 | 17.60                 | 2.2 |
| MSGH0300501 | 1    | -DIN6 | 50           | 35 | 48 | 150 | 156 | 28 | 30 | 10 | 38.3 | 17.94                 | 2.7 |
| MSGH0300502 | 1    | -DIN6 | 50           | 45 | 58 | 150 | 156 | 28 | 30 | 14 | 48.8 | 17.94                 | 2.7 |
| MSGH0300561 | 1    | -DIN6 | 56           | 45 | 58 | 168 | 174 | 28 | 30 | 14 | 48.8 | 18.25                 | 3.4 |
| MSGH0300631 | 1    | -DIN6 | 63           | 45 | 58 | 189 | 195 | 28 | 30 | 14 | 48.8 | 18.57                 | 4.2 |
| MSGH0300632 | 1    | -DIN6 | 63           | 60 | 80 | 189 | 195 | 28 | 30 | 18 | 64.4 | 18.57                 | 4.2 |

## MSGH-DIN6

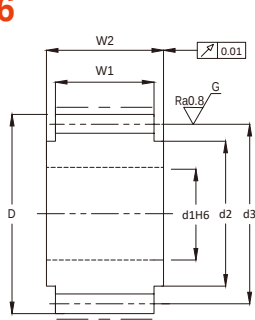


Fig. 1

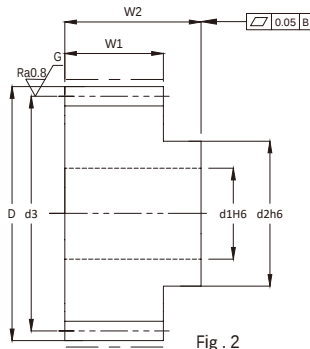
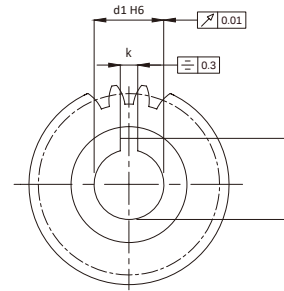


Fig. 2



Dimension : mm

Series MSGH-DIN6 Straight Teeth Ground Pinions

Quality Grade DIN 6

Material SCM415/SCM440

Hardness: HRC 50~55°

Teeth Ground after Hardening

| Code            | Fig. | DIN   | No. of Teeth | d1 | d2  | d3  | D   | W1 | W2  | k  | h    | F <sub>ta</sub><br>kN | KG   |
|-----------------|------|-------|--------------|----|-----|-----|-----|----|-----|----|------|-----------------------|------|
| <b>Module 4</b> |      |       |              |    |     |     |     |    |     |    |      |                       |      |
| MSGH0400181     | 1    | -DIN6 | 18           | 32 | 55  | 72  | 80  | 40 | 75  | 10 | 35.3 | 12.93                 | 1.2  |
| MSGH0400201     | 2    | -DIN6 | 20           | 32 | 55  | 80  | 88  | 40 | 75  | 10 | 35.3 | 14.37                 | 1.8  |
| MSGH0400202     | 1    | -DIN6 | 20           | 35 | 52  | 80  | 88  | 40 | 50  | 10 | 38.3 | 14.37                 | 1.2  |
| MSGH0400203     | 2    | -DIN6 | 20           | 35 | 55  | 80  | 88  | 40 | 75  | 10 | 38.3 | 14.37                 | 1.8  |
| MSGH0400204     | 1    | -DIN6 | 20           | 45 | 65  | 80  | 88  | 40 | 50  | 14 | 48.8 | 14.37                 | 1.2  |
| MSGH0400205     | 2    | -DIN6 | 20           | 40 | 62  | 80  | 88  | 40 | 75  | 12 | 43.3 | 14.37                 | 1.8  |
| MSGH0400221     | 1    | -DIN6 | 22           | 35 | 52  | 88  | 96  | 40 | 50  | 10 | 38.3 | 15.81                 | 1.4  |
| MSGH0400222     | 1    | -DIN6 | 22           | 45 | 65  | 88  | 96  | 40 | 50  | 14 | 48.8 | 15.81                 | 1.4  |
| MSGH0400223     | 2    | -DIN6 | 22           | 45 | 68  | 88  | 96  | 40 | 75  | 14 | 48.8 | 15.81                 | 2.1  |
| MSGH0400251     | 2    | -DIN6 | 25           | 32 | 55  | 100 | 108 | 40 | 75  | 10 | 35.3 | 20.45                 | 2.7  |
| MSGH0400252     | 1    | -DIN6 | 25           | 35 | 52  | 100 | 108 | 40 | 50  | 10 | 38.3 | 20.45                 | 1.8  |
| MSGH0400253     | 2    | -DIN6 | 25           | 35 | 55  | 100 | 108 | 40 | 75  | 10 | 38.3 | 20.45                 | 2.7  |
| MSGH0400254     | 2    | -DIN6 | 25           | 40 | 62  | 100 | 108 | 40 | 75  | 12 | 43.3 | 20.45                 | 2.7  |
| MSGH0400255     | 1    | -DIN6 | 25           | 45 | 65  | 100 | 108 | 40 | 50  | 14 | 48.8 | 20.45                 | 1.8  |
| MSGH0400256     | 2    | -DIN6 | 25           | 55 | 80  | 100 | 108 | 40 | 80  | 16 | 59.3 | 20.45                 | 2.9  |
| MSGH0400281     | 1    | -DIN6 | 28           | 35 | 52  | 112 | 120 | 40 | 50  | 10 | 38.3 | 22.90                 | 2.2  |
| MSGH0400282     | 1    | -DIN6 | 28           | 45 | 65  | 112 | 120 | 40 | 50  | 14 | 48.8 | 22.90                 | 2.2  |
| MSGH0400283     | 2    | -DIN6 | 28           | 45 | 68  | 112 | 120 | 40 | 75  | 14 | 48.8 | 22.90                 | 3.3  |
| MSGH0400321     | 1    | -DIN6 | 32           | 35 | 52  | 128 | 136 | 40 | 50  | 10 | 38.3 | 26.18                 | 2.9  |
| MSGH0400322     | 1    | -DIN6 | 32           | 45 | 65  | 128 | 136 | 40 | 50  | 14 | 48.8 | 26.18                 | 2.9  |
| MSGH0400323     | 2    | -DIN6 | 32           | 55 | 80  | 128 | 136 | 40 | 80  | 16 | 59.3 | 26.18                 | 4.6  |
| MSGH0400324     | 2    | -DIN6 | 32           | 75 | 110 | 128 | 136 | 40 | 100 | 20 | 79.9 | 26.18                 | 5.7  |
| MSGH0400401     | 1    | -DIN6 | 40           | 45 | 65  | 160 | 168 | 40 | 50  | 14 | 48.8 | 32.72                 | 4.4  |
| MSGH0400402     | 1    | -DIN6 | 40           | 60 | 80  | 160 | 168 | 40 | 50  | 18 | 64.4 | 32.72                 | 4.4  |
| MSGH0400403     | 2    | -DIN6 | 40           | 75 | 110 | 160 | 168 | 40 | 100 | 20 | 79.9 | 32.72                 | 8.7  |
| <b>Module 5</b> |      |       |              |    |     |     |     |    |     |    |      |                       |      |
| MSGH0500211     | 2    | -DIN6 | 21           | 45 | 68  | 105 | 115 | 50 | 85  | 14 | 48.8 | 23.59                 | 3.5  |
| MSGH0500212     | 2    | -DIN6 | 21           | 55 | 80  | 105 | 115 | 50 | 90  | 16 | 59.3 | 23.59                 | 3.7  |
| MSGH0500251     | 2    | -DIN6 | 25           | 45 | 68  | 125 | 135 | 50 | 85  | 14 | 48.8 | 31.95                 | 4.8  |
| MSGH0500252     | 2    | -DIN6 | 25           | 55 | 80  | 125 | 135 | 50 | 90  | 16 | 59.3 | 31.95                 | 5.1  |
| MSGH0500253     | 2    | -DIN6 | 25           | 75 | 110 | 125 | 135 | 50 | 110 | 20 | 79.9 | 31.95                 | 6.2  |
| <b>Module 6</b> |      |       |              |    |     |     |     |    |     |    |      |                       |      |
| MSGH0600211     | 2    | -DIN6 | 21           | 55 | 80  | 126 | 138 | 60 | 100 | 16 | 59.3 | 33.97                 | 5.9  |
| MSGH0600212     | 2    | -DIN6 | 21           | 75 | 110 | 126 | 138 | 60 | 120 | 20 | 79.9 | 33.97                 | 7.0  |
| MSGH0600251     | 2    | -DIN6 | 25           | 55 | 80  | 150 | 162 | 60 | 100 | 16 | 59.3 | 46.01                 | 8.1  |
| MSGH0600252     | 2    | -DIN6 | 25           | 75 | 110 | 150 | 162 | 60 | 120 | 20 | 79.9 | 46.01                 | 9.7  |
| <b>Module 8</b> |      |       |              |    |     |     |     |    |     |    |      |                       |      |
| MSGH0800201     | 2    | -DIN6 | 20           | 75 | 110 | 160 | 176 | 80 | 140 | 20 | 79.9 | 57.51                 | 13.4 |
| MSGH0800202     | 2    | -DIN6 | 20           | 85 | 125 | 160 | 176 | 80 | 145 | 22 | 90.4 | 57.51                 | 13.8 |

※Weight only for reference. Actual scale should be Weighing.

## MSSH-DIN7

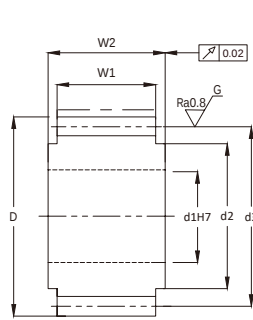


Fig. 1

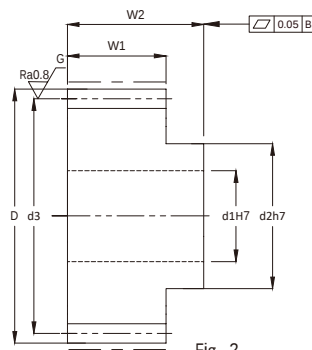
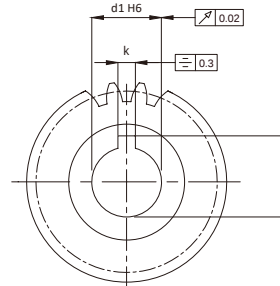


Fig. 2



Dimension : mm

## Series MSSH-DIN7 Straight Skiving Pinions

## Quality Grade DIN 7

Material SCM415/SCM440

Hardness: HRC 50~55°

Skiving after Hardening

Straight  
DIN

| Code        | Fig. | DIN   | No. of Teeth | d1 | d2 | d3 | D  | W1 | W2 | k  | h    | F <sub>ta</sub><br>kN | KG  |
|-------------|------|-------|--------------|----|----|----|----|----|----|----|------|-----------------------|-----|
| Module 2    |      |       |              |    |    |    |    |    |    |    |      |                       |     |
| MSSH0200161 | 1    | -DIN7 | 16           | 15 | 25 | 32 | 36 | 28 | 30 | 5  | 17.3 | 2.72                  | 0.2 |
| MSSH0200181 | 1    | -DIN7 | 18           | 15 | 30 | 36 | 40 | 28 | 30 | 5  | 17.3 | 3.31                  | 0.2 |
| MSSH0200182 | 1    | -DIN7 | 18           | 20 | 25 | 36 | 40 | 28 | 30 | 6  | 22.8 | 3.31                  | 0.2 |
| MSSH0200201 | 1    | -DIN7 | 20           | 15 | 25 | 40 | 44 | 28 | 30 | 6  | 17.8 | 3.68                  | 0.3 |
| MSSH0200202 | 1    | -DIN7 | 20           | 19 | 30 | 40 | 44 | 28 | 30 | 6  | 21.8 | 3.68                  | 0.3 |
| MSSH0200203 | 2    | -DIN7 | 20           | 19 | 30 | 40 | 44 | 28 | 56 | 6  | 21.8 | 3.68                  | 0.5 |
| MSSH0200204 | 1    | -DIN7 | 20           | 20 | 30 | 40 | 44 | 28 | 30 | 6  | 22.8 | 3.68                  | 0.3 |
| MSSH0200205 | 1    | -DIN7 | 20           | 22 | 30 | 40 | 44 | 28 | 30 | 6  | 24.8 | 3.68                  | 0.3 |
| MSSH0200206 | 2    | -DIN7 | 20           | 22 | 36 | 40 | 44 | 28 | 56 | 6  | 24.8 | 3.68                  | 0.5 |
| MSSH0200221 | 1    | -DIN7 | 22           | 15 | 25 | 44 | 48 | 28 | 30 | 5  | 17.3 | 4.04                  | 0.3 |
| MSSH0200222 | 1    | -DIN7 | 22           | 19 | 30 | 44 | 48 | 28 | 30 | 6  | 21.8 | 4.04                  | 0.3 |
| MSSH0200223 | 2    | -DIN7 | 22           | 19 | 30 | 44 | 48 | 28 | 56 | 6  | 21.8 | 4.04                  | 0.6 |
| MSSH0200224 | 1    | -DIN7 | 22           | 20 | 30 | 44 | 48 | 28 | 30 | 6  | 22.8 | 4.04                  | 0.3 |
| MSSH0200225 | 2    | -DIN7 | 22           | 22 | 36 | 44 | 48 | 28 | 56 | 6  | 24.8 | 4.04                  | 0.6 |
| MSSH0200226 | 1    | -DIN7 | 22           | 22 | 30 | 44 | 48 | 28 | 30 | 6  | 24.8 | 4.04                  | 0.3 |
| MSSH0200227 | 1    | -DIN7 | 22           | 25 | 36 | 44 | 48 | 28 | 30 | 8  | 28.3 | 4.04                  | 0.3 |
| MSSH0200251 | 2    | -DIN7 | 25           | 16 | 30 | 50 | 54 | 28 | 54 | 5  | 18.3 | 5.15                  | 0.7 |
| MSSH0200252 | 1    | -DIN7 | 25           | 19 | 30 | 50 | 54 | 28 | 30 | 6  | 21.8 | 5.15                  | 0.4 |
| MSSH0200253 | 2    | -DIN7 | 25           | 19 | 30 | 50 | 54 | 28 | 56 | 6  | 21.8 | 5.15                  | 0.8 |
| MSSH0200254 | 1    | -DIN7 | 25           | 20 | 30 | 50 | 54 | 28 | 30 | 6  | 22.8 | 5.15                  | 0.4 |
| MSSH0200255 | 1    | -DIN7 | 25           | 22 | 30 | 50 | 54 | 28 | 30 | 6  | 24.8 | 5.15                  | 0.4 |
| MSSH0200256 | 2    | -DIN7 | 25           | 22 | 36 | 50 | 54 | 28 | 56 | 6  | 24.8 | 5.15                  | 0.8 |
| MSSH0200257 | 1    | -DIN7 | 25           | 25 | 36 | 50 | 54 | 28 | 30 | 8  | 28.3 | 5.15                  | 0.4 |
| MSSH0200258 | 1    | -DIN7 | 25           | 30 | 45 | 50 | 54 | 28 | 30 | 8  | 33.3 | 5.15                  | 0.4 |
| MSSH0200281 | 1    | -DIN7 | 28           | 19 | 30 | 56 | 60 | 28 | 30 | 6  | 21.8 | 5.77                  | 0.5 |
| MSSH0200282 | 2    | -DIN7 | 28           | 19 | 30 | 56 | 60 | 28 | 56 | 6  | 21.8 | 5.77                  | 0.9 |
| MSSH0200283 | 1    | -DIN7 | 28           | 20 | 30 | 56 | 60 | 28 | 30 | 6  | 22.8 | 5.77                  | 0.5 |
| MSSH0200284 | 1    | -DIN7 | 28           | 22 | 30 | 56 | 60 | 28 | 30 | 6  | 24.8 | 5.77                  | 0.5 |
| MSSH0200285 | 2    | -DIN7 | 28           | 22 | 36 | 56 | 60 | 28 | 56 | 6  | 24.8 | 5.77                  | 0.9 |
| MSSH0200286 | 1    | -DIN7 | 28           | 25 | 36 | 56 | 60 | 28 | 30 | 8  | 28.3 | 5.77                  | 0.5 |
| MSSH0200287 | 1    | -DIN7 | 28           | 30 | 45 | 56 | 60 | 28 | 30 | 8  | 33.3 | 5.77                  | 0.5 |
| MSSH0200288 | 2    | -DIN7 | 28           | 30 | 50 | 56 | 60 | 28 | 60 | 8  | 33.3 | 5.77                  | 1.0 |
| MSSH0200289 | 1    | -DIN7 | 28           | 35 | 48 | 56 | 60 | 28 | 30 | 10 | 38.3 | 5.77                  | 0.5 |
| MSSH0200321 | 2    | -DIN7 | 32           | 16 | 30 | 64 | 68 | 28 | 54 | 5  | 18.3 | 6.59                  | 1.2 |
| MSSH0200322 | 1    | -DIN7 | 32           | 20 | 30 | 64 | 68 | 28 | 30 | 6  | 22.8 | 6.59                  | 0.6 |
| MSSH0200323 | 1    | -DIN7 | 32           | 22 | 30 | 64 | 68 | 28 | 30 | 6  | 24.8 | 6.59                  | 0.6 |
| MSSH0200324 | 2    | -DIN7 | 32           | 22 | 36 | 64 | 68 | 28 | 56 | 6  | 24.8 | 6.59                  | 1.2 |
| MSSH0200325 | 1    | -DIN7 | 32           | 25 | 36 | 64 | 68 | 28 | 30 | 8  | 28.3 | 6.59                  | 0.6 |
| MSSH0200326 | 1    | -DIN7 | 32           | 30 | 45 | 64 | 68 | 28 | 30 | 8  | 33.3 | 6.59                  | 0.6 |
| MSSH0200327 | 2    | -DIN7 | 32           | 30 | 50 | 64 | 68 | 28 | 60 | 8  | 33.3 | 6.59                  | 1.3 |
| MSSH0200328 | 2    | -DIN7 | 32           | 32 | 55 | 64 | 68 | 28 | 65 | 10 | 35.3 | 6.59                  | 1.4 |
| MSSH0200329 | 1    | -DIN7 | 32           | 35 | 48 | 64 | 68 | 28 | 30 | 10 | 38.3 | 6.59                  | 0.6 |
| MSSH0200361 | 1    | -DIN7 | 36           | 20 | 30 | 72 | 76 | 28 | 30 | 6  | 22.8 | 8.44                  | 0.8 |

※Weight only for reference. Actual scale should be Weighing.

## MSSH-DIN7

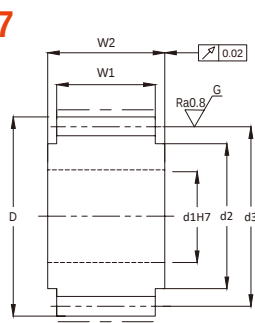


Fig. 1

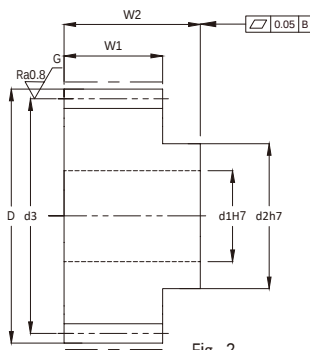
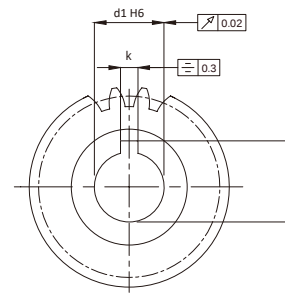


Fig. 2



Dimension : mm

Series MSSH-DIN7 Straight Skiving Pinions

Quality Grade DIN 7

Material SCM415/SCM440

Hardness: HRC 50~55°

Skiving after Hardening

| Code        | Fig. | DIN   | No. of Teeth | d1 | d2 | d3  | D   | W1 | W2 | k  | h    | F <sub>ta</sub><br>kN | KG  |
|-------------|------|-------|--------------|----|----|-----|-----|----|----|----|------|-----------------------|-----|
| Module 2    |      |       |              |    |    |     |     |    |    |    |      |                       |     |
| MSSH0200362 | 1    | -DIN7 | 36           | 25 | 36 | 72  | 76  | 28 | 30 | 8  | 28.3 | 8.44                  | 0.8 |
| MSSH0200363 | 1    | -DIN7 | 36           | 30 | 45 | 72  | 76  | 28 | 30 | 8  | 33.3 | 8.44                  | 0.8 |
| MSSH0200364 | 1    | -DIN7 | 36           | 35 | 48 | 72  | 76  | 28 | 30 | 10 | 38.3 | 8.44                  | 0.8 |
| MSSH0200365 | 2    | -DIN7 | 36           | 40 | 62 | 72  | 76  | 28 | 65 | 12 | 43.3 | 8.44                  | 1.7 |
| MSSH0200366 | 1    | -DIN7 | 36           | 45 | 58 | 72  | 76  | 28 | 30 | 14 | 48.8 | 8.44                  | 0.8 |
| MSSH0200401 | 1    | -DIN7 | 40           | 15 | 36 | 80  | 84  | 28 | 30 | 5  | 17.3 | 9.38                  | 1.0 |
| MSSH0200402 | 1    | -DIN7 | 40           | 20 | 30 | 80  | 84  | 28 | 30 | 6  | 22.8 | 9.38                  | 1.0 |
| MSSH0200403 | 1    | -DIN7 | 40           | 25 | 36 | 80  | 84  | 28 | 30 | 8  | 28.3 | 9.38                  | 1.0 |
| MSSH0200404 | 1    | -DIN7 | 40           | 30 | 45 | 80  | 84  | 28 | 30 | 8  | 33.3 | 9.38                  | 1.0 |
| MSSH0200405 | 2    | -DIN7 | 40           | 32 | 55 | 80  | 84  | 28 | 65 | 10 | 35.3 | 9.38                  | 2.1 |
| MSSH0200406 | 1    | -DIN7 | 40           | 35 | 48 | 80  | 84  | 28 | 30 | 10 | 38.3 | 9.38                  | 1.0 |
| MSSH0200407 | 2    | -DIN7 | 40           | 40 | 62 | 80  | 84  | 28 | 65 | 12 | 43.3 | 9.38                  | 2.1 |
| MSSH0200408 | 1    | -DIN7 | 40           | 45 | 58 | 80  | 84  | 28 | 30 | 14 | 48.8 | 9.38                  | 1.0 |
| MSSH0200409 | 2    | -DIN7 | 40           | 45 | 68 | 80  | 84  | 28 | 65 | 14 | 48.8 | 9.38                  | 2.1 |
| MSSH0200451 | 1    | -DIN7 | 45           | 20 | 30 | 90  | 94  | 28 | 30 | 6  | 22.8 | 10.55                 | 1.2 |
| MSSH0200452 | 1    | -DIN7 | 45           | 25 | 36 | 90  | 94  | 28 | 30 | 8  | 28.3 | 10.55                 | 1.2 |
| MSSH0200453 | 1    | -DIN7 | 45           | 35 | 48 | 90  | 94  | 28 | 30 | 10 | 38.3 | 10.55                 | 1.2 |
| MSSH0200454 | 1    | -DIN7 | 45           | 45 | 58 | 90  | 94  | 28 | 30 | 14 | 48.8 | 10.55                 | 1.2 |
| MSSH0200501 | 1    | -DIN7 | 50           | 20 | 30 | 100 | 104 | 28 | 30 | 6  | 22.8 | 10.96                 | 1.5 |
| MSSH0200502 | 1    | -DIN7 | 50           | 25 | 36 | 100 | 104 | 28 | 30 | 8  | 28.3 | 10.96                 | 1.5 |
| MSSH0200503 | 1    | -DIN7 | 50           | 35 | 48 | 100 | 104 | 28 | 30 | 10 | 38.3 | 10.96                 | 1.5 |
| MSSH0200504 | 1    | -DIN7 | 50           | 45 | 58 | 100 | 104 | 28 | 30 | 14 | 48.8 | 10.96                 | 1.5 |
| MSSH0200505 | 2    | -DIN7 | 50           | 45 | 68 | 100 | 104 | 28 | 65 | 14 | 48.8 | 10.96                 | 3.3 |
| MSSH0200561 | 1    | -DIN7 | 56           | 25 | 36 | 112 | 116 | 28 | 30 | 8  | 28.3 | 11.15                 | 1.9 |
| MSSH0200562 | 1    | -DIN7 | 56           | 35 | 48 | 112 | 116 | 28 | 30 | 10 | 38.3 | 11.15                 | 1.9 |

## MSSH-DIN7

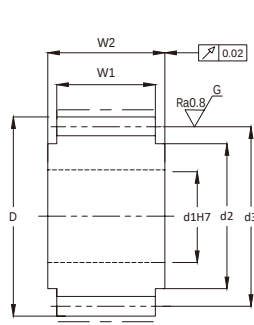


Fig. 1

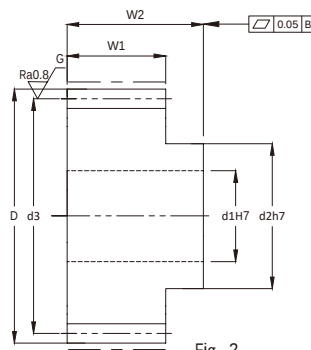
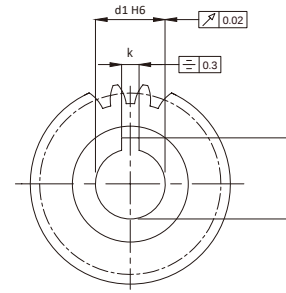


Fig. 2



Dimension : mm

Series MSSH-DIN7 Straight Skiving Pinions

Quality Grade DIN 7

Material SCM415/SCM440

Hardness: HRC 50~55°

Skiving after Hardening


Straight  
DIN

| Code         | Fig. | DIN   | No. of Teeth | d1 | d2 | d3  | D   | W1 | W2 | k  | h    | F <sub>ta</sub><br>kN | KG  |
|--------------|------|-------|--------------|----|----|-----|-----|----|----|----|------|-----------------------|-----|
| Module 3     |      |       |              |    |    |     |     |    |    |    |      |                       |     |
| MSSH0300181  | 1    | -DIN7 | 18           | 25 | 36 | 54  | 60  | 28 | 30 | 8  | 28.3 | 5.56                  | 0.4 |
| MSSH0300201  | 1    | -DIN7 | 20           | 25 | 36 | 60  | 66  | 28 | 30 | 8  | 28.3 | 6.18                  | 0.5 |
| MSSH0300202  | 1    | -DIN7 | 20           | 30 | 45 | 60  | 66  | 28 | 30 | 8  | 33.3 | 6.18                  | 0.5 |
| MSSH0300203  | 1    | -DIN7 | 20           | 35 | 48 | 60  | 66  | 28 | 30 | 10 | 38.3 | 6.18                  | 0.5 |
| MSSH0300221  | 2    | -DIN7 | 22           | 22 | 36 | 66  | 72  | 28 | 56 | 6  | 24.8 | 6.80                  | 1.1 |
| MSSH0300222  | 1    | -DIN7 | 22           | 25 | 36 | 66  | 72  | 28 | 30 | 8  | 28.3 | 6.80                  | 0.6 |
| MSSH0300223  | 2    | -DIN7 | 22           | 25 | 44 | 66  | 72  | 28 | 60 | 8  | 28.3 | 6.80                  | 1.2 |
| MSSH0300224  | 1    | -DIN7 | 22           | 30 | 45 | 66  | 72  | 28 | 30 | 8  | 33.3 | 6.80                  | 0.6 |
| MSSH0300225  | 2    | -DIN7 | 22           | 32 | 55 | 66  | 72  | 28 | 65 | 10 | 35.3 | 6.80                  | 1.2 |
| MSSH0300226  | 2    | -DIN7 | 22           | 30 | 50 | 66  | 72  | 28 | 60 | 8  | 33.3 | 6.80                  | 1.2 |
| MSSH0300227  | 1    | -DIN7 | 22           | 35 | 48 | 66  | 72  | 28 | 30 | 10 | 38.3 | 6.80                  | 0.6 |
| MSSH0300228  | 2    | -DIN7 | 22           | 35 | 55 | 66  | 72  | 28 | 65 | 10 | 38.3 | 6.80                  | 1.2 |
| MSSH0300229  | 2    | -DIN7 | 22           | 40 | 62 | 66  | 72  | 28 | 65 | 12 | 43.3 | 6.80                  | 1.2 |
| MSSH0300251  | 1    | -DIN7 | 25           | 25 | 36 | 75  | 81  | 28 | 30 | 8  | 28.3 | 8.79                  | 0.7 |
| MSSH0300252  | 1    | -DIN7 | 25           | 30 | 45 | 75  | 81  | 28 | 30 | 8  | 33.3 | 8.79                  | 0.7 |
| MSSH0300253  | 2    | -DIN7 | 25           | 32 | 55 | 75  | 81  | 28 | 65 | 10 | 35.3 | 8.79                  | 1.6 |
| MSSH0300254  | 1    | -DIN7 | 25           | 35 | 48 | 75  | 81  | 28 | 30 | 10 | 38.3 | 8.79                  | 0.7 |
| MSSH0300255  | 2    | -DIN7 | 25           | 40 | 62 | 75  | 81  | 28 | 65 | 12 | 43.3 | 8.79                  | 1.6 |
| MSSH0300256  | 1    | -DIN7 | 25           | 45 | 58 | 75  | 81  | 28 | 30 | 14 | 48.8 | 8.79                  | 0.7 |
| MSSH0300281  | 2    | -DIN7 | 28           | 22 | 36 | 84  | 90  | 28 | 56 | 6  | 24.8 | 9.85                  | 1.7 |
| MSSH0300282  | 1    | -DIN7 | 28           | 25 | 36 | 84  | 90  | 28 | 30 | 8  | 28.3 | 9.85                  | 0.9 |
| MSSH0300283  | 2    | -DIN7 | 28           | 25 | 44 | 84  | 90  | 28 | 60 | 8  | 28.3 | 9.85                  | 1.8 |
| MSSH0300284  | 1    | -DIN7 | 28           | 30 | 45 | 84  | 90  | 28 | 30 | 8  | 33.3 | 9.85                  | 0.9 |
| MSSH0300285  | 2    | -DIN7 | 28           | 30 | 50 | 84  | 90  | 28 | 60 | 8  | 33.3 | 9.85                  | 1.8 |
| MSSH0300286  | 2    | -DIN7 | 28           | 32 | 55 | 84  | 90  | 28 | 65 | 10 | 35.3 | 9.85                  | 1.9 |
| MSSH0300287  | 1    | -DIN7 | 28           | 35 | 48 | 84  | 90  | 28 | 30 | 10 | 38.3 | 9.85                  | 0.9 |
| MSSH0300288  | 2    | -DIN7 | 28           | 35 | 55 | 84  | 90  | 28 | 65 | 10 | 38.3 | 9.85                  | 1.9 |
| MSSH0300289  | 2    | -DIN7 | 28           | 40 | 62 | 84  | 90  | 28 | 65 | 12 | 43.3 | 9.85                  | 1.9 |
| MSSH03002810 | 1    | -DIN7 | 28           | 45 | 58 | 84  | 90  | 28 | 30 | 14 | 48.8 | 9.85                  | 0.9 |
| MSSH03002811 | 2    | -DIN7 | 28           | 45 | 68 | 84  | 90  | 28 | 65 | 14 | 48.8 | 9.85                  | 1.9 |
| MSSH0300321  | 1    | -DIN7 | 32           | 25 | 36 | 96  | 102 | 28 | 30 | 8  | 28.3 | 11.25                 | 1.2 |
| MSSH0300323  | 1    | -DIN7 | 32           | 30 | 45 | 96  | 102 | 28 | 30 | 8  | 33.3 | 11.25                 | 1.2 |
| MSSH0300323  | 2    | -DIN7 | 32           | 32 | 55 | 96  | 102 | 28 | 65 | 10 | 35.3 | 11.25                 | 2.5 |
| MSSH0300324  | 1    | -DIN7 | 32           | 35 | 48 | 96  | 102 | 28 | 30 | 10 | 38.3 | 11.25                 | 1.2 |
| MSSH0300325  | 2    | -DIN7 | 32           | 40 | 62 | 96  | 102 | 28 | 65 | 12 | 43.3 | 11.25                 | 2.5 |
| MSSH0300326  | 1    | -DIN7 | 32           | 45 | 58 | 96  | 102 | 28 | 30 | 14 | 48.8 | 11.25                 | 1.2 |
| MSSH0300327  | 1    | -DIN7 | 32           | 60 | 80 | 96  | 102 | 28 | 30 | 18 | 64.4 | 11.25                 | 1.2 |
| MSSH0300361  | 1    | -DIN7 | 36           | 25 | 36 | 108 | 114 | 28 | 30 | 8  | 28.3 | 12.66                 | 1.4 |
| MSSH0300362  | 1    | -DIN7 | 36           | 35 | 48 | 108 | 114 | 28 | 30 | 10 | 38.3 | 12.66                 | 1.4 |
| MSSH0300363  | 1    | -DIN7 | 36           | 45 | 58 | 108 | 114 | 28 | 30 | 14 | 48.8 | 12.66                 | 1.4 |
| MSSH0300364  | 2    | -DIN7 | 36           | 45 | 68 | 108 | 114 | 28 | 65 | 14 | 48.8 | 12.66                 | 3.1 |
| MSSH0300365  | 1    | -DIN7 | 36           | 60 | 80 | 108 | 114 | 28 | 30 | 18 | 64.4 | 12.66                 | 1.4 |
| MSSH0300401  | 1    | -DIN7 | 40           | 25 | 36 | 120 | 126 | 28 | 30 | 8  | 28.3 | 14.07                 | 1.8 |

※Weight only for reference. Actual scale should be Weighing.

## MSSH-DIN7

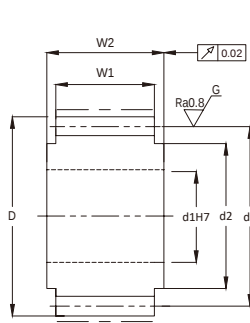


Fig. 1

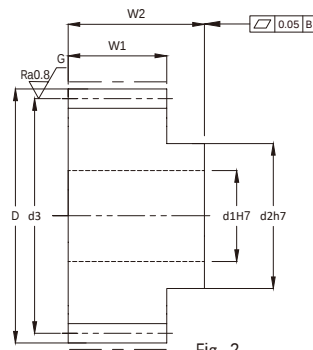
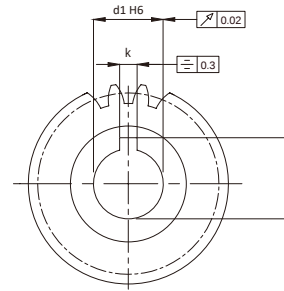


Fig. 2



Dimension : mm

Series MSSH-DIN7 Straight Skiving Pinions

Quality Grade DIN 7

Material SCM415/SCM440

Hardness: HRC 50~55°

Skiving after Hardening

| Code        | Fig. | DIN   | No. of Teeth | d1 | d2 | d3  | D   | W1 | W2 | k  | h    | F <sub>ta</sub><br>kN | KG  |
|-------------|------|-------|--------------|----|----|-----|-----|----|----|----|------|-----------------------|-----|
| Module 3    |      |       |              |    |    |     |     |    |    |    |      |                       |     |
| MSSH0300402 | 1    | -DIN7 | 40           | 35 | 48 | 120 | 126 | 28 | 30 | 10 | 38.3 | 14.07                 | 1.8 |
| MSSH0300403 | 1    | -DIN7 | 40           | 45 | 58 | 120 | 126 | 28 | 30 | 14 | 48.8 | 14.07                 | 1.8 |
| MSSH0300404 | 1    | -DIN7 | 40           | 60 | 80 | 120 | 126 | 28 | 30 | 18 | 64.4 | 14.07                 | 1.8 |
| MSSH0300451 | 1    | -DIN7 | 45           | 25 | 36 | 135 | 141 | 28 | 30 | 8  | 28.3 | 15.83                 | 2.2 |
| MSSH0300452 | 1    | -DIN7 | 45           | 35 | 48 | 135 | 141 | 28 | 30 | 10 | 38.3 | 15.83                 | 2.2 |
| MSSH0300453 | 1    | -DIN7 | 45           | 45 | 58 | 135 | 141 | 28 | 30 | 14 | 48.8 | 15.83                 | 2.2 |
| MSSH0300454 | 1    | -DIN7 | 45           | 60 | 80 | 135 | 141 | 28 | 30 | 18 | 64.4 | 15.83                 | 2.2 |
| MSSH0300501 | 1    | -DIN7 | 50           | 35 | 48 | 150 | 156 | 28 | 30 | 10 | 38.3 | 16.45                 | 2.7 |
| MSSH0300502 | 1    | -DIN7 | 50           | 45 | 58 | 150 | 156 | 28 | 30 | 14 | 48.8 | 16.45                 | 2.7 |
| MSSH0300561 | 1    | -DIN7 | 56           | 45 | 58 | 168 | 174 | 28 | 30 | 14 | 48.8 | 16.73                 | 3.4 |
| MSSH0300631 | 1    | -DIN7 | 63           | 45 | 58 | 189 | 195 | 28 | 30 | 14 | 48.8 | 17.02                 | 4.2 |
| MSSH0300632 | 1    | -DIN7 | 63           | 60 | 80 | 189 | 195 | 28 | 30 | 18 | 64.4 | 17.02                 | 4.2 |

## MSSH-DIN7

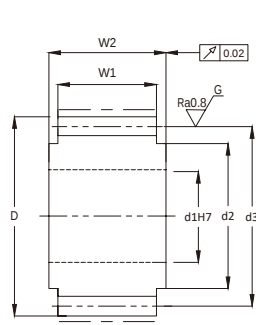


Fig. 1

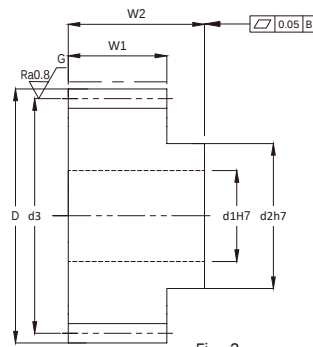
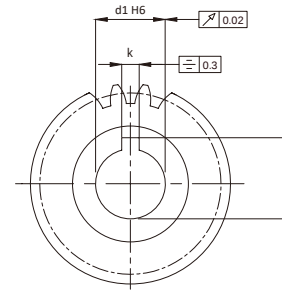


Fig. 2



Dimension : mm

Series MSSH-DIN7 Straight Skiving Pinions

Quality Grade DIN 7

Material SCM415/SCM440

Hardness: HRC 50~55°

Skiving after Hardening


Straight  
DIN

| Code            | Fig. | DIN   | No. of Teeth | d1 | d2  | d3  | D   | W1 | W2  | k  | h    | F <sub>ta</sub><br>kN | KG   |
|-----------------|------|-------|--------------|----|-----|-----|-----|----|-----|----|------|-----------------------|------|
| <b>Module 4</b> |      |       |              |    |     |     |     |    |     |    |      |                       |      |
| MSSH0400201     | 2    | -DIN7 | 20           | 32 | 55  | 80  | 88  | 40 | 75  | 10 | 35.3 | 11.77                 | 1.8  |
| MSSH0400202     | 1    | -DIN7 | 20           | 35 | 52  | 80  | 88  | 40 | 50  | 10 | 38.3 | 11.77                 | 1.2  |
| MSSH0400203     | 2    | -DIN7 | 20           | 35 | 55  | 80  | 88  | 40 | 75  | 10 | 38.3 | 11.77                 | 1.8  |
| MSSH0400204     | 1    | -DIN7 | 20           | 45 | 65  | 80  | 88  | 40 | 50  | 14 | 48.8 | 11.77                 | 1.2  |
| MSSH0400205     | 2    | -DIN7 | 20           | 40 | 62  | 80  | 88  | 40 | 75  | 12 | 43.3 | 11.77                 | 1.8  |
| MSSH0400221     | 1    | -DIN7 | 22           | 35 | 52  | 88  | 96  | 40 | 50  | 10 | 38.3 | 12.95                 | 1.4  |
| MSSH0400222     | 1    | -DIN7 | 22           | 45 | 65  | 88  | 96  | 40 | 50  | 14 | 48.8 | 12.95                 | 1.4  |
| MSSH0400223     | 2    | -DIN7 | 22           | 45 | 68  | 88  | 96  | 40 | 75  | 14 | 48.8 | 12.95                 | 2.1  |
| MSSH0400251     | 2    | -DIN7 | 25           | 32 | 55  | 100 | 108 | 40 | 75  | 10 | 35.3 | 16.75                 | 2.7  |
| MSSH0400252     | 1    | -DIN7 | 25           | 35 | 52  | 100 | 108 | 40 | 50  | 10 | 38.3 | 16.75                 | 1.8  |
| MSSH0400253     | 2    | -DIN7 | 25           | 35 | 55  | 100 | 108 | 40 | 75  | 10 | 38.3 | 16.75                 | 2.7  |
| MSSH0400254     | 2    | -DIN7 | 25           | 40 | 62  | 100 | 108 | 40 | 75  | 12 | 43.3 | 16.75                 | 2.7  |
| MSSH0400255     | 1    | -DIN7 | 25           | 45 | 65  | 100 | 108 | 40 | 50  | 14 | 48.8 | 16.75                 | 1.8  |
| MSSH0400256     | 2    | -DIN7 | 25           | 55 | 80  | 100 | 108 | 40 | 80  | 16 | 59.3 | 16.75                 | 2.9  |
| MSSH0400281     | 1    | -DIN7 | 28           | 35 | 52  | 112 | 120 | 40 | 50  | 10 | 38.3 | 18.76                 | 2.2  |
| MSSH0400282     | 1    | -DIN7 | 28           | 45 | 65  | 112 | 120 | 40 | 50  | 14 | 48.8 | 18.76                 | 2.2  |
| MSSH0400283     | 2    | -DIN7 | 28           | 45 | 68  | 112 | 120 | 40 | 75  | 14 | 48.8 | 18.76                 | 3.3  |
| MSSH0400321     | 1    | -DIN7 | 32           | 35 | 52  | 128 | 136 | 40 | 50  | 10 | 38.3 | 21.44                 | 2.9  |
| MSSH0400322     | 1    | -DIN7 | 32           | 45 | 65  | 128 | 136 | 40 | 50  | 14 | 48.8 | 21.44                 | 2.9  |
| MSSH0400323     | 2    | -DIN7 | 32           | 55 | 80  | 128 | 136 | 40 | 80  | 16 | 59.3 | 21.44                 | 4.6  |
| MSSH0400324     | 2    | -DIN7 | 32           | 75 | 110 | 128 | 136 | 40 | 100 | 20 | 79.9 | 21.44                 | 5.7  |
| MSSH0400401     | 1    | -DIN7 | 40           | 45 | 65  | 160 | 168 | 40 | 50  | 14 | 48.8 | 26.80                 | 4.4  |
| MSSH0400402     | 1    | -DIN7 | 40           | 60 | 80  | 160 | 168 | 40 | 50  | 18 | 64.4 | 26.80                 | 4.4  |
| MSSH0400403     | 2    | -DIN7 | 40           | 75 | 110 | 160 | 168 | 40 | 100 | 20 | 79.9 | 26.80                 | 8.7  |
| <b>Module 5</b> |      |       |              |    |     |     |     |    |     |    |      |                       |      |
| MSSH0500211     | 2    | -DIN7 | 21           | 45 | 68  | 105 | 115 | 50 | 85  | 14 | 48.8 | 19.32                 | 3.5  |
| MSSH0500212     | 2    | -DIN7 | 21           | 55 | 80  | 105 | 115 | 50 | 90  | 16 | 59.3 | 19.32                 | 3.7  |
| MSSH0500251     | 2    | -DIN7 | 25           | 45 | 68  | 125 | 135 | 50 | 85  | 14 | 48.8 | 26.17                 | 4.8  |
| MSSH0500252     | 2    | -DIN7 | 25           | 55 | 80  | 125 | 135 | 50 | 90  | 16 | 59.3 | 26.17                 | 5.1  |
| MSSH0500253     | 2    | -DIN7 | 25           | 75 | 110 | 125 | 135 | 50 | 110 | 20 | 79.9 | 26.17                 | 6.2  |
| <b>Module 6</b> |      |       |              |    |     |     |     |    |     |    |      |                       |      |
| MSSH0600211     | 2    | -DIN7 | 21           | 55 | 80  | 126 | 138 | 60 | 100 | 16 | 59.3 | 27.82                 | 5.9  |
| MSSH0600212     | 2    | -DIN7 | 21           | 75 | 110 | 126 | 138 | 60 | 120 | 20 | 79.9 | 27.82                 | 7.0  |
| MSSH0600251     | 2    | -DIN7 | 25           | 55 | 80  | 150 | 162 | 60 | 100 | 16 | 59.3 | 37.68                 | 8.1  |
| MSSH0600252     | 2    | -DIN7 | 25           | 75 | 110 | 150 | 162 | 60 | 120 | 20 | 79.9 | 37.68                 | 9.7  |
| <b>Module 8</b> |      |       |              |    |     |     |     |    |     |    |      |                       |      |
| MSSH0800201     | 2    | -DIN7 | 20           | 75 | 110 | 160 | 176 | 80 | 140 | 20 | 79.9 | 47.09                 | 13.4 |
| MSSH0800202     | 2    | -DIN7 | 20           | 85 | 125 | 160 | 176 | 80 | 145 | 22 | 90.4 | 47.09                 | 13.8 |

※Weight only for reference. Actual scale should be Weighing.

## CSM-DIN8

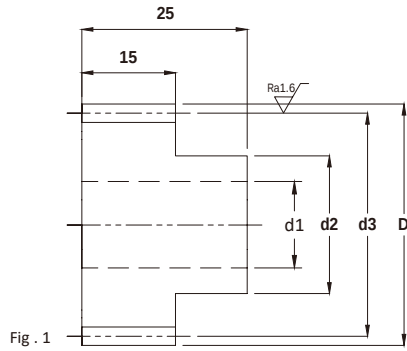


Fig. 1

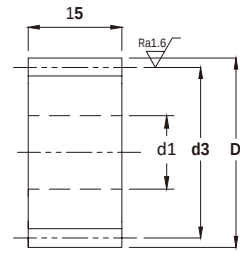


Fig. 2

Dimension : mm

Series CSM-DIN8 Straight Soft Pinions  
Quality Grade DIN 8  
Material S45C / S50C

| Code       | Fig. | DIN   | No. of Teeth | d1 | d2 | d3    | D     | W1 | W2 | k | h | F <sub>ta</sub><br>kN | KG  |
|------------|------|-------|--------------|----|----|-------|-------|----|----|---|---|-----------------------|-----|
| Module 1   |      |       |              |    |    |       |       |    |    |   |   |                       |     |
| CSM0100121 | 1    | -DIN8 | 12           | 6  | 9  | 12.0  | 14.0  | *  | *  | * | * | *                     | 0.1 |
| CSM0100131 | 1    | -DIN8 | 13           | 6  | 9  | 13.0  | 15.0  | *  | *  | * | * | *                     | 0.1 |
| CSM0100141 | 1    | -DIN8 | 14           | 6  | 11 | 14.0  | 16.0  | *  | *  | * | * | *                     | 0.1 |
| CSM0100151 | 1    | -DIN8 | 15           | 6  | 12 | 15.0  | 17.0  | *  | *  | * | * | *                     | 0.1 |
| CSM0100161 | 1    | -DIN8 | 16           | 6  | 12 | 16.0  | 18.0  | *  | *  | * | * | 0.10                  | 0.1 |
| CSM0100171 | 1    | -DIN8 | 17           | 6  | 14 | 17.0  | 19.0  | *  | *  | * | * | 0.11                  | 0.1 |
| CSM0100181 | 1    | -DIN8 | 18           | 6  | 15 | 18.0  | 20.0  | *  | *  | * | * | 0.12                  | 0.1 |
| CSM0100191 | 1    | -DIN8 | 19           | 6  | 15 | 19.0  | 21.0  | *  | *  | * | * | 0.13                  | 0.1 |
| CSM0100201 | 1    | -DIN8 | 20           | 6  | 16 | 20.0  | 22.0  | *  | *  | * | * | 0.14                  | 0.1 |
| CSM0100211 | 1    | -DIN8 | 21           | 6  | 16 | 21.0  | 23.0  | *  | *  | * | * | 0.15                  | 0.1 |
| CSM0100221 | 1    | -DIN8 | 22           | 6  | 18 | 22.0  | 24.0  | *  | *  | * | * | 0.15                  | 0.1 |
| CSM0100231 | 1    | -DIN8 | 23           | 6  | 18 | 23.0  | 25.0  | *  | *  | * | * | 0.16                  | 0.1 |
| CSM0100241 | 1    | -DIN8 | 24           | 9  | 20 | 24.0  | 26.0  | *  | *  | * | * | 0.17                  | 0.1 |
| CSM0100251 | 1    | -DIN8 | 25           | 9  | 20 | 25.0  | 27.0  | *  | *  | * | * | 0.19                  | 0.1 |
| CSM0100301 | 1    | -DIN8 | 30           | 9  | 20 | 30.0  | 32.0  | *  | *  | * | * | 0.23                  | 0.1 |
| CSM0100351 | 1    | -DIN8 | 35           | 9  | 25 | 35.0  | 37.0  | *  | *  | * | * | 0.27                  | 0.2 |
| CSM0100381 | 1    | -DIN8 | 38           | 9  | 25 | 38.0  | 40.0  | *  | *  | * | * | 0.33                  | 0.2 |
| CSM0100401 | 1    | -DIN8 | 40           | 9  | 25 | 40.0  | 42.0  | *  | *  | * | * | 0.35                  | 0.2 |
| CSM0100451 | 1    | -DIN8 | 45           | 9  | 30 | 45.0  | 47.0  | *  | *  | * | * | 0.40                  | 0.3 |
| CSM0100481 | 1    | -DIN8 | 48           | 9  | 30 | 48.0  | 50.0  | *  | *  | * | * | 0.42                  | 0.3 |
| CSM0100501 | 1    | -DIN8 | 50           | 9  | 30 | 50.0  | 52.0  | *  | *  | * | * | 0.44                  | 0.3 |
| CSM0100571 | 1    | -DIN8 | 57           | 9  | 40 | 57.0  | 59.0  | *  | *  | * | * | 0.50                  | 0.4 |
| CSM0100601 | 1    | -DIN8 | 60           | 9  | 40 | 60.0  | 62.0  | *  | *  | * | * | 0.53                  | 0.4 |
| CSM0100761 | 2    | -DIN8 | 76           | 10 | *  | 76.0  | 78.0  | *  | *  | * | * | 0.81                  | 0.7 |
| CSM0100801 | 2    | -DIN8 | 80           | 10 | *  | 80.0  | 82.0  | *  | *  | * | * | 0.85                  | 0.8 |
| CSM0100951 | 2    | -DIN8 | 95           | 10 | *  | 95.0  | 97.0  | *  | *  | * | * | 1.01                  | 1.1 |
| CSM0101001 | 2    | -DIN8 | 100          | 10 | *  | 100.0 | 102.0 | *  | *  | * | * | 1.06                  | 1.2 |
| CSM0101141 | 2    | -DIN8 | 114          | 10 | *  | 114.0 | 116.0 | *  | *  | * | * | 1.16                  | 1.6 |

## CSM-DIN8

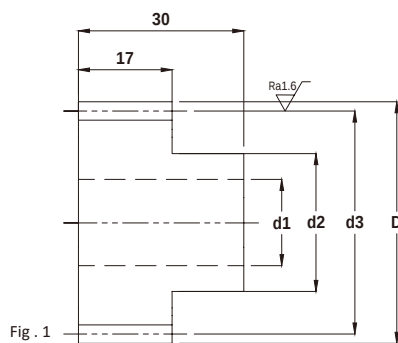


Fig. 1

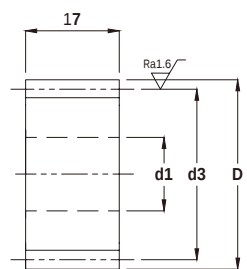


Fig. 2

Dimension : mm

Series CSM-DIN8 Straight Soft Pinions  
Quality Grade DIN 8  
Material S45C


Straight  
DIN

| Code       | Fig. | DIN   | No. of Teeth | d1 | d2 | d3    | D     | W1 | W2 | k | h | F <sub>ta</sub><br>kN | KG  |
|------------|------|-------|--------------|----|----|-------|-------|----|----|---|---|-----------------------|-----|
| Module 1.5 |      |       |              |    |    |       |       |    |    |   |   |                       |     |
| CSM0150121 | 1    | -DIN8 | 12           | 6  | 14 | 18.0  | 21.0  | *  | *  | * | * | *                     | 0.1 |
| CSM0150131 | 1    | -DIN8 | 13           | 6  | 14 | 19.5  | 22.5  | *  | *  | * | * | *                     | 0.1 |
| CSM0150141 | 1    | -DIN8 | 14           | 6  | 16 | 21.0  | 24.0  | *  | *  | * | * | *                     | 0.1 |
| CSM0150151 | 1    | -DIN8 | 15           | 6  | 18 | 22.5  | 25.5  | *  | *  | * | * | *                     | 0.1 |
| CSM0150161 | 1    | -DIN8 | 16           | 6  | 18 | 24.0  | 27.0  | *  | *  | * | * | 0.19                  | 0.1 |
| CSM0150171 | 1    | -DIN8 | 17           | 9  | 20 | 25.5  | 28.5  | *  | *  | * | * | 0.20                  | 0.1 |
| CSM0150181 | 1    | -DIN8 | 18           | 9  | 20 | 27.0  | 30.0  | *  | *  | * | * | 0.21                  | 0.1 |
| CSM0150191 | 1    | -DIN8 | 19           | 9  | 20 | 28.5  | 31.5  | *  | *  | * | * | 0.25                  | 0.1 |
| CSM0150201 | 1    | -DIN8 | 20           | 9  | 25 | 30.0  | 33.0  | *  | *  | * | * | 0.26                  | 0.2 |
| CSM0150211 | 1    | -DIN8 | 21           | 9  | 25 | 31.5  | 34.5  | *  | *  | * | * | 0.28                  | 0.2 |
| CSM0150221 | 1    | -DIN8 | 22           | 9  | 25 | 33.0  | 36.0  | *  | *  | * | * | 0.29                  | 0.2 |
| CSM0150222 | 1    | -DIN8 | 22           | 8  | 28 | 33.0  | 36.0  | *  | *  | * | * | 0.29                  | 0.2 |
| CSM0150231 | 1    | -DIN8 | 23           | 9  | 25 | 34.5  | 37.5  | *  | *  | * | * | 0.30                  | 0.2 |
| CSM0150241 | 1    | -DIN8 | 24           | 9  | 25 | 36.0  | 39.0  | *  | *  | * | * | 0.32                  | 0.2 |
| CSM0150251 | 1    | -DIN8 | 25           | 9  | 25 | 37.5  | 40.5  | *  | *  | * | * | 0.33                  | 0.2 |
| CSM0150301 | 1    | -DIN8 | 30           | 9  | 25 | 45.0  | 48.0  | *  | *  | * | * | 0.45                  | 0.3 |
| CSM0150351 | 1    | -DIN8 | 35           | 9  | 40 | 52.5  | 55.5  | *  | *  | * | * | 0.52                  | 0.4 |
| CSM0150381 | 1    | -DIN8 | 38           | 9  | 40 | 57.0  | 60.0  | *  | *  | * | * | 0.57                  | 0.5 |
| CSM0150401 | 1    | -DIN8 | 40           | 9  | 40 | 60.0  | 63.0  | *  | *  | * | * | 0.60                  | 0.6 |
| CSM0150451 | 1    | -DIN8 | 45           | 12 | 50 | 67.5  | 70.5  | *  | *  | * | * | 0.67                  | 0.7 |
| CSM0150481 | 1    | -DIN8 | 48           | 12 | 50 | 72.0  | 75.0  | *  | *  | * | * | 0.72                  | 0.8 |
| CSM0150501 | 1    | -DIN8 | 50           | 12 | 50 | 75.0  | 78.0  | *  | *  | * | * | 0.75                  | 0.8 |
| CSM0150571 | 1    | -DIN8 | 57           | 12 | 60 | 85.5  | 88.5  | *  | *  | * | * | 1.03                  | 1.1 |
| CSM0150601 | 1    | -DIN8 | 60           | 12 | 60 | 90.0  | 93.0  | *  | *  | * | * | 1.08                  | 1.2 |
| CSM0150761 | 2    | -DIN8 | 76           | 16 | *  | 114.0 | 117.0 | *  | *  | * | * | 1.37                  | 1.9 |
| CSM0150801 | 2    | -DIN8 | 80           | 16 | *  | 120.0 | 123.0 | *  | *  | * | * | 1.45                  | 2.1 |
| CSM0150951 | 2    | -DIN8 | 95           | 20 | *  | 142.5 | 145.5 | *  | *  | * | * | 1.72                  | 2.9 |

## CSM-DIN8

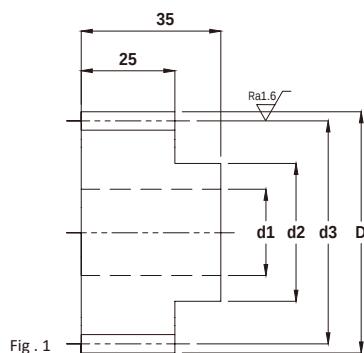
Straight  
DIN

Fig. 1

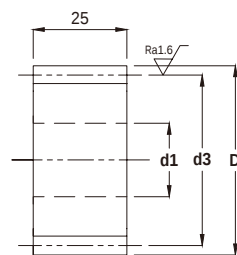


Fig. 2

Dimension : mm

Series CSM-DIN8 Straight Soft Pinions  
Quality Grade DIN 8  
Material S45C

| Code       | Fig. | DIN   | No. of Teeth | d1 | d2   | d3    | D     | W1 | W2 | k | h | F <sub>ta</sub><br>kN | KG  |
|------------|------|-------|--------------|----|------|-------|-------|----|----|---|---|-----------------------|-----|
| Module 2   |      |       |              |    |      |       |       |    |    |   |   |                       |     |
| CSM0200121 | 1    | -DIN8 | 12           | 9  | 18   | 24.0  | 28.0  | *  | *  | * | * | *                     | 0.1 |
| CSM0200131 | 1    | -DIN8 | 13           | 9  | 19   | 26.0  | 30.0  | *  | *  | * | * | *                     | 0.1 |
| CSM0200141 | 1    | -DIN8 | 14           | 9  | 19   | 28.0  | 32.0  | *  | *  | * | * | *                     | 0.2 |
| CSM0200151 | 1    | -DIN8 | 15           | 9  | 24.5 | 30.0  | 34.0  | *  | *  | * | * | *                     | 0.2 |
| CSM0200161 | 1    | -DIN8 | 16           | 9  | 25   | 32.0  | 36.0  | *  | *  | * | * | 0.37                  | 0.2 |
| CSM0200171 | 1    | -DIN8 | 17           | 9  | 25   | 34.0  | 38.0  | *  | *  | * | * | 0.39                  | 0.2 |
| CSM0200181 | 1    | -DIN8 | 18           | 9  | 25   | 36.0  | 40.0  | *  | *  | * | * | 0.41                  | 0.3 |
| CSM0200191 | 1    | -DIN8 | 19           | 9  | 25   | 38.0  | 42.0  | *  | *  | * | * | 0.44                  | 0.3 |
| CSM0200201 | 1    | -DIN8 | 20           | 9  | 30   | 40.0  | 44.0  | *  | *  | * | * | 0.46                  | 0.3 |
| CSM0200211 | 1    | -DIN8 | 21           | 9  | 30   | 42.0  | 46.0  | *  | *  | * | * | 0.54                  | 0.3 |
| CSM0200221 | 1    | -DIN8 | 22           | 9  | 30   | 44.0  | 48.0  | *  | *  | * | * | 0.57                  | 0.4 |
| CSM0200231 | 1    | -DIN8 | 23           | 9  | 30   | 46.0  | 50.0  | *  | *  | * | * | 0.59                  | 0.4 |
| CSM0200241 | 1    | -DIN8 | 24           | 12 | 35   | 48.0  | 52.0  | *  | *  | * | * | 0.62                  | 0.4 |
| CSM0200251 | 1    | -DIN8 | 25           | 12 | 35   | 50.0  | 54.0  | *  | *  | * | * | 0.64                  | 0.5 |
| CSM0200281 | 1    | -DIN8 | 28           | 12 | 40   | 56.0  | 60.0  | *  | *  | * | * | 0.72                  | 0.6 |
| CSM0200301 | 1    | -DIN8 | 30           | 12 | 40   | 60.0  | 64.0  | *  | *  | * | * | 0.77                  | 0.7 |
| CSM0200321 | 1    | -DIN8 | 32           | 12 | 40   | 64.0  | 68.0  | *  | *  | * | * | 0.94                  | 0.7 |
| CSM0200351 | 1    | -DIN8 | 35           | 12 | 50   | 70.0  | 74.0  | *  | *  | * | * | 1.03                  | 0.9 |
| CSM0200361 | 1    | -DIN8 | 36           | 12 | 50   | 72.0  | 76.0  | *  | *  | * | * | 1.06                  | 0.9 |
| CSM0200381 | 1    | -DIN8 | 38           | 12 | 50   | 76.0  | 80.0  | *  | *  | * | * | 1.11                  | 1.0 |
| CSM0200401 | 1    | -DIN8 | 40           | 12 | 50   | 80.0  | 84.0  | *  | *  | * | * | 1.17                  | 1.1 |
| CSM0200451 | 1    | -DIN8 | 45           | 12 | 60   | 90.0  | 94.0  | *  | *  | * | * | 1.32                  | 1.4 |
| CSM0200481 | 1    | -DIN8 | 48           | 15 | 70   | 96.0  | 100.0 | *  | *  | * | * | 1.41                  | 1.6 |
| CSM0200501 | 1    | -DIN8 | 50           | 15 | 70   | 100.0 | 104.0 | *  | *  | * | * | 1.47                  | 1.8 |
| CSM0200561 | 1    | -DIN8 | 56           | 15 | 70   | 112.0 | 116.0 | *  | *  | * | * | 1.64                  | 2.2 |
| CSM0200571 | 1    | -DIN8 | 57           | 15 | 70   | 114.0 | 118.0 | *  | *  | * | * | 1.67                  | 2.3 |
| CSM0200601 | 1    | -DIN8 | 60           | 15 | 70   | 120.0 | 124.0 | *  | *  | * | * | 1.76                  | 2.5 |
| CSM0200761 | 2    | -DIN8 | 76           | 20 | *    | 152.0 | 156.0 | *  | *  | * | * | 2.69                  | 3.9 |
| CSM0200801 | 2    | -DIN8 | 80           | 20 | *    | 160.0 | 164.0 | *  | *  | * | * | 2.84                  | 4.4 |
| CSM0200951 | 2    | -DIN8 | 95           | 20 | *    | 190.0 | 194.0 | *  | *  | * | * | 3.37                  | 6.1 |

## CSM-DIN8

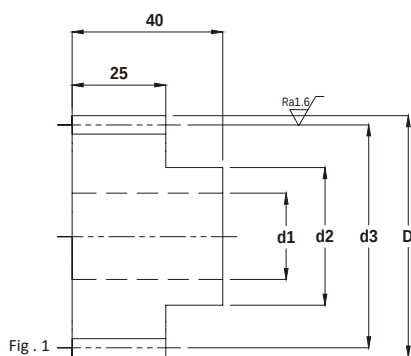


Fig. 1

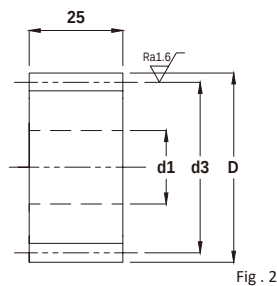


Fig. 2

Dimension : mm

Series CSM-DIN8 Straight Soft Pinions  
Quality Grade DIN 8  
Material S45C

Straight  
DIN

| Code       | Fig. | DIN   | No. of Teeth | d1 | d2 | d3    | D     | W1 | W2 | k | h | F <sub>ta</sub><br>kN | KG  |
|------------|------|-------|--------------|----|----|-------|-------|----|----|---|---|-----------------------|-----|
| Module 2.5 |      |       |              |    |    |       |       |    |    |   |   |                       |     |
| CSM0250121 | 1    | -DIN8 | 12           | 9  | 20 | 30.0  | 35.0  | *  | *  | * | * | *                     | 0.2 |
| CSM0250131 | 1    | -DIN8 | 13           | 9  | 20 | 32.5  | 37.5  | *  | *  | * | * | *                     | 0.3 |
| CSM0250141 | 1    | -DIN8 | 14           | 9  | 25 | 35.0  | 40.0  | *  | *  | * | * | *                     | 0.3 |
| CSM0250151 | 1    | -DIN8 | 15           | 9  | 25 | 37.5  | 42.5  | *  | *  | * | * | *                     | 0.3 |
| CSM0250161 | 1    | -DIN8 | 16           | 9  | 30 | 40.0  | 45.0  | *  | *  | * | * | 0.46                  | 0.4 |
| CSM0250171 | 1    | -DIN8 | 17           | 9  | 30 | 42.5  | 47.5  | *  | *  | * | * | 0.55                  | 0.4 |
| CSM0250181 | 1    | -DIN8 | 18           | 9  | 35 | 45.0  | 50.0  | *  | *  | * | * | 0.58                  | 0.5 |
| CSM0250191 | 1    | -DIN8 | 19           | 12 | 35 | 47.5  | 52.5  | *  | *  | * | * | 0.61                  | 0.5 |
| CSM0250201 | 1    | -DIN8 | 20           | 12 | 35 | 50.0  | 55.0  | *  | *  | * | * | 0.64                  | 0.6 |
| CSM0250211 | 1    | -DIN8 | 21           | 12 | 35 | 52.5  | 57.5  | *  | *  | * | * | 0.68                  | 0.6 |
| CSM0250221 | 1    | -DIN8 | 22           | 12 | 40 | 55.0  | 60.0  | *  | *  | * | * | 0.71                  | 0.7 |
| CSM0250231 | 1    | -DIN8 | 23           | 12 | 40 | 57.5  | 62.5  | *  | *  | * | * | 0.74                  | 0.7 |
| CSM0250241 | 1    | -DIN8 | 24           | 12 | 40 | 60.0  | 65.0  | *  | *  | * | * | 0.77                  | 0.8 |
| CSM0250251 | 1    | -DIN8 | 25           | 12 | 45 | 62.5  | 67.5  | *  | *  | * | * | 0.92                  | 0.8 |
| CSM0250301 | 1    | -DIN8 | 30           | 12 | 50 | 75.0  | 80.0  | *  | *  | * | * | 1.10                  | 1.2 |
| CSM0250351 | 1    | -DIN8 | 35           | 12 | 60 | 87.5  | 92.5  | *  | *  | * | * | 1.28                  | 1.6 |
| CSM0250381 | 1    | -DIN8 | 38           | 12 | 60 | 95.0  | 100.0 | *  | *  | * | * | 1.39                  | 1.8 |
| CSM0250401 | 1    | -DIN8 | 40           | 12 | 70 | 100.0 | 105.0 | *  | *  | * | * | 1.47                  | 2.0 |
| CSM0250451 | 1    | -DIN8 | 45           | 15 | 70 | 112.5 | 117.5 | *  | *  | * | * | 1.65                  | 2.6 |
| CSM0250481 | 1    | -DIN8 | 48           | 15 | 80 | 120.0 | 125.0 | *  | *  | * | * | 1.76                  | 2.9 |
| CSM0250501 | 1    | -DIN8 | 50           | 15 | 80 | 125.0 | 130.0 | *  | *  | * | * | 2.22                  | 3.1 |
| CSM0250571 | 1    | -DIN8 | 57           | 15 | 90 | 142.5 | 147.5 | *  | *  | * | * | 2.53                  | 4.0 |
| CSM0250601 | 1    | -DIN8 | 60           | 15 | 90 | 150.0 | 155.0 | *  | *  | * | * | 2.66                  | 4.4 |
| CSM0250761 | 1    | -DIN8 | 76           | 20 | *  | 190.0 | 195.0 | *  | *  | * | * | 3.37                  | 7.0 |
| CSM0250801 | 1    | -DIN8 | 80           | 25 | *  | 200.0 | 205.0 | *  | *  | * | * | 3.54                  | 7.8 |

## CSM-DIN8

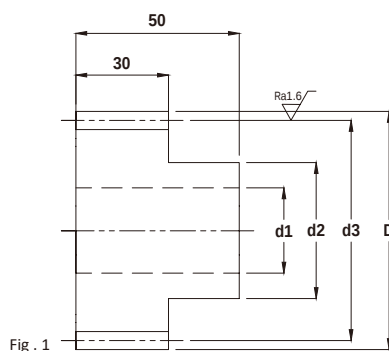


Fig. 1

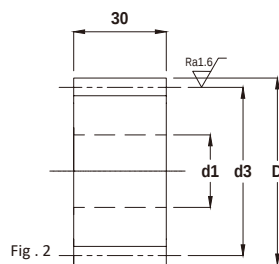


Fig. 2

Dimension : mm

Series CSM-DIN8 Straight Soft Pinions  
Quality Grade DIN 8  
Material S45C

| Code       | Fig. | DIN   | No. of Teeth | d1 | d2 | d3  | D   | W1 | W2 | k | h | F <sub>ta</sub><br>kN | KG   |
|------------|------|-------|--------------|----|----|-----|-----|----|----|---|---|-----------------------|------|
| Module 3   |      |       |              |    |    |     |     |    |    |   |   |                       |      |
| CSM0300121 | 1    | -DIN8 | 12           | 14 | 25 | 36  | 42  | *  | *  | * | * | *                     | 0.3  |
| CSM0300131 | 1    | -DIN8 | 13           | 14 | 25 | 39  | 45  | *  | *  | * | * | *                     | 0.4  |
| CSM0300141 | 1    | -DIN8 | 14           | 14 | 25 | 42  | 48  | *  | *  | * | * | *                     | 0.4  |
| CSM0300151 | 1    | -DIN8 | 15           | 14 | 35 | 45  | 51  | *  | *  | * | * | *                     | 0.5  |
| CSM0300161 | 1    | -DIN8 | 16           | 14 | 35 | 48  | 54  | *  | *  | * | * | 0.66                  | 0.5  |
| CSM0300171 | 1    | -DIN8 | 17           | 14 | 42 | 51  | 57  | *  | *  | * | * | 0.79                  | 0.6  |
| CSM0300181 | 1    | -DIN8 | 18           | 14 | 45 | 54  | 60  | *  | *  | * | * | 0.84                  | 0.7  |
| CSM0300191 | 1    | -DIN8 | 19           | 14 | 45 | 57  | 63  | *  | *  | * | * | 0.88                  | 0.7  |
| CSM0300201 | 1    | -DIN8 | 20           | 14 | 45 | 60  | 66  | *  | *  | * | * | 0.93                  | 0.8  |
| CSM0300211 | 1    | -DIN8 | 21           | 14 | 45 | 63  | 69  | *  | *  | * | * | 0.97                  | 0.9  |
| CSM0300221 | 1    | -DIN8 | 22           | 14 | 50 | 66  | 72  | *  | *  | * | * | 1.02                  | 1.0  |
| CSM0300231 | 1    | -DIN8 | 23           | 14 | 50 | 69  | 75  | *  | *  | * | * | 1.07                  | 1.0  |
| CSM0300241 | 1    | -DIN8 | 24           | 14 | 50 | 72  | 78  | *  | *  | * | * | 1.11                  | 1.1  |
| CSM0300251 | 1    | -DIN8 | 25           | 14 | 60 | 75  | 81  | *  | *  | * | * | 1.32                  | 1.2  |
| CSM0300271 | 1    | -DIN8 | 27           | 14 | 60 | 81  | 87  | *  | *  | * | * | 1.43                  | 1.4  |
| CSM0300281 | 1    | -DIN8 | 28           | 14 | 60 | 84  | 90  | *  | *  | * | * | 1.48                  | 1.5  |
| CSM0300282 | 1    | -DIN8 | 28           | 15 | 60 | 84  | 90  | *  | *  | * | * | 1.48                  | 1.5  |
| CSM0300301 | 1    | -DIN8 | 30           | 14 | 60 | 90  | 96  | *  | *  | * | * | 1.58                  | 1.7  |
| CSM0300321 | 1    | -DIN8 | 32           | 14 | 60 | 96  | 102 | *  | *  | * | * | 1.69                  | 1.9  |
| CSM0300351 | 1    | -DIN8 | 35           | 14 | 80 | 105 | 111 | *  | *  | * | * | 1.85                  | 2.3  |
| CSM0300361 | 1    | -DIN8 | 36           | 14 | 80 | 108 | 114 | *  | *  | * | * | 1.90                  | 2.4  |
| CSM0300381 | 1    | -DIN8 | 38           | 14 | 80 | 114 | 120 | *  | *  | * | * | 2.01                  | 2.7  |
| CSM0300401 | 1    | -DIN8 | 40           | 14 | 80 | 120 | 126 | *  | *  | * | * | 2.11                  | 2.9  |
| CSM0300451 | 2    | -DIN8 | 45           | 20 | *  | 135 | 141 | *  | *  | * | * | 2.38                  | 3.7  |
| CSM0300481 | 2    | -DIN8 | 48           | 20 | *  | 144 | 150 | *  | *  | * | * | 2.53                  | 4.2  |
| CSM0300501 | 2    | -DIN8 | 50           | 25 | *  | 150 | 156 | *  | *  | * | * | 3.19                  | 4.5  |
| CSM0300521 | 2    | -DIN8 | 52           | 25 | *  | 156 | 162 | *  | *  | * | * | 3.32                  | 5.0  |
| CSM0300561 | 2    | -DIN8 | 56           | 25 | *  | 168 | 174 | *  | *  | * | * | 3.57                  | 5.6  |
| CSM0300601 | 2    | -DIN8 | 60           | 25 | *  | 180 | 186 | *  | *  | * | * | 3.83                  | 6.4  |
| CSM0300761 | 2    | -DIN8 | 76           | 25 | *  | 228 | 234 | *  | *  | * | * | 4.85                  | 10.1 |
| CSM0300801 | 2    | -DIN8 | 80           | 25 | *  | 240 | 246 | *  | *  | * | * | 5.10                  | 11.2 |
| CSM0300951 | 2    | -DIN8 | 95           | 25 | *  | 285 | 291 | *  | *  | * | * | 6.06                  | 15.7 |

## CSM-DIN8

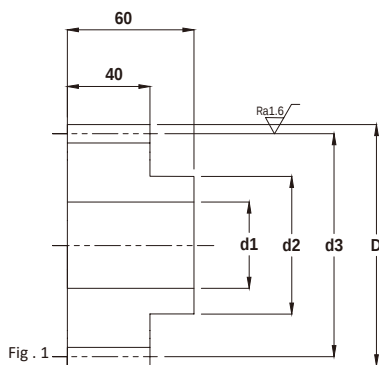


Fig. 1

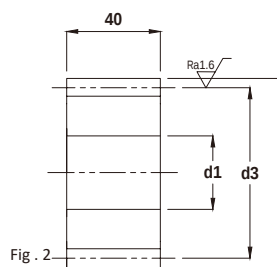


Fig. 2

Dimension : mm

Series CSM-DIN8 Straight Soft Pinions  
Quality Grade DIN 8  
Material S45C

Straight  
DIN

| Code       | Fig. | DIN   | No. of Teeth | d1 | d2 | d3  | D   | W1 | W2 | k | h | F <sub>ta</sub><br>kN | KG   |
|------------|------|-------|--------------|----|----|-----|-----|----|----|---|---|-----------------------|------|
| Module 4   |      |       |              |    |    |     |     |    |    |   |   |                       |      |
| CSM0400121 | 1    | -DIN8 | 12           | 16 | 35 | 48  | 56  | *  | *  | * | * | *                     | 0.6  |
| CSM0400131 | 1    | -DIN8 | 13           | 16 | 35 | 52  | 60  | *  | *  | * | * | *                     | 0.7  |
| CSM0400141 | 1    | -DIN8 | 14           | 16 | 45 | 56  | 64  | *  | *  | * | * | *                     | 0.8  |
| CSM0400151 | 1    | -DIN8 | 15           | 16 | 45 | 60  | 68  | *  | *  | * | * | *                     | 0.9  |
| CSM0400161 | 1    | -DIN8 | 16           | 16 | 45 | 64  | 72  | *  | *  | * | * | 1.18                  | 1.0  |
| CSM0400171 | 1    | -DIN8 | 17           | 16 | 50 | 68  | 76  | *  | *  | * | * | 1.40                  | 1.1  |
| CSM0400181 | 1    | -DIN8 | 18           | 16 | 50 | 72  | 80  | *  | *  | * | * | 1.49                  | 1.2  |
| CSM0400191 | 1    | -DIN8 | 19           | 16 | 60 | 76  | 84  | *  | *  | * | * | 1.57                  | 1.3  |
| CSM0400201 | 1    | -DIN8 | 20           | 16 | 60 | 80  | 88  | *  | *  | * | * | 1.65                  | 1.4  |
| CSM0400211 | 1    | -DIN8 | 21           | 16 | 70 | 84  | 92  | *  | *  | * | * | 1.73                  | 1.6  |
| CSM0400221 | 1    | -DIN8 | 22           | 16 | 70 | 88  | 96  | *  | *  | * | * | 1.81                  | 1.7  |
| CSM0400231 | 1    | -DIN8 | 23           | 16 | 75 | 92  | 100 | *  | *  | * | * | 1.90                  | 1.8  |
| CSM0400241 | 1    | -DIN8 | 24           | 16 | 75 | 96  | 104 | *  | *  | * | * | 1.98                  | 2.0  |
| CSM0400251 | 1    | -DIN8 | 25           | 16 | 75 | 100 | 108 | *  | *  | * | * | 2.35                  | 2.2  |
| CSM0400301 | 1    | -DIN8 | 30           | 16 | 75 | 120 | 128 | *  | *  | * | * | 2.82                  | 3.0  |
| CSM0400381 | 2    | -DIN8 | 38           | 25 | *  | 152 | 160 | *  | *  | * | * | 3.57                  | 4.7  |
| CSM0400401 | 2    | -DIN8 | 40           | 25 | *  | 160 | 168 | *  | *  | * | * | 3.75                  | 5.2  |
| CSM0400451 | 2    | -DIN8 | 45           | 25 | *  | 180 | 188 | *  | *  | * | * | 4.22                  | 6.5  |
| CSM0400481 | 2    | -DIN8 | 48           | 25 | *  | 192 | 200 | *  | *  | * | * | 4.51                  | 7.4  |
| CSM0400501 | 2    | -DIN8 | 50           | 25 | *  | 200 | 208 | *  | *  | * | * | 5.67                  | 8.0  |
| CSM0400521 | 2    | -DIN8 | 52           | 25 | *  | 208 | 216 | *  | *  | * | * | 5.90                  | 8.6  |
| CSM0400561 | 2    | -DIN8 | 56           | 25 | *  | 224 | 232 | *  | *  | * | * | 6.35                  | 10.0 |
| CSM0400601 | 2    | -DIN8 | 60           | 25 | *  | 240 | 248 | *  | *  | * | * | 6.80                  | 11.4 |
| CSM0400761 | 2    | -DIN8 | 76           | 25 | *  | 304 | 312 | *  | *  | * | * | 8.62                  | 18.0 |
| CSM0400801 | 2    | -DIN8 | 80           | 25 | *  | 320 | 328 | *  | *  | * | * | 9.07                  | 19.9 |
| CSM0400951 | 2    | -DIN8 | 95           | 25 | *  | 380 | 388 | *  | *  | * | * | 10.77                 | 27.8 |

## CSM-DIN8

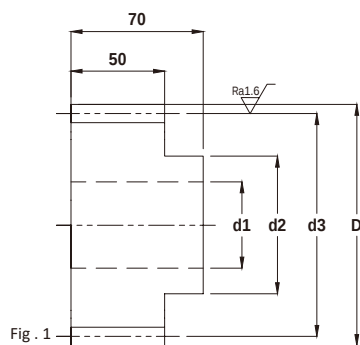


Fig. 1

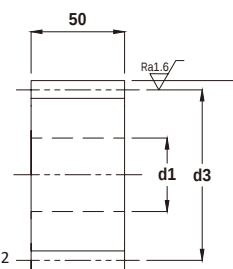


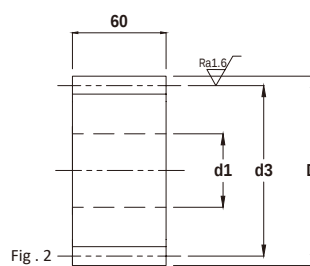
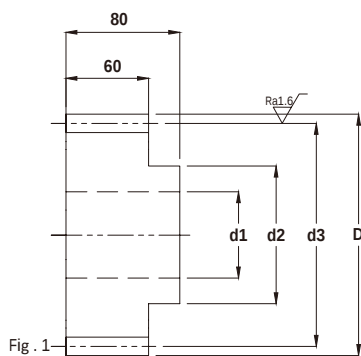
Fig. 2

Dimension : mm

Series CSM-DIN8 Straight Soft Pinions  
Quality Grade DIN 8  
Material S45C

| Code       | Fig. | DIN   | No. of Teeth | d1 | d2 | d3  | D   | W1 | W2 | k | h | F <sub>ta</sub><br>kN | KG   |
|------------|------|-------|--------------|----|----|-----|-----|----|----|---|---|-----------------------|------|
| Module 5   |      |       |              |    |    |     |     |    |    |   |   |                       |      |
| CSM0500121 | 1    | -DIN8 | 12           | 20 | 45 | 60  | 70  | *  | *  | * | * | *                     | 1.1  |
| CSM0500131 | 1    | -DIN8 | 13           | 20 | 45 | 65  | 75  | *  | *  | * | * | *                     | 1.2  |
| CSM0500141 | 1    | -DIN8 | 14           | 20 | 55 | 70  | 80  | *  | *  | * | * | *                     | 1.4  |
| CSM0500151 | 1    | -DIN8 | 15           | 20 | 60 | 75  | 85  | *  | *  | * | * | *                     | 1.6  |
| CSM0500161 | 1    | -DIN8 | 16           | 20 | 60 | 80  | 90  | *  | *  | * | * | 1.84                  | 1.7  |
| CSM0500171 | 1    | -DIN8 | 17           | 20 | 70 | 85  | 95  | *  | *  | * | * | 2.19                  | 1.9  |
| CSM0500181 | 1    | -DIN8 | 18           | 20 | 70 | 90  | 100 | *  | *  | * | * | 2.32                  | 2.2  |
| CSM0500191 | 1    | -DIN8 | 19           | 20 | 70 | 95  | 105 | *  | *  | * | * | 2.45                  | 2.4  |
| CSM0500201 | 1    | -DIN8 | 20           | 20 | 70 | 100 | 110 | *  | *  | * | * | 2.58                  | 2.6  |
| CSM0500211 | 1    | -DIN8 | 21           | 20 | 70 | 105 | 115 | *  | *  | * | * | 2.71                  | 2.9  |
| CSM0500221 | 1    | -DIN8 | 22           | 20 | 80 | 110 | 120 | *  | *  | * | * | 2.84                  | 3.1  |
| CSM0500231 | 1    | -DIN8 | 23           | 20 | 80 | 115 | 125 | *  | *  | * | * | 2.96                  | 3.4  |
| CSM0500241 | 1    | -DIN8 | 24           | 20 | 80 | 120 | 130 | *  | *  | * | * | 3.09                  | 3.6  |
| CSM0500251 | 1    | -DIN8 | 25           | 20 | 80 | 125 | 135 | *  | *  | * | * | 3.67                  | 3.9  |
| CSM0500301 | 1    | -DIN8 | 30           | 20 | 90 | 150 | 160 | *  | *  | * | * | 4.40                  | 5.5  |
| CSM0500361 | 2    | -DIN8 | 36           | 30 | *  | 180 | 190 | *  | *  | * | * | 5.28                  | 7.8  |
| CSM0500381 | 2    | -DIN8 | 38           | 30 | *  | 190 | 200 | *  | *  | * | * | 5.57                  | 8.6  |
| CSM0500401 | 2    | -DIN8 | 40           | 30 | *  | 200 | 210 | *  | *  | * | * | 5.87                  | 9.5  |
| CSM0500451 | 2    | -DIN8 | 45           | 30 | *  | 225 | 235 | *  | *  | * | * | 6.60                  | 11.9 |
| CSM0500481 | 2    | -DIN8 | 48           | 30 | *  | 240 | 250 | *  | *  | * | * | 7.04                  | 13.5 |
| CSM0500501 | 2    | -DIN8 | 50           | 30 | *  | 250 | 260 | *  | *  | * | * | 8.86                  | 14.6 |
| CSM0500521 | 2    | -DIN8 | 52           | 30 | *  | 260 | 270 | *  | *  | * | * | 9.21                  | 15.7 |
| CSM0500561 | 2    | -DIN8 | 56           | 30 | *  | 280 | 290 | *  | *  | * | * | 9.92                  | 18.1 |
| CSM0500601 | 2    | -DIN8 | 60           | 30 | *  | 300 | 310 | *  | *  | * | * | 10.63                 | 20.7 |
| CSM0500761 | 2    | -DIN8 | 76           | 30 | *  | 380 | 390 | *  | *  | * | * | 13.47                 | 32.8 |
| CSM0500801 | 2    | -DIN8 | 80           | 30 | *  | 400 | 410 | *  | *  | * | * | 14.18                 | 36.3 |
| CSM0500951 | 2    | -DIN8 | 95           | 30 | *  | 475 | 485 | *  | *  | * | * | 16.83                 | 50.8 |

## CSM-DIN8



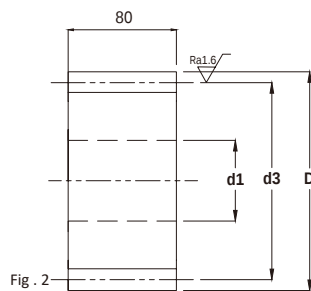
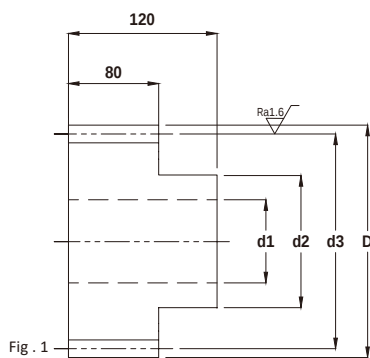
Dimension : mm

Series CSM-DIN8 Straight Soft Pinions  
Quality Grade DIN 8  
Material S45C



| Code       | Fig. | DIN   | No. of Teeth | d1 | d2  | d3  | D   | W1 | W2 | k | h | F <sub>ta</sub><br>kN | KG   |
|------------|------|-------|--------------|----|-----|-----|-----|----|----|---|---|-----------------------|------|
| Module 6   |      |       |              |    |     |     |     |    |    |   |   |                       |      |
| CSM0600151 | 1    | -DIN8 | 15           | 20 | 60  | 90  | 102 | *  | *  | * | * | *                     | 2.6  |
| CSM0600191 | 1    | -DIN8 | 19           | 20 | 80  | 114 | 126 | *  | *  | * | * | 3.53                  | 3.9  |
| CSM0600201 | 1    | -DIN8 | 20           | 20 | 90  | 120 | 132 | *  | *  | * | * | 3.71                  | 4.3  |
| CSM0600211 | 1    | -DIN8 | 21           | 20 | 90  | 126 | 138 | *  | *  | * | * | 3.90                  | 4.7  |
| CSM0600221 | 1    | -DIN8 | 22           | 20 | 100 | 132 | 144 | *  | *  | * | * | 4.08                  | 5.1  |
| CSM0600251 | 1    | -DIN8 | 25           | 20 | 110 | 150 | 162 | *  | *  | * | * | 5.28                  | 6.5  |
| CSM0600301 | 2    | -DIN8 | 30           | 30 | *   | 180 | 192 | *  | *  | * | * | 6.34                  | 9.1  |
| CSM0600361 | 2    | -DIN8 | 36           | 30 | *   | 216 | 228 | *  | *  | * | * | 7.60                  | 12.8 |

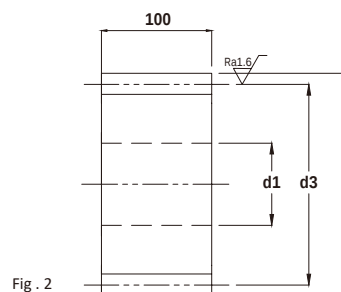
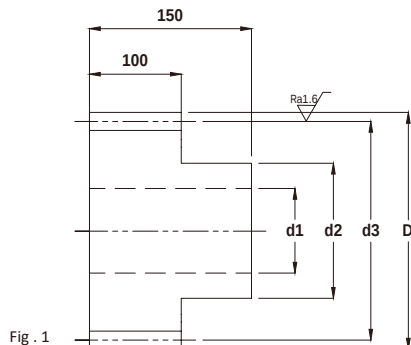
## CSM-DIN8



Dimension : mm

Series CSM-DIN8 Straight Soft Pinions  
Quality Grade DIN 8  
Material S45C

| Code       | Fig. | DIN   | No. of Teeth | d1 | d2  | d3  | D   | W1 | W2 | k | h | F <sub>ta</sub><br>kN | KG   |
|------------|------|-------|--------------|----|-----|-----|-----|----|----|---|---|-----------------------|------|
| Module 8   |      |       |              |    |     |     |     |    |    |   |   |                       |      |
| CSM0800151 | 1    | -DIN8 | 15           | 40 | 90  | 120 | 136 | *  | *  | * | * | *                     | 6.8  |
| CSM0800181 | 1    | -DIN8 | 18           | 40 | 100 | 144 | 160 | *  | *  | * | * | 5.94                  | 9.5  |
| CSM0800201 | 1    | -DIN8 | 20           | 40 | 120 | 160 | 176 | *  | *  | * | * | 6.60                  | 11.5 |
| CSM0800241 | 1    | -DIN8 | 24           | 40 | 150 | 192 | 208 | *  | *  | * | * | 7.92                  | 16.0 |
| CSM0800251 | 1    | -DIN8 | 25           | 40 | 150 | 200 | 216 | *  | *  | * | * | 9.39                  | 17.3 |
| CSM0800301 | 1    | -DIN8 | 30           | 40 | 190 | 240 | 256 | *  | *  | * | * | 11.26                 | 24.2 |



Dimension : mm

| Code       | Fig. | DIN   | No. of Teeth | d1 | d2  | d3  | D   | W1 | W2 | k | h | F <sub>ta</sub><br>kN | KG   |
|------------|------|-------|--------------|----|-----|-----|-----|----|----|---|---|-----------------------|------|
| Module 10  |      |       |              |    |     |     |     |    |    |   |   |                       |      |
| CSM1000201 | 2    | -DIN8 | 20           | 40 | 150 | 200 | 220 | *  | *  | * | * | 10.31                 | 22.4 |

## MSMH-DIN10

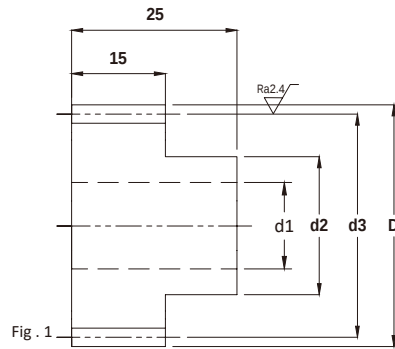


Fig. 1

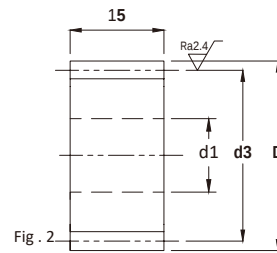


Fig. 2

Dimension : mm

Series MSMH-DIN10 Straight Hardened Pinions

Quality Grade DIN 10

Material SCM415/SCM440

Hardness: HRC 50~55°

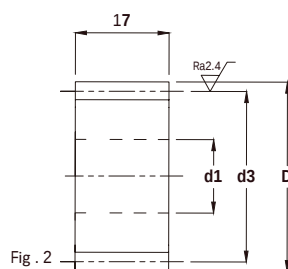
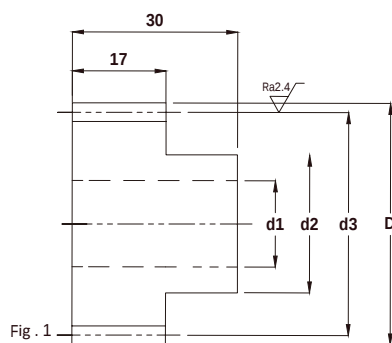
Surfaces: Sand-blasted

Other surface treatments are available upon request.

Straight  
DIN

| Code        | Fig. | DIN    | No. of Teeth | d1 | d2 | d3    | D     | W1 | W2 | k | h | F <sub>ta</sub><br>kN | KG  |
|-------------|------|--------|--------------|----|----|-------|-------|----|----|---|---|-----------------------|-----|
| Module 1    |      |        |              |    |    |       |       |    |    |   |   |                       |     |
| MSMH0100121 | 1    | -DIN10 | 12           | 6  | 9  | 12.0  | 14.0  | *  | *  | * | * | *                     | 0.1 |
| MSMH0100131 | 1    | -DIN10 | 13           | 6  | 9  | 13.0  | 15.0  | *  | *  | * | * | *                     | 0.1 |
| MSMH0100141 | 1    | -DIN10 | 14           | 6  | 11 | 14.0  | 16.0  | *  | *  | * | * | *                     | 0.1 |
| MSMH0100151 | 1    | -DIN10 | 15           | 6  | 12 | 15.0  | 17.0  | *  | *  | * | * | *                     | 0.1 |
| MSMH0100161 | 1    | -DIN10 | 16           | 6  | 12 | 16.0  | 18.0  | *  | *  | * | * | 0.58                  | 0.1 |
| MSMH0100171 | 1    | -DIN10 | 17           | 6  | 14 | 17.0  | 19.0  | *  | *  | * | * | 0.62                  | 0.1 |
| MSMH0100181 | 1    | -DIN10 | 18           | 6  | 15 | 18.0  | 20.0  | *  | *  | * | * | 0.66                  | 0.1 |
| MSMH0100191 | 1    | -DIN10 | 19           | 6  | 15 | 19.0  | 21.0  | *  | *  | * | * | 0.75                  | 0.1 |
| MSMH0100201 | 1    | -DIN10 | 20           | 6  | 16 | 20.0  | 22.0  | *  | *  | * | * | 0.79                  | 0.1 |
| MSMH0100211 | 1    | -DIN10 | 21           | 6  | 16 | 21.0  | 23.0  | *  | *  | * | * | 0.83                  | 0.1 |
| MSMH0100221 | 1    | -DIN10 | 22           | 6  | 18 | 22.0  | 24.0  | *  | *  | * | * | 0.87                  | 0.1 |
| MSMH0100231 | 1    | -DIN10 | 23           | 6  | 18 | 23.0  | 25.0  | *  | *  | * | * | 0.91                  | 0.1 |
| MSMH0100241 | 1    | -DIN10 | 24           | 9  | 20 | 24.0  | 26.0  | *  | *  | * | * | 0.95                  | 0.1 |
| MSMH0100251 | 1    | -DIN10 | 25           | 9  | 20 | 25.0  | 27.0  | *  | *  | * | * | 1.10                  | 0.1 |
| MSMH0100301 | 1    | -DIN10 | 30           | 9  | 20 | 30.0  | 32.0  | *  | *  | * | * | 1.33                  | 0.1 |
| MSMH0100351 | 1    | -DIN10 | 35           | 9  | 25 | 35.0  | 37.0  | *  | *  | * | * | 1.55                  | 0.2 |
| MSMH0100381 | 1    | -DIN10 | 38           | 9  | 25 | 38.0  | 40.0  | *  | *  | * | * | 1.91                  | 0.2 |
| MSMH0100401 | 1    | -DIN10 | 40           | 9  | 25 | 40.0  | 42.0  | *  | *  | * | * | 2.01                  | 0.2 |
| MSMH0100451 | 1    | -DIN10 | 45           | 9  | 30 | 45.0  | 47.0  | *  | *  | * | * | 2.26                  | 0.3 |
| MSMH0100481 | 1    | -DIN10 | 48           | 9  | 30 | 48.0  | 50.0  | *  | *  | * | * | 2.33                  | 0.3 |
| MSMH0100501 | 1    | -DIN10 | 50           | 9  | 30 | 50.0  | 52.0  | *  | *  | * | * | 2.35                  | 0.3 |
| MSMH0100571 | 1    | -DIN10 | 57           | 9  | 40 | 57.0  | 59.0  | *  | *  | * | * | 2.40                  | 0.4 |
| MSMH0100601 | 1    | -DIN10 | 60           | 9  | 40 | 60.0  | 62.0  | *  | *  | * | * | 2.42                  | 0.4 |
| MSMH0100761 | 2    | -DIN10 | 76           | 10 | *  | 76.0  | 78.0  | *  | *  | * | * | 2.49                  | 0.7 |
| MSMH0100801 | 2    | -DIN10 | 80           | 10 | *  | 80.0  | 82.0  | *  | *  | * | * | 2.50                  | 0.8 |
| MSMH0100951 | 2    | -DIN10 | 95           | 10 | *  | 95.0  | 97.0  | *  | *  | * | * | 2.55                  | 1.1 |
| MSMH0101001 | 2    | -DIN10 | 100          | 10 | *  | 100.0 | 102.0 | *  | *  | * | * | 2.56                  | 1.2 |
| MSMH0101141 | 2    | -DIN10 | 114          | 10 | *  | 114.0 | 116.0 | *  | *  | * | * | 2.59                  | 1.6 |

## MSMH-DIN10



Dimension : mm

Series MSMH-DIN10 Straight Hardened Pinions

Quality Grade DIN 10

Material SCM415/SCM440

Hardness: HRC 50~55°

Surfaces: Sand-blasted

Other surface treatments are available upon request.

| Code        | Fig. | DIN    | No. of Teeth | d1 | d2 | d3    | D     | W1 | W2 | k | h | F <sub>ta</sub><br>kN | KG  |
|-------------|------|--------|--------------|----|----|-------|-------|----|----|---|---|-----------------------|-----|
| Module 1.5  |      |        |              |    |    |       |       |    |    |   |   |                       |     |
| MSMH0150121 | 1    | -DIN10 | 12           | 6  | 14 | 18.0  | 21.0  | *  | *  | * | * | *                     | 0.1 |
| MSMH0150131 | 1    | -DIN10 | 13           | 6  | 14 | 19.5  | 22.5  | *  | *  | * | * | *                     | 0.1 |
| MSMH0150141 | 1    | -DIN10 | 14           | 6  | 16 | 21.0  | 24.0  | *  | *  | * | * | *                     | 0.1 |
| MSMH0150151 | 1    | -DIN10 | 15           | 6  | 18 | 22.5  | 25.5  | *  | *  | * | * | *                     | 0.1 |
| MSMH0150161 | 1    | -DIN10 | 16           | 6  | 18 | 24.0  | 27.0  | *  | *  | * | * | 1.07                  | 0.1 |
| MSMH0150171 | 1    | -DIN10 | 17           | 9  | 20 | 25.5  | 28.5  | *  | *  | * | * | 1.14                  | 0.1 |
| MSMH0150181 | 1    | -DIN10 | 18           | 9  | 20 | 27.0  | 30.0  | *  | *  | * | * | 1.21                  | 0.1 |
| MSMH0150191 | 1    | -DIN10 | 19           | 9  | 20 | 28.5  | 31.5  | *  | *  | * | * | 1.43                  | 0.1 |
| MSMH0150201 | 1    | -DIN10 | 20           | 9  | 25 | 30.0  | 33.0  | *  | *  | * | * | 1.50                  | 0.2 |
| MSMH0150211 | 1    | -DIN10 | 21           | 9  | 25 | 31.5  | 34.5  | *  | *  | * | * | 1.58                  | 0.2 |
| MSMH0150221 | 1    | -DIN10 | 22           | 9  | 25 | 33.0  | 36.0  | *  | *  | * | * | 1.65                  | 0.2 |
| MSMH0150231 | 1    | -DIN10 | 23           | 9  | 25 | 34.5  | 37.5  | *  | *  | * | * | 1.73                  | 0.2 |
| MSMH0150241 | 1    | -DIN10 | 24           | 9  | 25 | 36.0  | 39.0  | *  | *  | * | * | 1.80                  | 0.2 |
| MSMH0150251 | 1    | -DIN10 | 25           | 9  | 25 | 37.5  | 40.5  | *  | *  | * | * | 1.88                  | 0.2 |
| MSMH0150301 | 1    | -DIN10 | 30           | 9  | 30 | 45.0  | 48.0  | *  | *  | * | * | 2.56                  | 0.3 |
| MSMH0150351 | 1    | -DIN10 | 35           | 9  | 30 | 52.5  | 55.5  | *  | *  | * | * | 2.99                  | 0.4 |
| MSMH0150381 | 1    | -DIN10 | 38           | 9  | 40 | 57.0  | 60.0  | *  | *  | * | * | 3.25                  | 0.5 |
| MSMH0150401 | 1    | -DIN10 | 40           | 9  | 40 | 60.0  | 63.0  | *  | *  | * | * | 3.42                  | 0.6 |
| MSMH0150451 | 1    | -DIN10 | 45           | 12 | 50 | 67.5  | 70.5  | *  | *  | * | * | 3.84                  | 0.7 |
| MSMH0150481 | 1    | -DIN10 | 48           | 12 | 50 | 72.0  | 75.0  | *  | *  | * | * | 3.96                  | 0.8 |
| MSMH0150501 | 1    | -DIN10 | 50           | 12 | 50 | 75.0  | 78.0  | *  | *  | * | * | 3.99                  | 0.8 |
| MSMH0150571 | 1    | -DIN10 | 57           | 12 | 60 | 85.5  | 88.5  | *  | *  | * | * | 4.08                  | 1.1 |
| MSMH0150601 | 1    | -DIN10 | 60           | 12 | 60 | 90.0  | 93.0  | *  | *  | * | * | 4.11                  | 1.2 |
| MSMH0150761 | 2    | -DIN10 | 76           | 16 | *  | 114.0 | 117.0 | *  | *  | * | * | 4.23                  | 1.9 |
| MSMH0150801 | 2    | -DIN10 | 80           | 16 | *  | 120.0 | 123.0 | *  | *  | * | * | 4.26                  | 2.1 |
| MSMH0150951 | 2    | -DIN10 | 95           | 20 | *  | 142.5 | 145.5 | *  | *  | * | * | 4.34                  | 2.9 |

## MSMH-DIN10

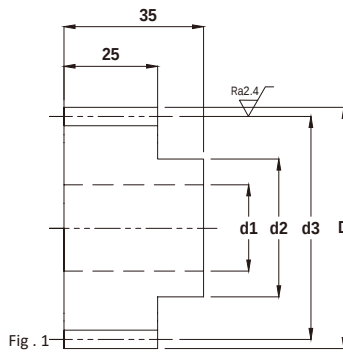


Fig. 1

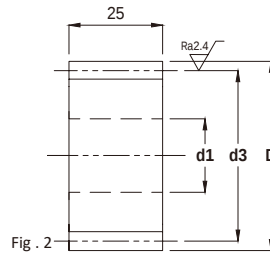


Fig. 2

Dimension : mm

## Series MSMH-DIN10 Straight Hardened Pinions

## Quality Grade DIN 10

Material SCM415/SCM440

Hardness: HRC 50~55°

Surfaces: Sand-blasted

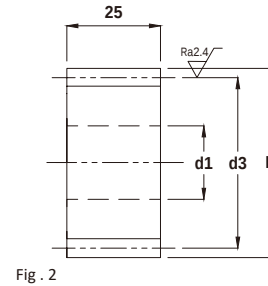
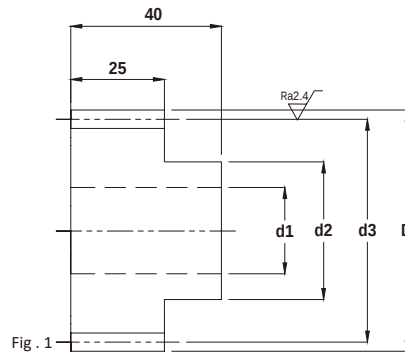
Other surface treatments are available upon request.

Straight  
DIN

| Code        | Fig. | DIN    | No. of Teeth | d1 | d2   | d3    | D     | W1 | W2 | k | h | F <sub>ta</sub><br>kN | KG  |
|-------------|------|--------|--------------|----|------|-------|-------|----|----|---|---|-----------------------|-----|
| Module 2    |      |        |              |    |      |       |       |    |    |   |   |                       |     |
| MSMH0200121 | 1    | -DIN10 | 12           | 9  | 18   | 24.0  | 28.0  | *  | *  | * | * | *                     | 0.1 |
| MSMH0200131 | 1    | -DIN10 | 13           | 9  | 19   | 26.0  | 30.0  | *  | *  | * | * | *                     | 0.1 |
| MSMH0200141 | 1    | -DIN10 | 14           | 9  | 19   | 28.0  | 32.0  | *  | *  | * | * | *                     | 0.2 |
| MSMH0200151 | 1    | -DIN10 | 15           | 9  | 24.5 | 30.0  | 34.0  | *  | *  | * | * | *                     | 0.2 |
| MSMH0200161 | 1    | -DIN10 | 16           | 9  | 25   | 32.0  | 36.0  | *  | *  | * | * | 2.10                  | 0.2 |
| MSMH0200171 | 1    | -DIN10 | 17           | 9  | 25   | 34.0  | 38.0  | *  | *  | * | * | 2.23                  | 0.2 |
| MSMH0200181 | 1    | -DIN10 | 18           | 9  | 25   | 36.0  | 40.0  | *  | *  | * | * | 2.36                  | 0.3 |
| MSMH0200191 | 1    | -DIN10 | 19           | 9  | 25   | 38.0  | 42.0  | *  | *  | * | * | 2.49                  | 0.3 |
| MSMH0200201 | 1    | -DIN10 | 20           | 9  | 30   | 40.0  | 44.0  | *  | *  | * | * | 2.63                  | 0.3 |
| MSMH0200211 | 1    | -DIN10 | 21           | 9  | 30   | 42.0  | 46.0  | *  | *  | * | * | 3.09                  | 0.3 |
| MSMH0200221 | 1    | -DIN10 | 22           | 9  | 30   | 44.0  | 48.0  | *  | *  | * | * | 3.24                  | 0.4 |
| MSMH0200231 | 1    | -DIN10 | 23           | 9  | 30   | 46.0  | 50.0  | *  | *  | * | * | 3.39                  | 0.4 |
| MSMH0200241 | 1    | -DIN10 | 24           | 12 | 35   | 48.0  | 52.0  | *  | *  | * | * | 3.53                  | 0.4 |
| MSMH0200251 | 1    | -DIN10 | 25           | 12 | 35   | 50.0  | 54.0  | *  | *  | * | * | 3.68                  | 0.5 |
| MSMH0200281 | 1    | -DIN10 | 28           | 12 | 40   | 56.0  | 60.0  | *  | *  | * | * | 4.12                  | 0.6 |
| MSMH0200301 | 1    | -DIN10 | 30           | 12 | 40   | 60.0  | 64.0  | *  | *  | * | * | 4.42                  | 0.7 |
| MSMH0200321 | 1    | -DIN10 | 32           | 12 | 40   | 64.0  | 68.0  | *  | *  | * | * | 5.36                  | 0.7 |
| MSMH0200351 | 1    | -DIN10 | 35           | 12 | 50   | 70.0  | 74.0  | *  | *  | * | * | 5.86                  | 0.9 |
| MSMH0200361 | 1    | -DIN10 | 36           | 12 | 50   | 72.0  | 76.0  | *  | *  | * | * | 6.03                  | 0.9 |
| MSMH0200381 | 1    | -DIN10 | 38           | 12 | 50   | 76.0  | 80.0  | *  | *  | * | * | 6.36                  | 1.0 |
| MSMH0200401 | 1    | -DIN10 | 40           | 12 | 50   | 80.0  | 84.0  | *  | *  | * | * | 6.70                  | 1.1 |
| MSMH0200451 | 1    | -DIN10 | 45           | 12 | 60   | 90.0  | 94.0  | *  | *  | * | * | 7.54                  | 1.4 |
| MSMH0200481 | 1    | -DIN10 | 48           | 15 | 70   | 96.0  | 100.0 | *  | *  | * | * | 7.77                  | 1.6 |
| MSMH0200501 | 1    | -DIN10 | 50           | 15 | 70   | 100.0 | 104.0 | *  | *  | * | * | 7.83                  | 1.8 |
| MSMH0200561 | 1    | -DIN10 | 56           | 15 | 70   | 112.0 | 116.0 | *  | *  | * | * | 7.97                  | 2.2 |
| MSMH0200571 | 1    | -DIN10 | 57           | 15 | 70   | 114.0 | 118.0 | *  | *  | * | * | 7.99                  | 2.3 |
| MSMH0200601 | 1    | -DIN10 | 60           | 15 | 70   | 120.0 | 124.0 | *  | *  | * | * | 8.06                  | 2.5 |
| MSMH0200761 | 2    | -DIN10 | 76           | 20 | *    | 152.0 | 156.0 | *  | *  | * | * | 8.30                  | 3.9 |
| MSMH0200801 | 2    | -DIN10 | 80           | 20 | *    | 160.0 | 164.0 | *  | *  | * | * | 8.35                  | 4.4 |
| MSMH0200951 | 2    | -DIN10 | 95           | 20 | *    | 190.0 | 194.0 | *  | *  | * | * | 8.50                  | 6.1 |

※Weight only for reference. Actual scale should be Weighing.

## MSMH-DIN10



Dimension : mm

## Series MSMH-DIN10 Straight Hardened Pinions

Quality Grade DIN 10

Material SCM415/SCM440

Hardness: HRC 50~55°

Surfaces: Sand-blasted

Other surface treatments are available upon request.

| Code        | Fig. | DIN    | No. of Teeth | d1 | d2 | d3    | D     | W1 | W2 | k | h | F <sub>ta</sub><br>kN | KG   |
|-------------|------|--------|--------------|----|----|-------|-------|----|----|---|---|-----------------------|------|
| Module 2.5  |      |        |              |    |    |       |       |    |    |   |   |                       |      |
| MSMH0250121 | 1    | -DIN10 | 12           | 9  | 20 | 30.0  | 35.0  | *  | *  | * | * | *                     | 0.3  |
| MSMH0250131 | 1    | -DIN10 | 13           | 9  | 20 | 32.5  | 37.5  | *  | *  | * | * | *                     | 0.3  |
| MSMH0250141 | 1    | -DIN10 | 14           | 9  | 25 | 35.0  | 40.0  | *  | *  | * | * | *                     | 0.3  |
| MSMH0250151 | 1    | -DIN10 | 15           | 9  | 25 | 37.5  | 42.5  | *  | *  | * | * | *                     | 0.4  |
| MSMH0250161 | 1    | -DIN10 | 16           | 9  | 30 | 40.0  | 45.0  | *  | *  | * | * | 2.63                  | 0.4  |
| MSMH0250171 | 1    | -DIN10 | 17           | 9  | 30 | 42.5  | 47.5  | *  | *  | * | * | 3.13                  | 0.5  |
| MSMH0250181 | 1    | -DIN10 | 18           | 9  | 35 | 45.0  | 50.0  | *  | *  | * | * | 3.31                  | 0.5  |
| MSMH0250191 | 1    | -DIN10 | 19           | 12 | 35 | 47.5  | 52.5  | *  | *  | * | * | 3.50                  | 0.6  |
| MSMH0250201 | 1    | -DIN10 | 20           | 12 | 35 | 50.0  | 55.0  | *  | *  | * | * | 3.68                  | 0.6  |
| MSMH0250211 | 1    | -DIN10 | 21           | 12 | 35 | 52.5  | 57.5  | *  | *  | * | * | 3.86                  | 0.7  |
| MSMH0250221 | 1    | -DIN10 | 22           | 12 | 40 | 55.0  | 60.0  | *  | *  | * | * | 4.05                  | 0.7  |
| MSMH0250231 | 1    | -DIN10 | 23           | 12 | 40 | 57.5  | 62.5  | *  | *  | * | * | 4.23                  | 0.8  |
| MSMH0250241 | 1    | -DIN10 | 24           | 12 | 40 | 60.0  | 65.0  | *  | *  | * | * | 4.42                  | 0.9  |
| MSMH0250251 | 1    | -DIN10 | 25           | 12 | 45 | 62.5  | 67.5  | *  | *  | * | * | 5.23                  | 0.9  |
| MSMH0250301 | 1    | -DIN10 | 30           | 12 | 50 | 75.0  | 80.0  | *  | *  | * | * | 6.28                  | 1.3  |
| MSMH0250351 | 1    | -DIN10 | 35           | 12 | 60 | 87.5  | 92.5  | *  | *  | * | * | 7.33                  | 1.8  |
| MSMH0250381 | 1    | -DIN10 | 38           | 12 | 60 | 95.0  | 100.0 | *  | *  | * | * | 7.96                  | 2.1  |
| MSMH0250401 | 1    | -DIN10 | 40           | 12 | 70 | 100.0 | 105.0 | *  | *  | * | * | 8.37                  | 2.3  |
| MSMH0250451 | 1    | -DIN10 | 45           | 15 | 70 | 112.5 | 117.5 | *  | *  | * | * | 9.42                  | 2.9  |
| MSMH0250481 | 1    | -DIN10 | 48           | 15 | 80 | 120.0 | 125.0 | *  | *  | * | * | 9.71                  | 3.3  |
| MSMH0250501 | 1    | -DIN10 | 50           | 15 | 80 | 125.0 | 130.0 | *  | *  | * | * | 9.79                  | 3.5  |
| MSMH0250571 | 1    | -DIN10 | 57           | 15 | 90 | 142.5 | 147.5 | *  | *  | * | * | 9.99                  | 4.5  |
| MSMH0250601 | 1    | -DIN10 | 60           | 15 | 90 | 150.0 | 155.0 | *  | *  | * | * | 10.07                 | 5.0  |
| MSMH0250761 | 1    | -DIN10 | 76           | 20 | *  | 190.0 | 195.0 | *  | *  | * | * | 10.37                 | 7.9  |
| MSMH0250801 | 1    | -DIN10 | 80           | 25 | *  | 200.0 | 205.0 | *  | *  | * | * | 10.43                 | 8.7  |
| MSMH0250951 | 1    | -DIN10 | 95           | 25 | *  | 237.5 | 242.5 | *  | *  | * | * | 10.63                 | 12.2 |

※Weight only for reference. Actual scale should be Weighing.

## MSMH-DIN10

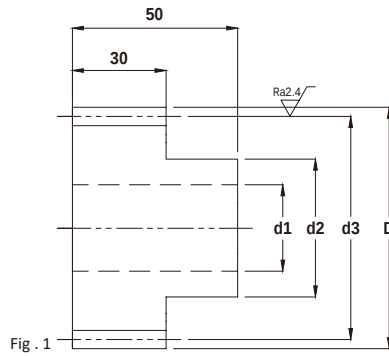


Fig. 1

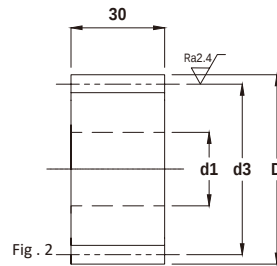


Fig. 2

Dimension : mm

## Series MSMH-DIN10 Straight Hardened Pinions

## Quality Grade DIN 10

Material SCM415/SCM440

Hardness: HRC 50~55°

Surfaces: Sand-blasted

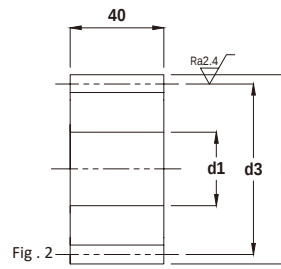
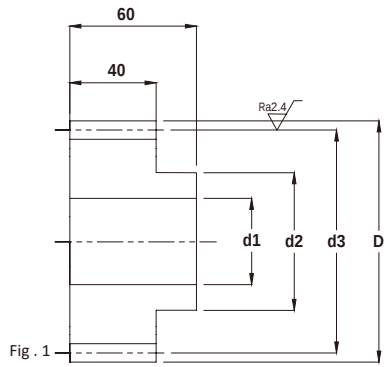
Other surface treatments are available upon request.

Straight  
DIN

| Code        | Fig. | DIN    | No. of Teeth | d1 | d2 | d3    | D     | W1 | W2 | k | h | F <sub>ta</sub><br>kN | KG  |
|-------------|------|--------|--------------|----|----|-------|-------|----|----|---|---|-----------------------|-----|
| Module 3    |      |        |              |    |    |       |       |    |    |   |   |                       |     |
| MSMH0300121 | 1    | -DIN10 | 12           | 14 | 25 | 24.0  | 28.0  | *  | *  | * | * | *                     | 0.1 |
| MSMH0300131 | 1    | -DIN10 | 13           | 14 | 25 | 26.0  | 30.0  | *  | *  | * | * | *                     | 0.1 |
| MSMH0300141 | 1    | -DIN10 | 14           | 14 | 25 | 28.0  | 32.0  | *  | *  | * | * | *                     | 0.2 |
| MSMH0300151 | 1    | -DIN10 | 15           | 14 | 35 | 30.0  | 34.0  | *  | *  | * | * | *                     | 0.2 |
| MSMH0300161 | 1    | -DIN10 | 16           | 14 | 35 | 32.0  | 36.0  | *  | *  | * | * | 2.10                  | 0.2 |
| MSMH0300171 | 1    | -DIN10 | 17           | 14 | 42 | 34.0  | 38.0  | *  | *  | * | * | 2.23                  | 0.2 |
| MSMH0300181 | 1    | -DIN10 | 18           | 14 | 45 | 36.0  | 40.0  | *  | *  | * | * | 2.36                  | 0.3 |
| MSMH0300191 | 1    | -DIN10 | 19           | 14 | 45 | 38.0  | 42.0  | *  | *  | * | * | 2.49                  | 0.3 |
| MSMH0300201 | 1    | -DIN10 | 20           | 14 | 45 | 40.0  | 44.0  | *  | *  | * | * | 2.63                  | 0.3 |
| MSMH0300211 | 1    | -DIN10 | 21           | 14 | 45 | 42.0  | 46.0  | *  | *  | * | * | 3.09                  | 0.3 |
| MSMH0200221 | 1    | -DIN10 | 22           | 9  | 50 | 44.0  | 48.0  | *  | *  | * | * | 3.24                  | 0.4 |
| MSMH0200231 | 1    | -DIN10 | 23           | 9  | 30 | 46.0  | 50.0  | *  | *  | * | * | 3.39                  | 0.4 |
| MSMH0200241 | 1    | -DIN10 | 24           | 12 | 35 | 48.0  | 52.0  | *  | *  | * | * | 3.53                  | 0.4 |
| MSMH0200251 | 1    | -DIN10 | 25           | 12 | 35 | 50.0  | 54.0  | *  | *  | * | * | 3.68                  | 0.5 |
| MSMH0200281 | 1    | -DIN10 | 28           | 12 | 40 | 56.0  | 60.0  | *  | *  | * | * | 4.12                  | 0.6 |
| MSMH0200301 | 1    | -DIN10 | 30           | 12 | 40 | 60.0  | 64.0  | *  | *  | * | * | 4.42                  | 0.7 |
| MSMH0200321 | 1    | -DIN10 | 32           | 12 | 40 | 64.0  | 68.0  | *  | *  | * | * | 5.36                  | 0.7 |
| MSMH0200351 | 1    | -DIN10 | 35           | 12 | 50 | 70.0  | 74.0  | *  | *  | * | * | 5.86                  | 0.9 |
| MSMH0200361 | 1    | -DIN10 | 36           | 12 | 50 | 72.0  | 76.0  | *  | *  | * | * | 6.03                  | 0.9 |
| MSMH0200381 | 1    | -DIN10 | 38           | 12 | 50 | 76.0  | 80.0  | *  | *  | * | * | 6.36                  | 1.0 |
| MSMH0200401 | 1    | -DIN10 | 40           | 12 | 50 | 80.0  | 84.0  | *  | *  | * | * | 6.70                  | 1.1 |
| MSMH0200451 | 1    | -DIN10 | 45           | 12 | 60 | 90.0  | 94.0  | *  | *  | * | * | 7.54                  | 1.4 |
| MSMH0200481 | 1    | -DIN10 | 48           | 15 | 70 | 96.0  | 100.0 | *  | *  | * | * | 7.77                  | 1.6 |
| MSMH0200501 | 1    | -DIN10 | 50           | 15 | 70 | 100.0 | 104.0 | *  | *  | * | * | 7.83                  | 1.8 |
| MSMH0200561 | 1    | -DIN10 | 56           | 15 | 70 | 112.0 | 116.0 | *  | *  | * | * | 7.97                  | 2.2 |
| MSMH0200571 | 1    | -DIN10 | 57           | 15 | 70 | 114.0 | 118.0 | *  | *  | * | * | 7.99                  | 2.3 |
| MSMH0200601 | 1    | -DIN10 | 60           | 15 | 70 | 120.0 | 124.0 | *  | *  | * | * | 8.06                  | 2.5 |
| MSMH0200761 | 2    | -DIN10 | 76           | 20 | *  | 152.0 | 156.0 | *  | *  | * | * | 8.30                  | 3.9 |
| MSMH0200801 | 2    | -DIN10 | 80           | 20 | *  | 160.0 | 164.0 | *  | *  | * | * | 8.35                  | 4.4 |
| MSMH0200951 | 2    | -DIN10 | 95           | 20 | *  | 190.0 | 194.0 | *  | *  | * | * | 8.50                  | 6.1 |

※Weight only for reference. Actual scale should be Weighing.

## MSMH-DIN10



Dimension : mm

### Series MSMH-DIN10 Straight Hardened Pinions

Quality Grade DIN 10

Material SCM415/SCM440

Hardness: HRC 50~55°

Surfaces: Sand-blasted

Other surface treatments are available upon request.

| Code        | Fig. | DIN    | No. of Teeth | d1 | d2 | d3  | D   | W1 | W2 | k | h | F <sub>ta</sub><br>kN | KG   |
|-------------|------|--------|--------------|----|----|-----|-----|----|----|---|---|-----------------------|------|
| Module 4    |      |        |              |    |    |     |     |    |    |   |   |                       |      |
| MSMH0400121 | 1    | -DIN10 | 12           | 16 | 35 | 48  | 56  | *  | *  | * | * | *                     | 0.9  |
| MSMH0400131 | 1    | -DIN10 | 13           | 16 | 35 | 52  | 60  | *  | *  | * | * | *                     | 1.0  |
| MSMH0400141 | 1    | -DIN10 | 14           | 16 | 45 | 56  | 64  | *  | *  | * | * | *                     | 1.1  |
| MSMH0400151 | 1    | -DIN10 | 15           | 16 | 45 | 60  | 68  | *  | *  | * | * | *                     | 1.3  |
| MSMH0400161 | 1    | -DIN10 | 16           | 16 | 45 | 64  | 72  | *  | *  | * | * | 6.72                  | 1.4  |
| MSMH0400171 | 1    | -DIN10 | 17           | 16 | 50 | 68  | 76  | *  | *  | * | * | 8.01                  | 1.6  |
| MSMH0400181 | 1    | -DIN10 | 18           | 16 | 50 | 72  | 80  | *  | *  | * | * | 8.48                  | 1.8  |
| MSMH0400191 | 1    | -DIN10 | 19           | 16 | 60 | 76  | 84  | *  | *  | * | * | 8.95                  | 2.0  |
| MSMH0400201 | 1    | -DIN10 | 20           | 16 | 60 | 80  | 88  | *  | *  | * | * | 9.42                  | 2.1  |
| MSMH0400211 | 1    | -DIN10 | 21           | 16 | 70 | 84  | 92  | *  | *  | * | * | 9.89                  | 2.3  |
| MSMH0400221 | 1    | -DIN10 | 22           | 16 | 70 | 88  | 96  | *  | *  | * | * | 10.36                 | 2.6  |
| MSMH0400231 | 1    | -DIN10 | 23           | 16 | 75 | 92  | 100 | *  | *  | * | * | 10.83                 | 2.8  |
| MSMH0400241 | 1    | -DIN10 | 24           | 16 | 75 | 96  | 104 | *  | *  | * | * | 11.30                 | 3.0  |
| MSMH0400251 | 1    | -DIN10 | 25           | 16 | 75 | 100 | 108 | *  | *  | * | * | 13.40                 | 3.2  |
| MSMH0400301 | 1    | -DIN10 | 30           | 16 | *  | 120 | 128 | *  | *  | * | * | 16.08                 | 4.5  |
| MSMH0400381 | 2    | -DIN10 | 38           | 25 | *  | 152 | 160 | *  | *  | * | * | 20.36                 | 7.1  |
| MSMH0400401 | 2    | -DIN10 | 40           | 25 | *  | 160 | 168 | *  | *  | * | * | 21.44                 | 7.8  |
| MSMH0400451 | 2    | -DIN10 | 45           | 25 | *  | 180 | 188 | *  | *  | * | * | 24.12                 | 9.8  |
| MSMH0400481 | 2    | -DIN10 | 48           | 25 | *  | 192 | 200 | *  | *  | * | * | 24.87                 | 11.1 |
| MSMH0400501 | 2    | -DIN10 | 50           | 25 | *  | 200 | 208 | *  | *  | * | * | 25.06                 | 12.0 |
| MSMH0400521 | 2    | -DIN10 | 52           | 25 | *  | 208 | 216 | *  | *  | * | * | 25.20                 | 12.9 |
| MSMH0400561 | 2    | -DIN10 | 56           | 25 | *  | 224 | 232 | *  | *  | * | * | 25.49                 | 14.9 |
| MSMH0400601 | 2    | -DIN10 | 60           | 25 | *  | 240 | 248 | *  | *  | * | * | 25.78                 | 17.1 |
| MSMH0400761 | 2    | -DIN10 | 76           | 25 | *  | 304 | 312 | *  | *  | * | * | 26.55                 | 27.0 |
| MSMH0400801 | 2    | -DIN10 | 80           | 25 | *  | 320 | 328 | *  | *  | * | * | 26.71                 | 29.8 |
| MSMH0400951 | 2    | -DIN10 | 95           | 25 | *  | 380 | 388 | *  | *  | * | * | 27.20                 | 41.8 |

## MSMH-DIN10

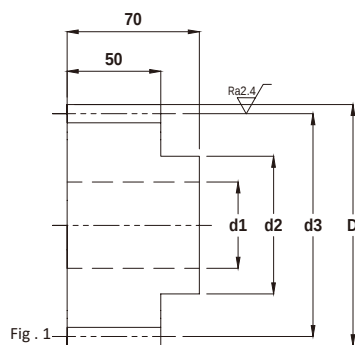


Fig. 1

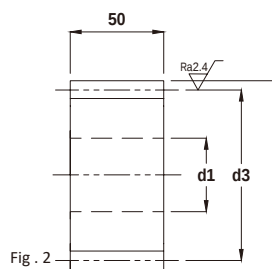


Fig. 2

Dimension : mm

## Series MSMH-DIN10 Straight Hardened Pinions

## Quality Grade DIN 10

Material SCM415/SCM440

Hardness: HRC 50~55°

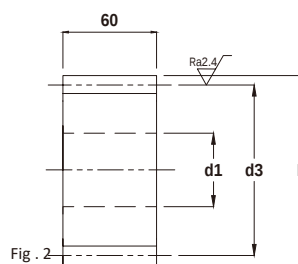
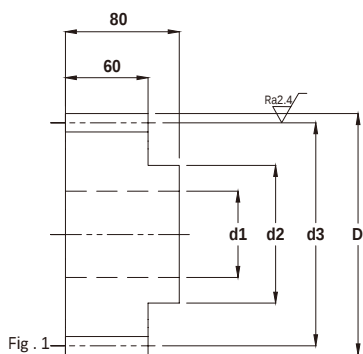
Surfaces: Sand-blasted

Other surface treatments are available upon request.

Straight  
DIN

| Code        | Fig. | DIN    | No. of Teeth | d1 | d2 | d3  | D   | W1 | W2 | k | h | F <sub>ta</sub><br>kN | KG   |
|-------------|------|--------|--------------|----|----|-----|-----|----|----|---|---|-----------------------|------|
| Module 5    |      |        |              |    |    |     |     |    |    |   |   |                       |      |
| MSMH0500121 | 1    | -DIN10 | 12           | 20 | 45 | 60  | 70  | *  | *  | * | * | *                     | 1.6  |
| MSMH0500131 | 1    | -DIN10 | 13           | 20 | 45 | 65  | 75  | *  | *  | * | * | *                     | 1.8  |
| MSMH0500141 | 1    | -DIN10 | 14           | 20 | 55 | 70  | 80  | *  | *  | * | * | *                     | 2.1  |
| MSMH0500151 | 1    | -DIN10 | 15           | 20 | 60 | 75  | 85  | *  | *  | * | * | *                     | 2.3  |
| MSMH0500161 | 1    | -DIN10 | 16           | 20 | 60 | 80  | 90  | *  | *  | * | * | 10.50                 | 2.6  |
| MSMH0500171 | 1    | -DIN10 | 17           | 20 | 70 | 85  | 95  | *  | *  | * | * | 12.51                 | 2.9  |
| MSMH0500181 | 1    | -DIN10 | 18           | 20 | 70 | 90  | 100 | *  | *  | * | * | 13.25                 | 3.2  |
| MSMH0500191 | 1    | -DIN10 | 19           | 20 | 70 | 95  | 105 | *  | *  | * | * | 13.98                 | 3.6  |
| MSMH0500201 | 1    | -DIN10 | 20           | 20 | 70 | 100 | 110 | *  | *  | * | * | 14.72                 | 3.9  |
| MSMH0500211 | 1    | -DIN10 | 21           | 20 | 70 | 105 | 115 | *  | *  | * | * | 15.45                 | 4.3  |
| MSMH0500221 | 1    | -DIN10 | 22           | 20 | 80 | 110 | 120 | *  | *  | * | * | 16.19                 | 4.7  |
| MSMH0500231 | 1    | -DIN10 | 23           | 20 | 80 | 115 | 125 | *  | *  | * | * | 16.92                 | 5.1  |
| MSMH0500241 | 1    | -DIN10 | 24           | 20 | 80 | 120 | 130 | *  | *  | * | * | 17.66                 | 5.5  |
| MSMH0500251 | 1    | -DIN10 | 25           | 20 | 80 | 125 | 135 | *  | *  | * | * | 20.93                 | 5.9  |
| MSMH0500301 | 1    | -DIN10 | 30           | 20 | 90 | 150 | 160 | *  | *  | * | * | 25.12                 | 8.3  |
| MSMH0500361 | 2    | -DIN10 | 36           | 30 | *  | 180 | 190 | *  | *  | * | * | 30.14                 | 11.7 |
| MSMH0500381 | 2    | -DIN10 | 38           | 30 | *  | 190 | 200 | *  | *  | * | * | 31.82                 | 12.9 |
| MSMH0500401 | 2    | -DIN10 | 40           | 30 | *  | 200 | 210 | *  | *  | * | * | 33.49                 | 14.3 |
| MSMH0500451 | 2    | -DIN10 | 45           | 30 | *  | 225 | 235 | *  | *  | * | * | 37.68                 | 17.9 |
| MSMH0500481 | 2    | -DIN10 | 48           | 30 | *  | 240 | 250 | *  | *  | * | * | 38.86                 | 20.2 |
| MSMH0500501 | 2    | -DIN10 | 50           | 30 | *  | 250 | 260 | *  | *  | * | * | 39.15                 | 21.9 |
| MSMH0500521 | 2    | -DIN10 | 52           | 30 | *  | 260 | 270 | *  | *  | * | * | 39.38                 | 23.6 |
| MSMH0500561 | 2    | -DIN10 | 56           | 30 | *  | 280 | 290 | *  | *  | * | * | 39.89                 | 27.2 |
| MSMH0500601 | 2    | -DIN10 | 60           | 30 | *  | 300 | 310 | *  | *  | * | * | 40.29                 | 31.1 |
| MSMH0500761 | 2    | -DIN10 | 76           | 30 | *  | 380 | 390 | *  | *  | * | * | 41.48                 | 49.2 |
| MSMH0500801 | 2    | -DIN10 | 80           | 30 | *  | 400 | 410 | *  | *  | * | * | 41.73                 | 54.4 |
| MSMH0500951 | 2    | -DIN10 | 95           | 30 | *  | 475 | 485 | *  | *  | * | * | 42.50                 | 76.1 |

## MSMH-DIN10



Dimension : mm

## Series MSMH-DIN10 Straight Hardened Pinions

Quality Grade DIN 10

Material SCM415/SCM440

Hardness: HRC 50~55°

Surfaces: Sand-blasted

Other surface treatments are available upon request.

| Code        | Fig. | DIN    | No. of Teeth | d1 | d2  | d3  | D   | W1 | W2 | k | h | F <sub>ta</sub><br>kN | KG   |
|-------------|------|--------|--------------|----|-----|-----|-----|----|----|---|---|-----------------------|------|
| Module 6    |      |        |              |    |     |     |     |    |    |   |   |                       |      |
| MSMH0600151 | 1    | -DIN10 | 15           | 20 | 60  | 90  | 102 | *  | *  | * | * | *                     | 3.8  |
| MSMH0600191 | 1    | -DIN10 | 19           | 20 | 80  | 114 | 126 | *  | *  | * | * | 20.13                 | 5.9  |
| MSMH0600201 | 1    | -DIN10 | 20           | 20 | 90  | 120 | 132 | *  | *  | * | * | 21.19                 | 6.4  |
| MSMH0600211 | 1    | -DIN10 | 21           | 20 | 90  | 126 | 138 | *  | *  | * | * | 22.25                 | 7.0  |
| MSMH0600221 | 1    | -DIN10 | 22           | 20 | 100 | 132 | 144 | *  | *  | * | * | 23.31                 | 7.7  |
| MSMH0600251 | 1    | -DIN10 | 25           | 20 | 110 | 150 | 162 | *  | *  | * | * | 30.14                 | 9.7  |
| MSMH0600301 | 2    | -DIN10 | 30           | 30 | *   | 180 | 192 | *  | *  | * | * | 36.17                 | 13.6 |
| MSMH0600361 | 2    | -DIN10 | 36           | 30 | *   | 216 | 228 | *  | *  | * | * | 43.41                 | 19.2 |

## MSMH-DIN10

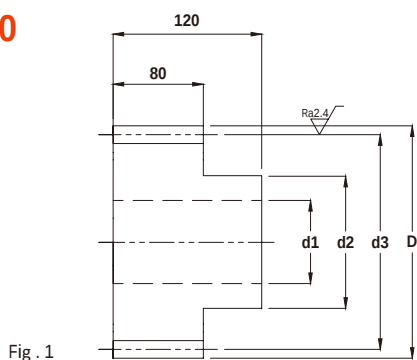


Fig. 1

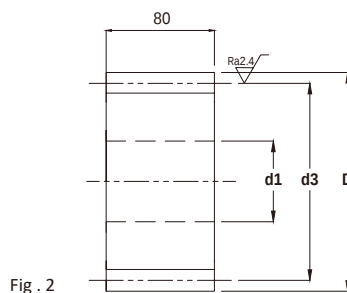


Fig. 2

Dimension : mm

### Series MSMH-DIN10 Straight Hardened Pinions

#### Quality Grade DIN 10

Material SCM415/SCM440

Hardness: HRC 50~55°

Surfaces: Sand-blasted

Other surface treatments are available upon request.


Straight  
DIN

| Code        | Fig. | DIN    | No. of Teeth | d1 | d2  | d3  | D   | W1 | W2 | k | h | F <sub>ta</sub><br>kN | KG   |
|-------------|------|--------|--------------|----|-----|-----|-----|----|----|---|---|-----------------------|------|
| Module 8    |      |        |              |    |     |     |     |    |    |   |   |                       |      |
| MSMH0800151 | 1    | -DIN10 | 15           | 40 | 90  | 120 | 136 | *  | *  | * | * | *                     | 10.3 |
| MSMH0800181 | 1    | -DIN10 | 18           | 40 | 100 | 144 | 160 | *  | *  | * | * | 33.91                 | 14.2 |
| MSMH0800201 | 1    | -DIN10 | 20           | 40 | 120 | 160 | 176 | *  | *  | * | * | 37.68                 | 17.2 |
| MSMH0800241 | 1    | -DIN10 | 24           | 40 | 150 | 192 | 208 | *  | *  | * | * | 45.21                 | 24.0 |
| MSMH0800251 | 1    | -DIN10 | 25           | 40 | 150 | 200 | 216 | *  | *  | * | * | 53.59                 | 25.9 |
| MSMH0800301 | 1    | -DIN10 | 30           | 40 | 190 | 240 | 256 | *  | *  | * | * | 64.31                 | 36.4 |

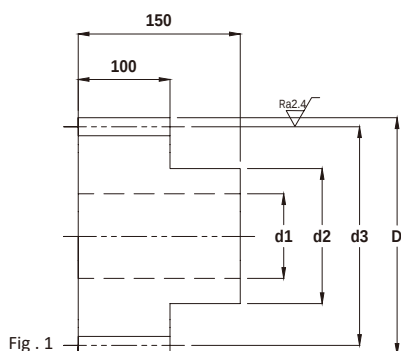


Fig. 1

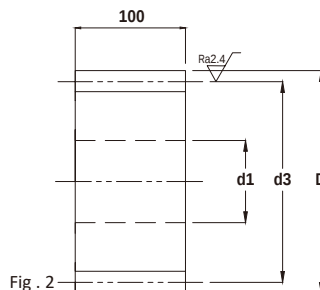


Fig. 2

Dimension : mm

| Code        | Fig. | DIN    | No. of Teeth | d1 | d2  | d3  | D   | W1 | W2 | k | h | F <sub>ta</sub><br>kN | KG   |
|-------------|------|--------|--------------|----|-----|-----|-----|----|----|---|---|-----------------------|------|
| Module 10   |      |        |              |    |     |     |     |    |    |   |   |                       |      |
| MSMH1000201 | 2    | -DIN10 | 20           | 40 | 150 | 200 | 220 | *  | *  | * | * | 58.87                 | 33.6 |

## MHFGH-DIN6

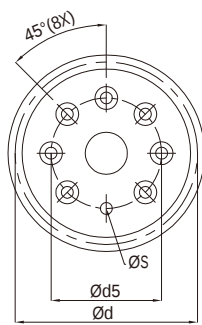


Fig.1

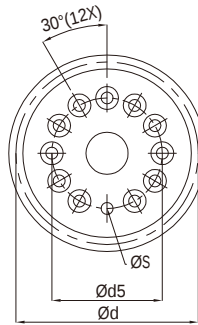


Fig.2

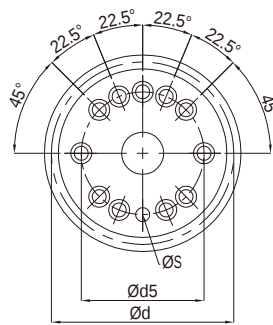
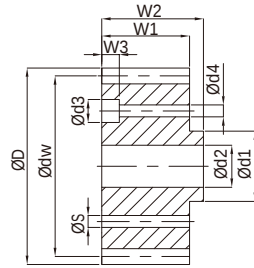


Fig.3



Dimension : mm

## Series MHFGH-DIN6 Helical Flange Teeth Ground Pinions

## Quality Grade DIN 6

Material SCM415/ SCM440

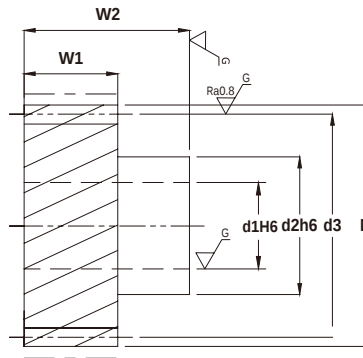
Hardness: HRC 50~55°

Teeth Ground after Hardening

| Code         | Fig. | DIN   | No. of Teeth | $\chi^0$<br>Shift Coefficient | D       | d<br>Pitch Dia. | $d^w$<br>Working Pitch Dia. | d1   | d2   | d3   | d4   | d5    | W1 | W2 | W3   | $F_{ta}$<br>kN |
|--------------|------|-------|--------------|-------------------------------|---------|-----------------|-----------------------------|------|------|------|------|-------|----|----|------|----------------|
| Module 2     |      |       |              |                               |         |                 |                             |      |      |      |      |       |    |    |      |                |
| MHFGH0200261 | 1    | -DIN6 | 26           | 0.407                         | 60.800  | 55.174          | 56.800                      | 20.0 | 16.2 | 9.5  | 5.5  | 31.5  | 26 | 29 | 12.0 | 11.52          |
| MHFGH0200262 | 1    | -DIN6 | 26           | 0.407                         | 60.802  | 55.174          | 56.802                      | 20.0 | 16.0 | 9.5  | 5.5  | 31.5  | 26 | 31 | 11.0 | 11.52          |
| MHFGH0200271 | 1    | -DIN6 | 27           | 0.000                         | 61.296  | 57.296          | 57.296                      | 20.0 | 16.2 | 9.5  | 5.5  | 31.5  | 30 | 33 | 11.0 | 10.95          |
| MHFGH0200272 | 1    | -DIN6 | 27           | 0.000                         | 61.296  | 57.296          | 57.296                      | 20.0 | 16.0 | 9.5  | 5.5  | 31.5  | 26 | 31 | 11.0 | 11.99          |
| MHFGH0200291 | 1    | -DIN6 | 29           | 0.415                         | 67.200  | 61.540          | 63.200                      | 20.0 | 16.2 | 9.5  | 5.5  | 31.5  | 26 | 29 | 12.0 | 12.25          |
| MHFGH0200292 | 1    | -DIN6 | 29           | 0.415                         | 67.200  | 61.540          | 63.200                      | 25.0 | 20.3 | 11.0 | 6.6  | 40.0  | 26 | 29 | 10.5 | 12.25          |
| MHFGH0200293 | 1    | -DIN6 | 29           | 0.415                         | 67.200  | 61.540          | 63.200                      | 20.0 | 16.0 | 9.5  | 5.5  | 31.5  | 26 | 31 | 11.0 | 12.25          |
| MHFGH0200331 | 1    | -DIN6 | 33           | 0.393                         | 75.599  | 70.028          | 71.599                      | 31.5 | 23.7 | 11.0 | 6.6  | 50.0  | 26 | 29 | 14.0 | 12.62          |
| MHFGH0200332 | 1    | -DIN6 | 33           | 0.393                         | 75.599  | 70.028          | 71.600                      | 31.5 | 20.0 | 11.0 | 6.6  | 50.0  | 26 | 31 | 11.0 | 12.62          |
| MHFGH0200351 | 1    | -DIN6 | 35           | 0.382                         | 79.800  | 74.272          | 75.800                      | 20.0 | 16.2 | 9.5  | 5.5  | 31.5  | 26 | 29 | 12.0 | 12.78          |
| MHFGH0200352 | 1    | -DIN6 | 35           | 0.382                         | 79.800  | 74.272          | 75.800                      | 20.0 | 16.0 | 9.5  | 5.5  | 31.5  | 26 | 31 | 11.0 | 12.78          |
| MHFGH0200361 | 1    | -DIN6 | 36           | 0.000                         | 80.394  | 76.394          | 76.394                      | 31.5 | 23.7 | 11.0 | 6.6  | 50.0  | 30 | 33 | 8.0  | 14.83          |
| MHFGH0200362 | 1    | -DIN6 | 36           | 0.000                         | 80.394  | 76.394          | 76.394                      | 31.5 | 20.0 | 11.0 | 6.6  | 50.0  | 26 | 31 | 11.0 | 12.85          |
| MHFGH0200371 | 1    | -DIN6 | 37           | 0.421                         | 84.200  | 78.517          | 80.200                      | 31.5 | 23.7 | 11.0 | 6.6  | 50.0  | 26 | 29 | 14.0 | 12.93          |
| MHFGH0200372 | 2    | -DIN6 | 37           | 0.421                         | 84.200  | 78.517          | 80.200                      | 31.5 | 23.7 | 11.0 | 6.6  | 50.0  | 26 | 29 | 14.0 | 12.93          |
| MHFGH0200373 | 1    | -DIN6 | 37           | 0.421                         | 84.200  | 78.517          | 80.200                      | 31.5 | 20.0 | 11.0 | 6.6  | 50.0  | 26 | 31 | 11.0 | 12.93          |
| Module 3     |      |       |              |                               |         |                 |                             |      |      |      |      |       |    |    |      |                |
| MHFGH0300311 | 2    | -DIN6 | 31           | 0.354                         | 106.800 | 98.676          | 100.800                     | 31.5 | 23.7 | 11.0 | 6.6  | 50.0  | 31 | 35 | 14.0 | 22.25          |
| MHFGH0300312 | 1    | -DIN6 | 31           | 0.354                         | 106.800 | 98.676          | 100.800                     | 31.5 | 23.7 | 11.0 | 6.6  | 50.0  | 31 | 35 | 14.0 | 22.25          |
| MHFGH0300313 | 1    | -DIN6 | 31           | 0.354                         | 106.800 | 98.676          | 100.800                     | 31.5 | 20.0 | 11.0 | 6.6  | 50.0  | 31 | 36 | 11.0 | 22.25          |
| MHFGH0300314 | 3    | -DIN6 | 31           | 0.354                         | 106.800 | 98.676          | 100.800                     | 40.0 | 31.5 | 11.0 | 6.6  | 63.0  | 31 | 36 | 11.0 | 22.25          |
| MHFGH0300351 | 2    | -DIN6 | 35           | 0.365                         | 119.600 | 111.409         | 113.600                     | 50.0 | 32.2 | 14.0 | 9.0  | 80.0  | 31 | 35 | 10.5 | 22.86          |
| MHFGH0300352 | 3    | -DIN6 | 35           | 0.365                         | 119.598 | 111.409         | 113.598                     | 40.0 | 31.5 | 11.0 | 6.6  | 63.0  | 31 | 36 | 11.0 | 22.86          |
| MHFGH0300401 | 2    | -DIN6 | 40           | 0.379                         | 135.599 | 127.324         | 129.599                     | 50.0 | 32.2 | 14.0 | 9.0  | 80.0  | 31 | 35 | 10.5 | 23.46          |
| MHFGH0300402 | 3    | -DIN6 | 40           | 0.379                         | 135.598 | 127.324         | 129.598                     | 40.0 | 31.5 | 11.0 | 6.6  | 63.0  | 31 | 36 | 11.0 | 23.46          |
| MHFGH0300403 | 2    | -DIN6 | 40           | 0.379                         | 135.598 | 127.324         | 129.598                     | 50.0 | 40.0 | 14.0 | 9.0  | 80.0  | 31 | 36 | 11.0 | 23.46          |
| Module 4     |      |       |              |                               |         |                 |                             |      |      |      |      |       |    |    |      |                |
| MHFGH0400301 | 2    | -DIN6 | 30           | 0.000                         | 135.324 | 127.324         | 127.324                     | 50.0 | 32.2 | 14.0 | 9.0  | 80.0  | 45 | 49 | 9.5  | 42.75          |
| MHFGH0400302 | 3    | -DIN6 | 30           | 0.000                         | 135.324 | 127.324         | 127.324                     | 40.0 | 32.2 | 14.0 | 9.0  | 63.0  | 45 | 49 | 9.5  | 42.75          |
| MHFGH0400303 | 2    | -DIN6 | 30           | 0.000                         | 135.324 | 127.324         | 127.234                     | 50.0 | 40.0 | 14.0 | 9.0  | 80.0  | 41 | 46 | 16.0 | 38.95          |
| MHFGH0400381 | 2    | -DIN6 | 38           | 0.240                         | 171.200 | 161.277         | 163.200                     | 80.0 | 56.1 | 17.5 | 11.0 | 125.0 | 41 | 45 | 10.5 | 40.98          |
| MHFGH0400382 | 2    | -DIN6 | 38           | 0.24                          | 171.197 | 161.277         | 163.197                     | 80.0 | 60.0 | 17.5 | 11.0 | 125.0 | 41 | 46 | 16.0 | 40.98          |
| Module 5     |      |       |              |                               |         |                 |                             |      |      |      |      |       |    |    |      |                |
| MHFGH0500211 | 2    | -DIN6 | 21           | 0.000                         | 121.109 | 111.409         | 111.409                     | 50.0 | 32.2 | 14.0 | 9.0  | 80.0  | 59 | 64 | 11.5 | 52.04          |
| MHFGH0500212 | 2    | -DIN6 | 21           | 0.000                         | 121.409 | 111.409         | 111.409                     | 50.0 | 40.0 | 14.0 | 9.0  | 80.0  | 51 | 56 | 16.0 | 44.98          |
| MHFGH0500361 | 2    | -DIN6 | 36           | 0.000                         | 200.986 | 190.986         | 190.986                     | 80.0 | 56.1 | 17.5 | 11.0 | 125.0 | 55 | 60 | 12.5 | 67.96          |
| MHFGH0500362 | 2    | -DIN6 | 36           | 0.000                         | 200.986 | 190.986         | 190.986                     | 80.0 | 60.0 | 17.5 | 11.0 | 125.0 | 51 | 56 | 16.0 | 50.66          |

※Weight only for reference. Actual scale should be Weighing.

## MHGH-JIS2



Dimension : mm

Series MHGH-JIS2 Helical Teeth Ground Pinions

Quality Grade JIS 2

Material SCM415 / SCM440

Left Hand Angle 21°30'

Hardness: HRC 50~55°

Surfaces: Black-coated (Exclude Teeth)

Teeth Ground after Hardening

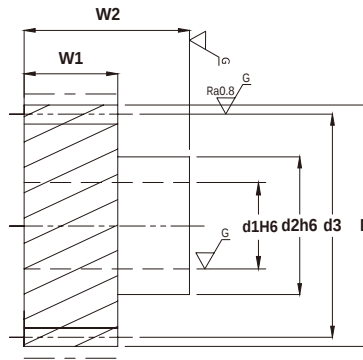
Keyway and screw holes are available upon request.

Helical  
JIS

| Code       | JIS   | No. of Teeth | d1 | d2 | d3  | D   | W1 | W2 | k | h | F <sub>ta</sub><br>kN | KG  |
|------------|-------|--------------|----|----|-----|-----|----|----|---|---|-----------------------|-----|
| Module 1   |       |              |    |    |     |     |    |    |   |   |                       |     |
| MHGH010020 | -JIS2 | 20           | 6  | 17 | 20  | 22  | 8  | 18 | * | * | 1.49                  | 0.1 |
| MHGH010022 | -JIS2 | 22           | 8  | 18 | 22  | 24  | 8  | 18 | * | * | 1.65                  | 0.1 |
| MHGH010024 | -JIS2 | 24           | 8  | 20 | 24  | 26  | 8  | 18 | * | * | 1.77                  | 0.1 |
| MHGH010025 | -JIS2 | 25           | 8  | 20 | 25  | 27  | 8  | 18 | * | * | 1.78                  | 0.1 |
| MHGH010028 | -JIS2 | 28           | 8  | 20 | 28  | 30  | 8  | 18 | * | * | 1.84                  | 0.1 |
| MHGH010030 | -JIS2 | 30           | 10 | 25 | 30  | 32  | 8  | 18 | * | * | 1.87                  | 0.1 |
| MHGH010032 | -JIS2 | 32           | 10 | 25 | 32  | 34  | 8  | 18 | * | * | 1.90                  | 0.1 |
| MHGH010035 | -JIS2 | 35           | 10 | 25 | 35  | 37  | 8  | 18 | * | * | 1.93                  | 0.1 |
| MHGH010036 | -JIS2 | 36           | 10 | 25 | 36  | 38  | 8  | 18 | * | * | 1.95                  | 0.1 |
| MHGH010040 | -JIS2 | 40           | 10 | 30 | 40  | 42  | 8  | 18 | * | * | 1.98                  | 0.1 |
| MHGH010044 | -JIS2 | 44           | 10 | 30 | 44  | 46  | 8  | 18 | * | * | 2.01                  | 0.2 |
| MHGH010045 | -JIS2 | 45           | 10 | 30 | 45  | 47  | 8  | 18 | * | * | 2.02                  | 0.2 |
| MHGH010048 | -JIS2 | 48           | 10 | 30 | 48  | 50  | 8  | 18 | * | * | 2.04                  | 0.2 |
| MHGH010050 | -JIS2 | 50           | 12 | 35 | 50  | 52  | 8  | 18 | * | * | 2.06                  | 0.2 |
| MHGH010060 | -JIS2 | 60           | 12 | 40 | 60  | 62  | 8  | 18 | * | * | 2.10                  | 0.3 |
| MHGH010070 | -JIS2 | 70           | 12 | 40 | 70  | 72  | 8  | 18 | * | * | 2.14                  | 0.4 |
| MHGH010080 | -JIS2 | 80           | 15 | 50 | 80  | 82  | 8  | 18 | * | * | 2.18                  | 0.6 |
| MHGH010090 | -JIS2 | 90           | 15 | 50 | 90  | 92  | 8  | 18 | * | * | 2.20                  | 0.7 |
| MHGH010100 | -JIS2 | 100          | 15 | 50 | 100 | 102 | 8  | 18 | * | * | 2.22                  | 0.9 |

※Weight only for reference. Actual scale should be Weighing.

## MHGH-JIS2



Dimension : mm

Series MHGH-JIS2 Helical Teeth Ground Pinions

Quality Grade JIS 2

Material SCM415/ SCM440

Left Hand Angle 21°30'

Hardness: HRC 50~55°

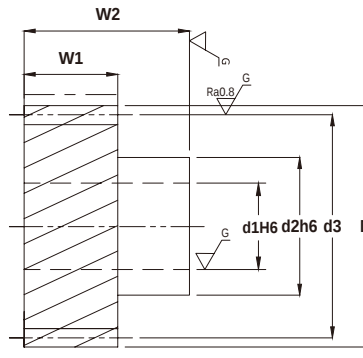
Surfaces: Black-coated (Exclude Teeth)

Teeth Ground after Hardening

Keyway and screw holes are available upon request.

| Code       | JIS   | No. of Teeth | d1 | d2 | d3   | D    | W1 | W2 | k | h | F <sub>ta</sub><br>kN | KG  |
|------------|-------|--------------|----|----|------|------|----|----|---|---|-----------------------|-----|
| Module 1.5 |       |              |    |    |      |      |    |    |   |   |                       |     |
| MHGH015020 | -JIS2 | 20           | 12 | 24 | 30   | 33   | 12 | 24 | * | * | 3.34                  | 0.1 |
| MHGH015022 | -JIS2 | 22           | 12 | 26 | 33   | 36   | 12 | 24 | * | * | 3.70                  | 0.1 |
| MHGH015024 | -JIS2 | 24           | 12 | 28 | 36   | 39   | 12 | 24 | * | * | 3.97                  | 0.2 |
| MHGH015025 | -JIS2 | 25           | 12 | 30 | 37.5 | 40.5 | 12 | 24 | * | * | 4.01                  | 0.2 |
| MHGH015026 | -JIS2 | 26           | 12 | 32 | 39   | 42   | 12 | 24 | * | * | 4.06                  | 0.2 |
| MHGH015028 | -JIS2 | 28           | 15 | 36 | 42   | 45   | 12 | 24 | * | * | 4.14                  | 0.2 |
| MHGH015030 | -JIS2 | 30           | 15 | 38 | 45   | 48   | 12 | 24 | * | * | 4.21                  | 0.3 |
| MHGH015032 | -JIS2 | 32           | 15 | 40 | 48   | 51   | 12 | 24 | * | * | 4.27                  | 0.3 |
| MHGH015035 | -JIS2 | 35           | 15 | 42 | 52.5 | 55.5 | 12 | 24 | * | * | 4.35                  | 0.3 |
| MHGH015036 | -JIS2 | 36           | 15 | 45 | 54   | 57   | 12 | 24 | * | * | 4.38                  | 0.4 |
| MHGH015040 | -JIS2 | 40           | 15 | 50 | 60   | 63   | 12 | 24 | * | * | 4.46                  | 0.4 |
| MHGH015044 | -JIS2 | 44           | 15 | 50 | 66   | 69   | 12 | 24 | * | * | 4.53                  | 0.5 |
| MHGH015045 | -JIS2 | 45           | 18 | 50 | 67.5 | 70.5 | 12 | 24 | * | * | 4.55                  | 0.6 |
| MHGH015048 | -JIS2 | 48           | 18 | 50 | 72   | 75   | 12 | 24 | * | * | 4.60                  | 0.6 |
| MHGH015050 | -JIS2 | 50           | 18 | 60 | 75   | 78   | 12 | 24 | * | * | 4.62                  | 0.7 |
| MHGH015052 | -JIS2 | 52           | 18 | 60 | 78   | 81   | 12 | 24 | * | * | 4.65                  | 0.7 |
| MHGH015060 | -JIS2 | 60           | 20 | 60 | 90   | 93   | 12 | 24 | * | * | 4.73                  | 1.0 |
| MHGH015070 | -JIS2 | 70           | 20 | 60 | 105  | 108  | 12 | 24 | * | * | 4.82                  | 1.3 |
| MHGH015080 | -JIS2 | 80           | 20 | 70 | 120  | 123  | 12 | 24 | * | * | 4.89                  | 1.7 |
| MHGH015090 | -JIS2 | 90           | 20 | 70 | 135  | 138  | 12 | 24 | * | * | 4.95                  | 2.1 |
| MHGH015100 | -JIS2 | 100          | 20 | 70 | 150  | 153  | 12 | 24 | * | * | 5.00                  | 2.6 |

## MHGH-JIS2



Dimension : mm

Series MHGH-JIS2 Helical Teeth Ground Pinions

Quality Grade JIS 2

Material SCM415 / SCM440

Left Hand Angle 21°30'

Hardness: HRC 50~55°

Surfaces: Black-coated (Exclude Teeth)

Teeth Ground after Hardening

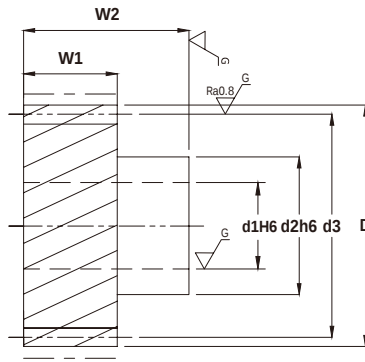
Keyway and screw holes are available upon request.

Helical  
JIS

| Code       | JIS   | No. of Teeth | d1 | d2  | d3  | D   | W1 | W2 | k | h | F <sub>ta</sub><br>kN | KG  |
|------------|-------|--------------|----|-----|-----|-----|----|----|---|---|-----------------------|-----|
| Module 2   |       |              |    |     |     |     |    |    |   |   |                       |     |
| MHGH020015 | -JIS2 | 15           | 12 | 24  | 30  | 34  | 16 | 29 | * | * | 3.84                  | 0.2 |
| MHGH020016 | -JIS2 | 16           | 12 | 26  | 32  | 36  | 16 | 29 | * | * | 4.12                  | 0.2 |
| MHGH020018 | -JIS2 | 18           | 12 | 30  | 36  | 40  | 16 | 29 | * | * | 4.67                  | 0.2 |
| MHGH020020 | -JIS2 | 20           | 15 | 32  | 40  | 44  | 16 | 29 | * | * | 5.94                  | 0.3 |
| MHGH020022 | -JIS2 | 22           | 15 | 36  | 44  | 48  | 16 | 29 | * | * | 6.58                  | 0.3 |
| MHGH020024 | -JIS2 | 24           | 15 | 38  | 48  | 52  | 16 | 29 | * | * | 7.06                  | 0.4 |
| MHGH020025 | -JIS2 | 25           | 15 | 40  | 50  | 54  | 16 | 29 | * | * | 7.14                  | 0.4 |
| MHGH020026 | -JIS2 | 26           | 15 | 42  | 52  | 56  | 16 | 29 | * | * | 7.21                  | 0.4 |
| MHGH020028 | -JIS2 | 28           | 15 | 45  | 56  | 60  | 16 | 29 | * | * | 7.36                  | 0.5 |
| MHGH020030 | -JIS2 | 30           | 18 | 50  | 60  | 64  | 16 | 29 | * | * | 7.48                  | 0.5 |
| MHGH020032 | -JIS2 | 32           | 18 | 50  | 64  | 68  | 16 | 29 | * | * | 7.59                  | 0.6 |
| MHGH020035 | -JIS2 | 35           | 18 | 50  | 70  | 74  | 16 | 29 | * | * | 7.73                  | 0.7 |
| MHGH020036 | -JIS2 | 36           | 18 | 50  | 72  | 76  | 16 | 29 | * | * | 7.78                  | 0.8 |
| MHGH020040 | -JIS2 | 40           | 20 | 60  | 80  | 84  | 16 | 29 | * | * | 7.93                  | 0.9 |
| MHGH020044 | -JIS2 | 44           | 20 | 60  | 88  | 92  | 16 | 29 | * | * | 8.06                  | 1.1 |
| MHGH020045 | -JIS2 | 45           | 20 | 60  | 90  | 94  | 16 | 29 | * | * | 8.09                  | 1.2 |
| MHGH020048 | -JIS2 | 48           | 20 | 60  | 96  | 100 | 16 | 29 | * | * | 8.17                  | 1.3 |
| MHGH020050 | -JIS2 | 50           | 25 | 60  | 100 | 104 | 16 | 29 | * | * | 8.22                  | 1.5 |
| MHGH020052 | -JIS2 | 52           | 25 | 65  | 104 | 108 | 16 | 29 | * | * | 8.26                  | 1.6 |
| MHGH020060 | -JIS2 | 60           | 25 | 65  | 120 | 124 | 16 | 29 | * | * | 8.42                  | 2.1 |
| MHGH020070 | -JIS2 | 70           | 25 | 70  | 140 | 144 | 16 | 29 | * | * | 8.57                  | 2.8 |
| MHGH020080 | -JIS2 | 80           | 25 | 80  | 160 | 164 | 16 | 29 | * | * | 8.70                  | 3.6 |
| MHGH020090 | -JIS2 | 90           | 25 | 90  | 180 | 184 | 16 | 29 | * | * | 8.79                  | 4.5 |
| MHGH020100 | -JIS2 | 100          | 25 | 100 | 200 | 204 | 16 | 29 | * | * | 8.88                  | 5.6 |

※Weight only for reference. Actual scale should be Weighing.

## MHGH-JIS2



Dimension : mm

Series MHGH-JIS2 Helical Teeth Ground Pinions

Quality Grade JIS 2

Material SCM415/ SCM440

Left Hand Angle 21°30'

Hardness: HRC 50~55°

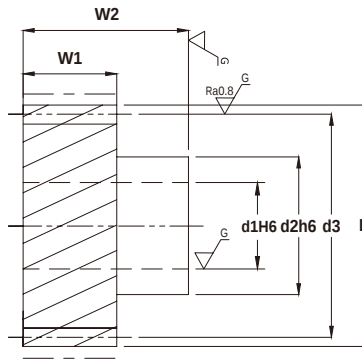
Surfaces: Black-coated (Exclude Teeth)

Teeth Ground after Hardening

Keyway and screw holes are available upon request.

| Code       | JIS   | No. of Teeth | d1 | d2 | d3    | D     | W1 | W2 | k | h | F <sub>ta</sub><br>kN | KG  |
|------------|-------|--------------|----|----|-------|-------|----|----|---|---|-----------------------|-----|
| Module 2.5 |       |              |    |    |       |       |    |    |   |   |                       |     |
| MHGH025015 | -JIS2 | 15           | 15 | 30 | 37.5  | 42.5  | 20 | 34 | * | * | 6.00                  | 0.3 |
| MHGH025016 | -JIS2 | 16           | 15 | 32 | 40    | 45    | 20 | 34 | * | * | 6.43                  | 0.3 |
| MHGH025018 | -JIS2 | 18           | 15 | 38 | 45    | 50    | 20 | 34 | * | * | 7.29                  | 0.4 |
| MHGH025020 | -JIS2 | 20           | 18 | 40 | 50    | 55    | 20 | 34 | * | * | 9.29                  | 0.5 |
| MHGH025022 | -JIS2 | 22           | 18 | 44 | 55    | 60    | 20 | 34 | * | * | 10.28                 | 0.6 |
| MHGH025024 | -JIS2 | 24           | 18 | 48 | 60    | 65    | 20 | 34 | * | * | 11.03                 | 0.7 |
| MHGH025025 | -JIS2 | 25           | 20 | 50 | 62.5  | 67.5  | 20 | 34 | * | * | 11.15                 | 0.7 |
| MHGH025026 | -JIS2 | 26           | 20 | 50 | 65    | 70    | 20 | 34 | * | * | 11.27                 | 0.8 |
| MHGH025028 | -JIS2 | 28           | 20 | 60 | 70    | 75    | 20 | 34 | * | * | 11.50                 | 0.9 |
| MHGH025030 | -JIS2 | 30           | 20 | 65 | 75    | 80    | 20 | 34 | * | * | 11.69                 | 1.0 |
| MHGH025032 | -JIS2 | 32           | 20 | 70 | 80    | 85    | 20 | 34 | * | * | 11.87                 | 1.1 |
| MHGH025035 | -JIS2 | 35           | 20 | 70 | 87.5  | 92.5  | 20 | 34 | * | * | 12.08                 | 1.3 |
| MHGH025036 | -JIS2 | 36           | 20 | 70 | 90    | 95    | 20 | 34 | * | * | 12.16                 | 1.4 |
| MHGH025040 | -JIS2 | 40           | 25 | 70 | 100   | 105   | 20 | 34 | * | * | 12.40                 | 1.7 |
| MHGH025044 | -JIS2 | 44           | 25 | 75 | 110   | 115   | 20 | 34 | * | * | 12.59                 | 2.1 |
| MHGH025045 | -JIS2 | 45           | 25 | 75 | 112.5 | 117.5 | 20 | 34 | * | * | 12.64                 | 2.2 |
| MHGH025048 | -JIS2 | 48           | 25 | 75 | 120   | 125   | 20 | 34 | * | * | 12.77                 | 2.5 |
| MHGH025050 | -JIS2 | 50           | 25 | 80 | 125   | 130   | 20 | 34 | * | * | 12.84                 | 2.7 |
| MHGH025052 | -JIS2 | 52           | 25 | 80 | 130   | 135   | 20 | 34 | * | * | 12.91                 | 2.9 |
| MHGH025060 | -JIS2 | 60           | 25 | 80 | 150   | 155   | 20 | 34 | * | * | 13.15                 | 3.8 |

## MHGH-JIS2



Dimension : mm

Series MHGH-JIS2 Helical Teeth Ground Pinions

Quality Grade JIS 2

Material SCM415 / SCM440

Left Hand Angle 21°30'

Hardness: HRC 50~55°

Surfaces: Black-coated (Exclude Teeth)

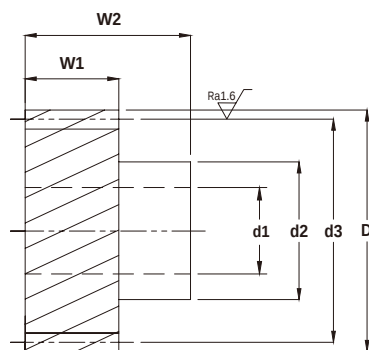
Teeth Ground after Hardening

Keyway and screw holes are available upon request.


Helical  
JIS

| Code       | JIS   | No. of Teeth | d1 | d2 | d3  | D   | W1 | W2 | k | h | F <sub>ta</sub><br>kN | KG  |
|------------|-------|--------------|----|----|-----|-----|----|----|---|---|-----------------------|-----|
| Module 3   |       |              |    |    |     |     |    |    |   |   |                       |     |
| MHGH030015 | -JIS2 | 15           | 18 | 36 | 45  | 51  | 25 | 41 | * | * | 9.19                  | 0.4 |
| MHGH030016 | -JIS2 | 16           | 18 | 38 | 48  | 54  | 25 | 41 | * | * | 9.84                  | 0.4 |
| MHGH030018 | -JIS2 | 18           | 18 | 40 | 54  | 60  | 25 | 41 | * | * | 11.17                 | 0.5 |
| MHGH030020 | -JIS2 | 20           | 20 | 50 | 60  | 66  | 25 | 41 | * | * | 14.23                 | 0.7 |
| MHGH030022 | -JIS2 | 22           | 20 | 54 | 66  | 72  | 25 | 41 | * | * | 15.76                 | 0.8 |
| MHGH030024 | -JIS2 | 24           | 20 | 58 | 72  | 78  | 25 | 41 | * | * | 16.55                 | 0.9 |
| MHGH030025 | -JIS2 | 25           | 20 | 60 | 75  | 81  | 25 | 41 | * | * | 16.73                 | 1.0 |
| MHGH030026 | -JIS2 | 26           | 20 | 60 | 78  | 84  | 25 | 41 | * | * | 16.90                 | 1.1 |
| MHGH030028 | -JIS2 | 28           | 20 | 70 | 84  | 90  | 25 | 41 | * | * | 17.25                 | 1.2 |
| MHGH030030 | -JIS2 | 30           | 25 | 75 | 90  | 96  | 25 | 41 | * | * | 17.53                 | 1.4 |
| MHGH030032 | -JIS2 | 32           | 25 | 75 | 96  | 102 | 25 | 41 | * | * | 17.80                 | 1.6 |
| MHGH030035 | -JIS2 | 35           | 25 | 80 | 105 | 111 | 25 | 41 | * | * | 18.13                 | 1.9 |
| MHGH030036 | -JIS2 | 36           | 25 | 80 | 108 | 114 | 25 | 41 | * | * | 18.24                 | 2.0 |
| MHGH030040 | -JIS2 | 40           | 25 | 80 | 120 | 126 | 25 | 41 | * | * | 18.60                 | 2.4 |
| MHGH030044 | -JIS2 | 44           | 25 | 80 | 132 | 138 | 25 | 41 | * | * | 18.88                 | 2.9 |
| MHGH030045 | -JIS2 | 45           | 25 | 80 | 135 | 141 | 25 | 41 | * | * | 18.95                 | 3.0 |
| MHGH030048 | -JIS2 | 48           | 25 | 85 | 144 | 150 | 25 | 41 | * | * | 19.16                 | 3.4 |
| MHGH030050 | -JIS2 | 50           | 30 | 85 | 150 | 156 | 25 | 41 | * | * | 19.26                 | 3.7 |
| MHGH030052 | -JIS2 | 52           | 30 | 85 | 156 | 162 | 25 | 41 | * | * | 19.37                 | 4.0 |
| MHGH030060 | -JIS2 | 60           | 30 | 90 | 180 | 186 | 25 | 41 | * | * | 19.73                 | 5.2 |

## CHM-JIS4



Dimension : mm

Series CHM-JIS4 Helical Pinions

Quality Grade JIS 4

Material S45C

Left Hand Angle 15°

Surfaces: Black-coated

Keyway and screw holes are available upon request.

| Code      | JIS   | No. of Teeth | d1 | d2  | d3     | D      | W1 | W2 | k | h | F <sub>ta</sub><br>kN | KG  |
|-----------|-------|--------------|----|-----|--------|--------|----|----|---|---|-----------------------|-----|
| Module 2  |       |              |    |     |        |        |    |    |   |   |                       |     |
| CHM020015 | -JIS4 | 15           | 12 | 24  | 31.05  | 35.06  | 25 | 35 | * | * | 0.57                  | 0.2 |
| CHM020020 | -JIS4 | 20           | 12 | 32  | 41.41  | 45.41  | 25 | 35 | * | * | 0.84                  | 0.3 |
| CHM020030 | -JIS4 | 30           | 12 | 50  | 62.11  | 66.12  | 25 | 35 | * | * | 1.45                  | 0.7 |
| CHM020040 | -JIS4 | 40           | 18 | 60  | 82.82  | 86.82  | 25 | 35 | * | * | 2.23                  | 1.2 |
| CHM020060 | -JIS4 | 60           | 18 | 70  | 124.23 | 128.23 | 25 | 35 | * | * | 3.42                  | 2.7 |
| CHM020090 | -JIS4 | 90           | 18 | 120 | 186.35 | 190.35 | 25 | 35 | * | * | 4.77                  | 5.9 |
| Module 3  |       |              |    |     |        |        |    |    |   |   |                       |     |
| CHM030015 | -JIS4 | 15           | 15 | 36  | 46.58  | 52.59  | 35 | 50 | * | * | 1.26                  | 0.5 |
| CHM030020 | -JIS4 | 20           | 15 | 50  | 62.11  | 68.12  | 35 | 50 | * | * | 1.92                  | 0.9 |
| CHM030030 | -JIS4 | 30           | 20 | 70  | 93.17  | 99.17  | 35 | 50 | * | * | 3.37                  | 1.8 |
| CHM030040 | -JIS4 | 40           | 20 | 80  | 124.23 | 130.23 | 35 | 50 | * | * | 4.56                  | 3.1 |
| CHM030060 | -JIS4 | 60           | 20 | 140 | 186.35 | 192.35 | 35 | 50 | * | * | 8.41                  | 6.8 |

## MSGH-JIS2

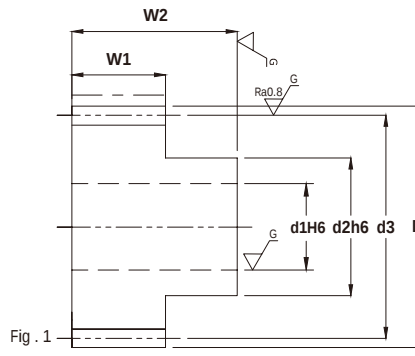


Fig. 1

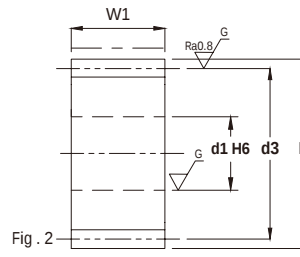


Fig. 2

Dimension : mm

Series MSGH-JIS2 Straight Teeth Ground Pinions

Quality Grade JIS 2

Material SCM415 / SCM440

Hardness: HRC 50~55°

Surfaces: Black-coated (Exclude Teeth)

Teeth Ground after Hardening

Keyway and screw holes are available upon request.

| Code       | Fig. | JIS   | No. of Teeth | d1 | d2 | d3 | D  | W1 | W2 | k | h   | F <sub>ta</sub><br>kN | KG  |
|------------|------|-------|--------------|----|----|----|----|----|----|---|-----|-----------------------|-----|
| Module 1   |      |       |              |    |    |    |    |    |    |   |     |                       |     |
| MSGH010018 | 1    | -JIS2 | 18           | 8  | 15 | 18 | 20 | 10 | 15 | 3 | 1.4 | 0.81                  | 0.1 |
| MSGH010020 | 1    | -JIS2 | 20           | 8  | 17 | 20 | 22 | 10 | 15 | 3 | 1.4 | 0.90                  | 0.1 |
| MSGH010020 | 2    | -JIS2 | 20           | 10 | 17 | 20 | 22 | 10 | 15 | 4 | 1.8 | 0.90                  | 0.1 |
| MSGH010024 | 1    | -JIS2 | 24           | 10 | 20 | 24 | 26 | 10 | 15 | 4 | 1.8 | 1.08                  | 0.1 |
| MSGH010024 | 2    | -JIS2 | 24           | 12 | 20 | 24 | 26 | 10 | 15 | 4 | 1.8 | 1.08                  | 0.1 |
| MSGH010025 | 1    | -JIS2 | 25           | 10 | 20 | 25 | 27 | 10 | 15 | 4 | 1.8 | 1.28                  | 0.1 |
| MSGH010025 | 2    | -JIS2 | 25           | 12 | 20 | 25 | 27 | 10 | 15 | 4 | 1.8 | 1.28                  | 0.1 |
| MSGH010030 | 1    | -JIS2 | 30           | 10 | 25 | 30 | 32 | 10 | 15 | 4 | 1.8 | 1.53                  | 0.1 |
| MSGH010030 | 2    | -JIS2 | 30           | 12 | 25 | 30 | 32 | 10 | 15 | 4 | 1.8 | 1.53                  | 0.1 |
| MSGH010035 | 1    | -JIS2 | 35           | 10 | 25 | 35 | 37 | 10 | 15 | 4 | 1.8 | 1.79                  | 0.1 |
| MSGH010035 | 2    | -JIS2 | 35           | 15 | 25 | 35 | 37 | 10 | 15 | 5 | 2.3 | 1.79                  | 0.1 |
| MSGH010036 | 1    | -JIS2 | 36           | 12 | 25 | 36 | 38 | 10 | 15 | 4 | 1.8 | 1.84                  | 0.1 |
| MSGH010036 | 2    | -JIS2 | 36           | 15 | 25 | 36 | 38 | 10 | 15 | 5 | 2.3 | 1.84                  | 0.1 |
| MSGH010040 | 1    | -JIS2 | 40           | 12 | 30 | 40 | 42 | 10 | 15 | 4 | 1.8 | 2.05                  | 0.1 |
| MSGH010040 | 2    | -JIS2 | 40           | 15 | 30 | 40 | 42 | 10 | 15 | 5 | 2.3 | 2.05                  | 0.1 |
| MSGH010045 | 1    | -JIS2 | 45           | 12 | 30 | 45 | 47 | 10 | 15 | 4 | 1.8 | 2.10                  | 0.2 |
| MSGH010045 | 2    | -JIS2 | 45           | 15 | 30 | 45 | 47 | 10 | 15 | 5 | 2.3 | 2.10                  | 0.2 |
| MSGH010048 | 1    | -JIS2 | 48           | 12 | 30 | 48 | 50 | 10 | 15 | 4 | 1.8 | 2.12                  | 0.2 |
| MSGH010048 | 2    | -JIS2 | 48           | 15 | 30 | 48 | 50 | 10 | 15 | 5 | 2.3 | 2.12                  | 0.2 |
| MSGH010050 | 1    | -JIS2 | 50           | 12 | 35 | 50 | 52 | 10 | 15 | 4 | 1.8 | 2.14                  | 0.2 |
| MSGH010050 | 2    | -JIS2 | 50           | 15 | 35 | 50 | 52 | 10 | 15 | 5 | 2.3 | 2.14                  | 0.2 |

## MSGH-JIS2

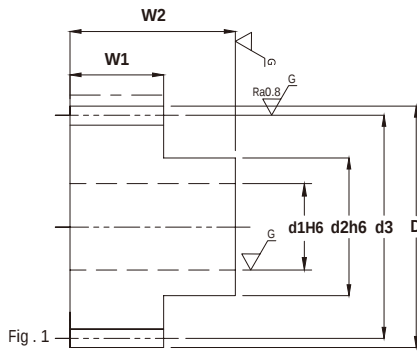


Fig. 1

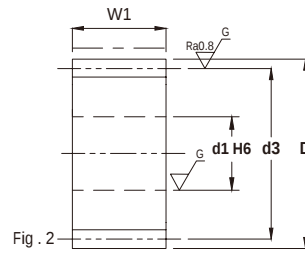


Fig. 2

Dimension : mm

Series MSGH-JIS2 Straight Teeth Ground Pinions

Quality Grade JIS 2

Material SCM415 / SCM440

Hardness: HRC 50~55°

Surfaces: Black-coated (Exclude Teeth)

Teeth Ground after Hardening

Keyway and screw holes are available upon request.

| Code       | Fig. | JIS   | No. of Teeth | d1 | d2 | d3   | D    | W1 | W2 | k | h   | F <sub>ta</sub><br>kN | KG  |
|------------|------|-------|--------------|----|----|------|------|----|----|---|-----|-----------------------|-----|
| Module 1.5 |      |       |              |    |    |      |      |    |    |   |     |                       |     |
| MSGH015015 | 1    | -JIS2 | 15           | 10 | 18 | 22.5 | 22.5 | 15 | 25 | 4 | 1.8 | *                     | 0.1 |
| MSGH015018 | 1    | -JIS2 | 18           | 10 | 22 | 27   | 30   | 15 | 25 | 4 | 1.8 | 1.82                  | 0.1 |
| MSGH015018 | 2    | -JIS2 | 18           | 12 | 22 | 27   | 30   | 15 | 25 | 4 | 1.8 | 1.82                  | 0.1 |
| MSGH015020 | 1    | -JIS2 | 20           | 12 | 25 | 30   | 33   | 15 | 25 | 4 | 1.8 | 2.02                  | 0.1 |
| MSGH015020 | 2    | -JIS2 | 20           | 15 | 25 | 30   | 33   | 15 | 25 | 5 | 2.3 | 2.02                  | 0.1 |
| MSGH015024 | 1    | -JIS2 | 24           | 12 | 28 | 36   | 39   | 15 | 25 | 4 | 1.8 | 2.43                  | 0.2 |
| MSGH015024 | 2    | -JIS2 | 24           | 15 | 28 | 36   | 39   | 15 | 25 | 5 | 2.3 | 2.43                  | 0.2 |
| MSGH015025 | 1    | -JIS2 | 25           | 14 | 30 | 37.5 | 40.5 | 15 | 25 | 5 | 2.3 | 2.88                  | 0.2 |
| MSGH015025 | 2    | -JIS2 | 25           | 16 | 30 | 37.5 | 40.5 | 15 | 25 | 5 | 2.3 | 2.88                  | 0.2 |
| MSGH015030 | 1    | -JIS2 | 30           | 15 | 30 | 45   | 48   | 15 | 25 | 5 | 2.3 | 3.45                  | 0.3 |
| MSGH015030 | 2    | -JIS2 | 30           | 18 | 30 | 45   | 48   | 15 | 25 | 6 | 2.8 | 3.45                  | 0.3 |
| MSGH015035 | 1    | -JIS2 | 35           | 15 | 32 | 52.5 | 55.5 | 15 | 25 | 5 | 2.3 | 4.03                  | 0.4 |
| MSGH015035 | 2    | -JIS2 | 35           | 18 | 32 | 52.5 | 55.5 | 15 | 25 | 6 | 2.8 | 4.03                  | 0.4 |
| MSGH015036 | 1    | -JIS2 | 36           | 15 | 32 | 54   | 57   | 15 | 25 | 5 | 2.3 | 4.14                  | 0.4 |
| MSGH015036 | 2    | -JIS2 | 36           | 18 | 32 | 54   | 57   | 15 | 25 | 6 | 2.8 | 4.14                  | 0.4 |
| MSGH015040 | 1    | -JIS2 | 40           | 16 | 35 | 60   | 63   | 15 | 25 | 5 | 2.3 | 4.60                  | 0.5 |
| MSGH015040 | 2    | -JIS2 | 40           | 20 | 35 | 60   | 63   | 15 | 25 | 6 | 2.8 | 4.60                  | 0.5 |
| MSGH015045 | 1    | -JIS2 | 45           | 16 | 40 | 67.5 | 70.5 | 15 | 25 | 5 | 2.3 | 4.71                  | 0.6 |
| MSGH015045 | 2    | -JIS2 | 45           | 20 | 40 | 67.5 | 70.5 | 15 | 25 | 6 | 2.8 | 4.71                  | 0.6 |
| MSGH015048 | 1    | -JIS2 | 48           | 16 | 40 | 72   | 75   | 15 | 25 | 5 | 2.3 | 4.77                  | 0.7 |
| MSGH015048 | 2    | -JIS2 | 48           | 20 | 40 | 72   | 75   | 15 | 25 | 6 | 2.8 | 4.77                  | 0.7 |
| MSGH015050 | 1    | -JIS2 | 50           | 18 | 40 | 75   | 78   | 15 | 25 | 6 | 2.8 | 4.81                  | 0.7 |
| MSGH015050 | 2    | -JIS2 | 50           | 22 | 40 | 75   | 78   | 15 | 25 | 6 | 2.8 | 4.81                  | 0.7 |
| MSGH015055 | 1    | -JIS2 | 55           | 20 | 45 | 82.5 | 85.5 | 15 | 25 | 6 | 2.8 | 4.88                  | 0.8 |
| MSGH015055 | 2    | -JIS2 | 55           | 25 | 45 | 82.5 | 85.5 | 15 | 25 | 8 | 3.3 | 4.88                  | 0.8 |
| MSGH015060 | 1    | -JIS2 | 60           | 20 | 45 | 90   | 93   | 15 | 25 | 6 | 2.8 | 4.94                  | 1.0 |
| MSGH015060 | 2    | -JIS2 | 60           | 25 | 45 | 90   | 93   | 15 | 25 | 8 | 3.3 | 4.94                  | 1.0 |
| MSGH015070 | 1    | -JIS2 | 70           | 20 | 45 | 105  | 108  | 15 | 25 | 6 | 2.8 | 5.04                  | 1.3 |
| MSGH015070 | 2    | -JIS2 | 70           | 25 | 45 | 105  | 108  | 15 | 25 | 8 | 3.3 | 5.04                  | 1.3 |
| MSGH015080 | 1    | -JIS2 | 80           | 20 | 45 | 120  | 123  | 15 | 25 | 6 | 2.8 | 5.12                  | 1.7 |
| MSGH015080 | 2    | -JIS2 | 80           | 25 | 45 | 120  | 123  | 15 | 25 | 8 | 3.3 | 5.12                  | 1.7 |

## MSGH-JIS2

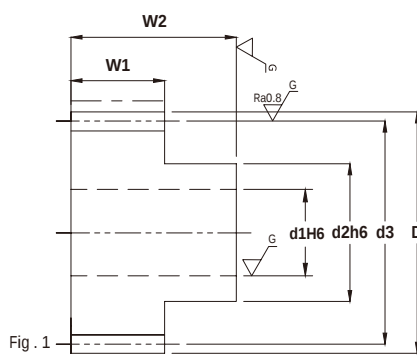


Fig. 1

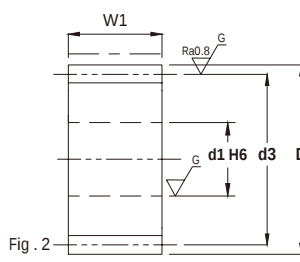


Fig. 2

Dimension : mm

Series MSGH-JIS2 Straight Teeth Ground Pinions

Quality Grade JIS 2

Material SCM415 / SCM440

Hardness: HRC 50~55°

Surfaces: Black-coated (Exclude Teeth)

Teeth Ground after Hardening

Keyway and screw holes are available upon request.

Straight  
JIS

| Code       | Fig. | JIS   | No. of Teeth | d1 | d2 | d3  | D   | W1 | W2 | k  | h   | F <sub>ta</sub><br>kN | KG  |
|------------|------|-------|--------------|----|----|-----|-----|----|----|----|-----|-----------------------|-----|
| Module 2   |      |       |              |    |    |     |     |    |    |    |     |                       |     |
| MSGH020015 | 1    | -JIS2 | 15           | 12 | 24 | 30  | 34  | 20 | 30 | 4  | 1.8 | *                     | 0.2 |
| MSGH020015 | 2    | -JIS2 | 15           | 15 | 24 | 30  | 34  | 20 | 30 | 5  | 2.3 | *                     | 0.2 |
| MSGH020018 | 1    | -JIS2 | 18           | 12 | 30 | 36  | 40  | 20 | 30 | 4  | 1.8 | 3.24                  | 0.2 |
| MSGH020018 | 2    | -JIS2 | 18           | 15 | 30 | 36  | 40  | 20 | 30 | 5  | 2.3 | 3.24                  | 0.2 |
| MSGH020020 | 1    | -JIS2 | 20           | 15 | 32 | 40  | 44  | 20 | 30 | 5  | 2.3 | 3.59                  | 0.3 |
| MSGH020020 | 2    | -JIS2 | 20           | 18 | 32 | 40  | 44  | 20 | 30 | 6  | 2.8 | 3.59                  | 0.3 |
| MSGH020024 | 1    | -JIS2 | 24           | 15 | 35 | 48  | 52  | 20 | 30 | 5  | 2.3 | 4.31                  | 0.4 |
| MSGH020024 | 2    | -JIS2 | 24           | 18 | 35 | 48  | 52  | 20 | 30 | 6  | 2.8 | 4.31                  | 0.4 |
| MSGH020025 | 1    | -JIS2 | 25           | 16 | 35 | 50  | 54  | 20 | 30 | 5  | 2.3 | 5.11                  | 0.4 |
| MSGH020025 | 2    | -JIS2 | 25           | 20 | 35 | 50  | 54  | 20 | 30 | 6  | 2.8 | 5.11                  | 0.4 |
| MSGH020030 | 1    | -JIS2 | 30           | 18 | 40 | 60  | 64  | 20 | 30 | 6  | 2.8 | 6.14                  | 0.6 |
| MSGH020030 | 2    | -JIS2 | 30           | 22 | 40 | 60  | 64  | 20 | 30 | 6  | 2.8 | 6.14                  | 0.6 |
| MSGH020035 | 1    | -JIS2 | 35           | 18 | 40 | 70  | 74  | 20 | 30 | 6  | 2.8 | 7.16                  | 0.8 |
| MSGH020035 | 2    | -JIS2 | 35           | 22 | 40 | 70  | 74  | 20 | 30 | 6  | 2.8 | 7.16                  | 0.8 |
| MSGH020036 | 1    | -JIS2 | 36           | 18 | 40 | 72  | 76  | 20 | 30 | 6  | 2.8 | 7.36                  | 0.8 |
| MSGH020036 | 2    | -JIS2 | 36           | 22 | 40 | 72  | 76  | 20 | 30 | 6  | 2.8 | 7.36                  | 0.8 |
| MSGH020040 | 1    | -JIS2 | 40           | 20 | 45 | 80  | 84  | 20 | 30 | 6  | 2.8 | 8.18                  | 1.0 |
| MSGH020040 | 2    | -JIS2 | 40           | 25 | 45 | 80  | 84  | 20 | 30 | 8  | 3.3 | 8.18                  | 1.0 |
| MSGH020045 | 1    | -JIS2 | 45           | 20 | 45 | 90  | 94  | 20 | 30 | 6  | 2.8 | 8.38                  | 1.2 |
| MSGH020045 | 2    | -JIS2 | 45           | 25 | 45 | 90  | 94  | 20 | 30 | 8  | 3.3 | 8.38                  | 1.2 |
| MSGH020048 | 1    | -JIS2 | 48           | 22 | 50 | 96  | 100 | 20 | 30 | 6  | 2.8 | 8.48                  | 1.4 |
| MSGH020048 | 2    | -JIS2 | 48           | 28 | 50 | 96  | 100 | 20 | 30 | 8  | 3.3 | 8.48                  | 1.4 |
| MSGH020050 | 1    | -JIS2 | 50           | 22 | 50 | 100 | 104 | 20 | 30 | 6  | 2.8 | 8.54                  | 1.5 |
| MSGH020050 | 2    | -JIS2 | 50           | 28 | 50 | 100 | 104 | 20 | 30 | 8  | 3.3 | 8.54                  | 1.5 |
| MSGH020055 | 1    | -JIS2 | 55           | 25 | 55 | 110 | 114 | 20 | 30 | 8  | 3.3 | 8.67                  | 1.8 |
| MSGH020055 | 2    | -JIS2 | 55           | 30 | 55 | 110 | 114 | 20 | 30 | 8  | 3.3 | 8.67                  | 1.8 |
| MSGH020060 | 1    | -JIS2 | 60           | 25 | 55 | 120 | 124 | 20 | 30 | 8  | 3.3 | 8.79                  | 2.1 |
| MSGH020060 | 2    | -JIS2 | 60           | 30 | 55 | 120 | 124 | 20 | 30 | 8  | 3.3 | 8.79                  | 2.1 |
| MSGH020070 | 1    | -JIS2 | 70           | 25 | 55 | 140 | 144 | 20 | 30 | 8  | 3.3 | 8.96                  | 2.9 |
| MSGH020070 | 2    | -JIS2 | 70           | 30 | 55 | 140 | 144 | 20 | 30 | 8  | 3.3 | 8.96                  | 2.9 |
| MSGH020080 | 1    | -JIS2 | 80           | 30 | 60 | 160 | 164 | 20 | 30 | 8  | 3.3 | 9.11                  | 3.7 |
| MSGH020080 | 2    | -JIS2 | 80           | 35 | 60 | 160 | 164 | 20 | 30 | 10 | 3.3 | 9.11                  | 3.7 |

※Weight only for reference. Actual scale should be Weighing.

## MSGH-JIS2

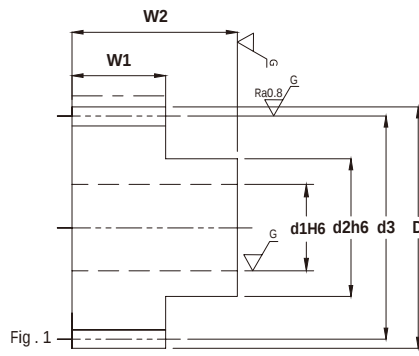


Fig. 1

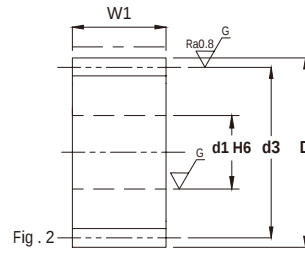


Fig. 2

Dimension : mm

Series MSGH-JIS2 Straight Teeth Ground Pinions

Quality Grade JIS 2

Material SCM415 / SCM440

Hardness: HRC 50~55°

Surfaces: Black-coated (Exclude Teeth)

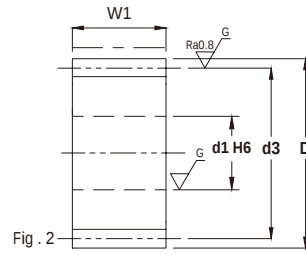
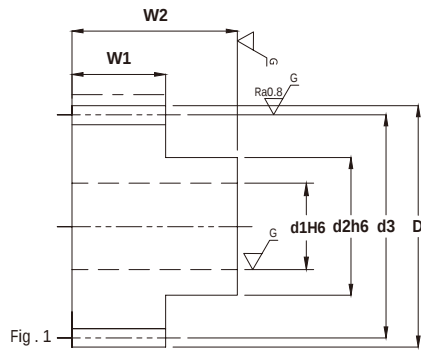
Teeth Ground after Hardening

Keyway and screw holes are available upon request.

| Code       | Fig. | JIS   | No. of Teeth | d1 | d2 | d3    | D     | W1 | W2 | k  | h   | F <sub>ta</sub><br>kN | KG  |
|------------|------|-------|--------------|----|----|-------|-------|----|----|----|-----|-----------------------|-----|
| Module 2.5 |      |       |              |    |    |       |       |    |    |    |     |                       |     |
| MSGH025015 | 1    | -JIS2 | 15           | 15 | 30 | 37.5  | 42.5  | 25 | 37 | 5  | 2.3 | *                     | 0.3 |
| MSGH025015 | 2    | -JIS2 | 15           | 18 | 30 | 37.5  | 42.5  | 25 | 37 | 6  | 2.8 | *                     | 0.3 |
| MSGH025018 | 1    | -JIS2 | 18           | 18 | 38 | 45    | 50    | 25 | 37 | 6  | 2.8 | 5.05                  | 0.4 |
| MSGH025018 | 2    | -JIS2 | 18           | 20 | 38 | 45    | 50    | 25 | 37 | 6  | 2.8 | 5.05                  | 0.4 |
| MSGH025020 | 1    | -JIS2 | 20           | 18 | 40 | 50    | 55    | 25 | 37 | 6  | 2.8 | 5.62                  | 0.5 |
| MSGH025020 | 2    | -JIS2 | 20           | 22 | 40 | 50    | 55    | 25 | 37 | 6  | 2.8 | 5.62                  | 0.5 |
| MSGH025024 | 1    | -JIS2 | 24           | 18 | 40 | 60    | 65    | 25 | 37 | 6  | 2.8 | 6.74                  | 0.7 |
| MSGH025024 | 2    | -JIS2 | 24           | 22 | 40 | 60    | 65    | 25 | 37 | 6  | 2.8 | 6.74                  | 0.7 |
| MSGH025025 | 1    | -JIS2 | 25           | 20 | 45 | 62.5  | 67.5  | 25 | 37 | 6  | 2.8 | 7.99                  | 0.8 |
| MSGH025025 | 2    | -JIS2 | 25           | 25 | 45 | 62.5  | 67.5  | 25 | 37 | 8  | 3.3 | 7.99                  | 0.8 |
| MSGH025030 | 1    | -JIS2 | 30           | 22 | 50 | 75    | 80    | 25 | 37 | 6  | 2.8 | 9.59                  | 1.1 |
| MSGH025030 | 2    | -JIS2 | 30           | 28 | 50 | 75    | 80    | 25 | 37 | 8  | 3.3 | 9.59                  | 1.1 |
| MSGH025035 | 1    | -JIS2 | 35           | 25 | 55 | 87.5  | 92.5  | 25 | 37 | 8  | 3.3 | 11.18                 | 1.5 |
| MSGH025035 | 2    | -JIS2 | 35           | 30 | 55 | 87.5  | 92.5  | 25 | 37 | 8  | 3.3 | 11.18                 | 1.5 |
| MSGH025036 | 1    | -JIS2 | 36           | 25 | 55 | 90    | 95    | 25 | 37 | 8  | 3.3 | 11.50                 | 1.5 |
| MSGH025036 | 2    | -JIS2 | 36           | 30 | 55 | 90    | 95    | 25 | 37 | 8  | 3.3 | 11.50                 | 1.5 |
| MSGH025040 | 1    | -JIS2 | 40           | 25 | 55 | 100   | 105   | 25 | 37 | 8  | 3.3 | 12.78                 | 1.9 |
| MSGH025040 | 2    | -JIS2 | 40           | 32 | 55 | 100   | 105   | 25 | 37 | 10 | 3.3 | 12.78                 | 1.9 |
| MSGH025045 | 1    | -JIS2 | 45           | 30 | 60 | 112.5 | 117.5 | 25 | 37 | 8  | 3.3 | 13.10                 | 2.4 |
| MSGH025045 | 2    | -JIS2 | 45           | 35 | 60 | 112.5 | 117.5 | 25 | 37 | 10 | 3.3 | 13.10                 | 2.4 |
| MSGH025048 | 1    | -JIS2 | 48           | 30 | 60 | 120   | 125   | 25 | 37 | 8  | 3.3 | 13.25                 | 2.7 |
| MSGH025048 | 2    | -JIS2 | 48           | 35 | 60 | 120   | 125   | 25 | 37 | 10 | 3.3 | 13.25                 | 2.7 |
| MSGH025050 | 1    | -JIS2 | 50           | 30 | 60 | 125   | 130   | 25 | 37 | 8  | 3.3 | 13.35                 | 2.9 |
| MSGH025050 | 2    | -JIS2 | 50           | 35 | 60 | 125   | 130   | 25 | 37 | 10 | 3.3 | 13.35                 | 2.9 |
| MSGH025055 | 1    | -JIS2 | 55           | 30 | 70 | 137.5 | 142.5 | 25 | 37 | 8  | 3.3 | 13.54                 | 3.5 |
| MSGH025055 | 2    | -JIS2 | 55           | 40 | 70 | 137.5 | 142.5 | 25 | 37 | 12 | 3.3 | 13.54                 | 3.5 |
| MSGH025060 | 1    | -JIS2 | 60           | 30 | 70 | 150   | 155   | 25 | 37 | 8  | 3.3 | 13.74                 | 4.1 |
| MSGH025060 | 2    | -JIS2 | 60           | 40 | 70 | 150   | 155   | 25 | 37 | 12 | 3.3 | 13.74                 | 4.1 |
| MSGH025070 | 1    | -JIS2 | 70           | 40 | 85 | 175   | 180   | 25 | 37 | 12 | 3.3 | 14.01                 | 5.5 |
| MSGH025070 | 2    | -JIS2 | 70           | 50 | 85 | 175   | 180   | 25 | 37 | 14 | 3.8 | 14.01                 | 5.5 |

※Weight only for reference. Actual scale should be Weighing.

## MSGH-JIS2



Dimension : mm

Series MSGH-JIS2 Straight Teeth Ground Pinions

Quality Grade JIS 2

Material SCM415 / SCM440

Hardness: HRC 50~55°

Surfaces: Black-coated (Exclude Teeth)

Teeth Ground after Hardening

Keyway and screw holes are available upon request.



| Code       | Fig. | JIS   | No. of Teeth | d1 | d2 | d3  | D   | W1 | W2 | k  | h   | F <sub>ta</sub><br>kN | KG  |
|------------|------|-------|--------------|----|----|-----|-----|----|----|----|-----|-----------------------|-----|
| Module 3   |      |       |              |    |    |     |     |    |    |    |     |                       |     |
| MSGH030015 | 1    | -JIS2 | 15           | 18 | 36 | 45  | 51  | 30 | 45 | 6  | 2.8 | *                     | 0.4 |
| MSGH030015 | 2    | -JIS2 | 15           | 22 | 36 | 45  | 51  | 30 | 45 | 6  | 2.8 | *                     | 0.4 |
| MSGH030018 | 1    | -JIS2 | 18           | 20 | 45 | 54  | 60  | 30 | 45 | 6  | 2.8 | 7.28                  | 0.6 |
| MSGH030018 | 2    | -JIS2 | 18           | 25 | 45 | 54  | 60  | 30 | 45 | 8  | 3.3 | 7.28                  | 0.6 |
| MSGH030020 | 1    | -JIS2 | 20           | 20 | 45 | 60  | 66  | 30 | 45 | 6  | 2.8 | 8.09                  | 0.7 |
| MSGH030020 | 2    | -JIS2 | 20           | 25 | 45 | 60  | 66  | 30 | 45 | 8  | 3.3 | 8.09                  | 0.7 |
| MSGH030024 | 1    | -JIS2 | 24           | 20 | 45 | 72  | 78  | 30 | 45 | 6  | 3.3 | 9.70                  | 1.0 |
| MSGH030024 | 2    | -JIS2 | 24           | 25 | 45 | 72  | 78  | 30 | 45 | 8  | 3.3 | 9.70                  | 1.0 |
| MSGH030025 | 1    | -JIS2 | 25           | 25 | 55 | 75  | 81  | 30 | 45 | 8  | 3.3 | 11.50                 | 1.1 |
| MSGH030025 | 2    | -JIS2 | 25           | 30 | 55 | 75  | 81  | 30 | 45 | 10 | 3.3 | 11.50                 | 1.1 |
| MSGH030030 | 1    | -JIS2 | 30           | 28 | 60 | 90  | 96  | 30 | 45 | 8  | 3.3 | 13.80                 | 1.5 |
| MSGH030030 | 2    | -JIS2 | 30           | 35 | 60 | 90  | 96  | 30 | 45 | 10 | 3.3 | 13.80                 | 1.5 |
| MSGH030035 | 1    | -JIS2 | 35           | 30 | 60 | 105 | 111 | 30 | 45 | 8  | 3.3 | 16.10                 | 2.1 |
| MSGH030035 | 2    | -JIS2 | 35           | 35 | 60 | 105 | 111 | 30 | 45 | 10 | 3.3 | 16.10                 | 2.1 |
| MSGH030036 | 1    | -JIS2 | 36           | 30 | 60 | 108 | 114 | 30 | 45 | 8  | 3.3 | 16.56                 | 2.2 |
| MSGH030036 | 2    | -JIS2 | 36           | 35 | 60 | 108 | 114 | 30 | 45 | 10 | 3.3 | 16.56                 | 2.2 |
| MSGH030040 | 1    | -JIS2 | 40           | 30 | 70 | 120 | 126 | 30 | 45 | 8  | 3.3 | 18.40                 | 2.6 |
| MSGH030040 | 2    | -JIS2 | 40           | 40 | 70 | 120 | 126 | 30 | 45 | 12 | 3.3 | 18.40                 | 2.6 |
| MSGH030045 | 1    | -JIS2 | 45           | 30 | 70 | 135 | 141 | 30 | 45 | 8  | 3.3 | 18.86                 | 3.3 |
| MSGH030045 | 2    | -JIS2 | 45           | 40 | 70 | 135 | 141 | 30 | 45 | 12 | 3.3 | 18.86                 | 3.3 |
| MSGH030048 | 1    | -JIS2 | 48           | 35 | 70 | 144 | 150 | 30 | 45 | 10 | 3.3 | 19.07                 | 3.7 |
| MSGH030048 | 2    | -JIS2 | 48           | 40 | 70 | 144 | 150 | 30 | 45 | 12 | 3.3 | 19.07                 | 3.7 |
| MSGH030050 | 1    | -JIS2 | 50           | 32 | 70 | 150 | 156 | 30 | 45 | 10 | 3.3 | 19.22                 | 4.1 |
| MSGH030050 | 2    | -JIS2 | 50           | 40 | 70 | 150 | 156 | 30 | 45 | 12 | 3.3 | 19.22                 | 4.1 |
| MSGH030055 | 1    | -JIS2 | 55           | 35 | 70 | 165 | 171 | 30 | 45 | 10 | 3.3 | 19.50                 | 4.9 |
| MSGH030055 | 2    | -JIS2 | 55           | 40 | 70 | 165 | 171 | 30 | 45 | 12 | 3.3 | 19.50                 | 4.9 |
| MSGH030060 | 1    | -JIS2 | 60           | 35 | 80 | 180 | 186 | 30 | 45 | 10 | 3.3 | 19.78                 | 5.8 |
| MSGH030060 | 2    | -JIS2 | 60           | 45 | 80 | 180 | 186 | 30 | 45 | 14 | 3.8 | 19.78                 | 5.8 |

※Weight only for reference. Actual scale should be Weighing.

## MSGH-JIS2

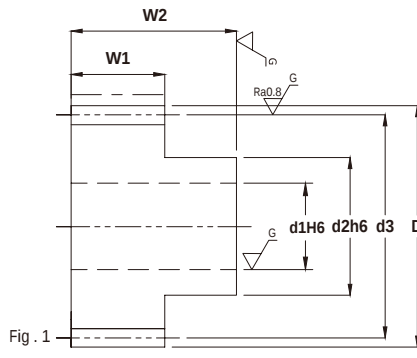


Fig. 1

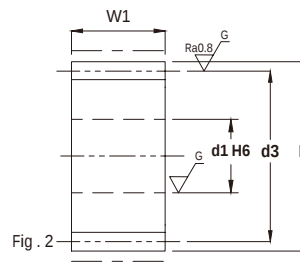


Fig. 2

Dimension : mm

Series MSGH-JIS2 Straight Teeth Ground Pinions

Quality Grade JIS 2

Material SCM415 / SCM440

Hardness: HRC 50~55°

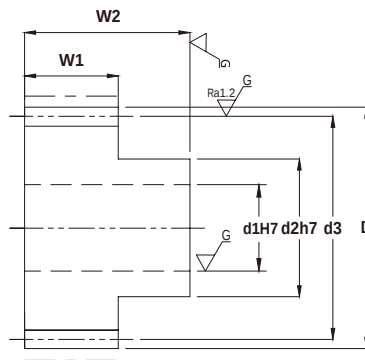
Surfaces: Black-coated (Exclude Teeth)

Teeth Ground after Hardening

Keyway and screw holes are available upon request.

| Code       | Fig. | JIS   | No. of Teeth | d1 | d2 | d3  | D   | W1 | W2 | k  | h   | F <sub>ta</sub><br>kN | KG  |
|------------|------|-------|--------------|----|----|-----|-----|----|----|----|-----|-----------------------|-----|
| Module 4   |      |       |              |    |    |     |     |    |    |    |     |                       |     |
| MSGH040015 | 1    | -JIS2 | 15           | 25 | 48 | 60  | 68  | 40 | 60 | 8  | 3.3 | *                     | 0.9 |
| MSGH040015 | 2    | -JIS2 | 15           | 30 | 48 | 60  | 68  | 40 | 60 | 8  | 3.3 | *                     | 0.9 |
| MSGH040018 | 1    | -JIS2 | 18           | 25 | 50 | 72  | 80  | 40 | 60 | 8  | 3.3 | 12.94                 | 1.2 |
| MSGH040018 | 2    | -JIS2 | 18           | 30 | 50 | 72  | 80  | 40 | 60 | 8  | 3.3 | 12.94                 | 1.2 |
| MSGH040020 | 1    | -JIS2 | 20           | 28 | 60 | 80  | 88  | 40 | 60 | 8  | 3.3 | 14.38                 | 1.4 |
| MSGH040020 | 2    | -JIS2 | 20           | 32 | 60 | 80  | 88  | 40 | 60 | 10 | 3.3 | 14.38                 | 1.4 |
| MSGH040024 | 1    | -JIS2 | 24           | 28 | 60 | 96  | 104 | 40 | 60 | 8  | 3.3 | 17.25                 | 2.0 |
| MSGH040024 | 2    | -JIS2 | 24           | 32 | 60 | 96  | 104 | 40 | 60 | 10 | 3.3 | 17.25                 | 2.0 |
| MSGH040025 | 1    | -JIS2 | 25           | 30 | 60 | 100 | 108 | 40 | 60 | 8  | 3.3 | 20.45                 | 2.2 |
| MSGH040025 | 2    | -JIS2 | 25           | 35 | 60 | 100 | 108 | 40 | 60 | 10 | 3.3 | 20.45                 | 2.2 |
| MSGH040030 | 1    | -JIS2 | 30           | 35 | 70 | 120 | 128 | 40 | 60 | 10 | 3.3 | 24.54                 | 3.0 |
| MSGH040030 | 2    | -JIS2 | 30           | 40 | 70 | 120 | 128 | 40 | 60 | 12 | 3.3 | 24.54                 | 3.0 |
| MSGH040035 | 1    | -JIS2 | 35           | 35 | 70 | 140 | 148 | 40 | 60 | 10 | 3.3 | 28.63                 | 4.1 |
| MSGH040035 | 2    | -JIS2 | 35           | 40 | 70 | 140 | 148 | 40 | 60 | 12 | 3.3 | 28.63                 | 4.1 |
| MSGH040036 | 1    | -JIS2 | 36           | 35 | 70 | 144 | 152 | 40 | 60 | 10 | 3.3 | 29.45                 | 4.3 |
| MSGH040036 | 2    | -JIS2 | 36           | 40 | 70 | 144 | 152 | 40 | 60 | 12 | 3.3 | 29.45                 | 4.3 |
| MSGH040040 | 1    | -JIS2 | 40           | 40 | 80 | 160 | 168 | 40 | 60 | 12 | 3.3 | 32.72                 | 5.2 |
| MSGH040040 | 2    | -JIS2 | 40           | 45 | 80 | 160 | 168 | 40 | 60 | 14 | 3.8 | 32.72                 | 5.2 |
| MSGH040045 | 1    | -JIS2 | 45           | 40 | 80 | 180 | 188 | 40 | 60 | 12 | 3.3 | 33.52                 | 6.5 |
| MSGH040045 | 2    | -JIS2 | 45           | 45 | 80 | 180 | 188 | 40 | 60 | 14 | 3.8 | 33.52                 | 6.5 |
| MSGH040048 | 1    | -JIS2 | 48           | 40 | 80 | 192 | 200 | 40 | 60 | 12 | 3.3 | 33.91                 | 7.4 |
| MSGH040048 | 2    | -JIS2 | 48           | 45 | 80 | 192 | 200 | 40 | 60 | 14 | 3.8 | 33.91                 | 7.4 |
| MSGH040050 | 1    | -JIS2 | 50           | 40 | 85 | 200 | 208 | 40 | 60 | 12 | 3.3 | 34.17                 | 8.0 |
| MSGH040050 | 2    | -JIS2 | 50           | 45 | 85 | 200 | 208 | 40 | 60 | 14 | 3.8 | 34.17                 | 8.0 |

## CSSH-JIS3



Dimension : mm

Series CSSH-JIS3 Straight Skiving Pinions

Quality Grade JIS 3

Material S45C

Hardness: HRC 50~55°

Surfaces: Black-coated (Exclude Teeth)

Skiving after Hardening

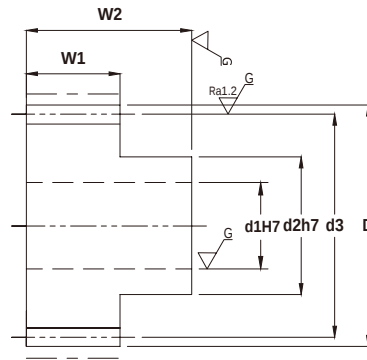
Keyway and screw holes are available upon request.

Straight  
JIS

| Code       | JIS   | No. of Teeth | d1 | d2 | d3  | D   | W1 | W2 | k | h | F <sub>ta</sub><br>kN | KG  |
|------------|-------|--------------|----|----|-----|-----|----|----|---|---|-----------------------|-----|
| Module 1   |       |              |    |    |     |     |    |    |   |   |                       |     |
| CSSH010015 | -JIS3 | 15           | 6  | 12 | 15  | 17  | 8  | 18 | * | * | *                     | 0.0 |
| CSSH010016 | -JIS3 | 16           | 6  | 13 | 16  | 18  | 8  | 18 | * | * | 0.47                  | 0.0 |
| CSSH010017 | -JIS3 | 17           | 6  | 14 | 17  | 19  | 8  | 18 | * | * | 0.50                  | 0.0 |
| CSSH010018 | -JIS3 | 18           | 6  | 15 | 18  | 20  | 8  | 18 | * | * | 0.53                  | 0.0 |
| CSSH010019 | -JIS3 | 19           | 6  | 16 | 19  | 21  | 8  | 18 | * | * | 0.55                  | 0.0 |
| CSSH010020 | -JIS3 | 20           | 6  | 17 | 20  | 22  | 8  | 18 | * | * | 0.67                  | 0.0 |
| CSSH010021 | -JIS3 | 21           | 8  | 18 | 21  | 23  | 8  | 18 | * | * | 0.70                  | 0.0 |
| CSSH010022 | -JIS3 | 22           | 8  | 18 | 22  | 24  | 8  | 18 | * | * | 0.73                  | 0.0 |
| CSSH010023 | -JIS3 | 23           | 8  | 20 | 23  | 25  | 8  | 18 | * | * | 0.77                  | 0.1 |
| CSSH010024 | -JIS3 | 24           | 8  | 20 | 24  | 26  | 8  | 18 | * | * | 0.80                  | 0.1 |
| CSSH010025 | -JIS3 | 25           | 8  | 20 | 25  | 27  | 8  | 18 | * | * | 0.83                  | 0.1 |
| CSSH010026 | -JIS3 | 26           | 8  | 20 | 26  | 28  | 8  | 18 | * | * | 0.85                  | 0.1 |
| CSSH010027 | -JIS3 | 27           | 8  | 20 | 27  | 29  | 8  | 18 | * | * | 0.86                  | 0.1 |
| CSSH010028 | -JIS3 | 28           | 8  | 20 | 28  | 30  | 8  | 18 | * | * | 0.87                  | 0.1 |
| CSSH010029 | -JIS3 | 29           | 8  | 25 | 29  | 31  | 8  | 18 | * | * | 0.88                  | 0.1 |
| CSSH010030 | -JIS3 | 30           | 10 | 25 | 30  | 32  | 8  | 18 | * | * | 0.88                  | 0.1 |
| CSSH010032 | -JIS3 | 32           | 10 | 25 | 32  | 34  | 8  | 18 | * | * | 0.90                  | 0.1 |
| CSSH010034 | -JIS3 | 34           | 10 | 25 | 34  | 36  | 8  | 18 | * | * | 0.91                  | 0.1 |
| CSSH010035 | -JIS3 | 35           | 10 | 25 | 35  | 37  | 8  | 18 | * | * | 0.92                  | 0.1 |
| CSSH010036 | -JIS3 | 36           | 10 | 25 | 36  | 38  | 8  | 18 | * | * | 0.93                  | 0.1 |
| CSSH010038 | -JIS3 | 38           | 10 | 30 | 38  | 40  | 8  | 18 | * | * | 0.94                  | 0.1 |
| CSSH010040 | -JIS3 | 40           | 10 | 30 | 40  | 42  | 8  | 18 | * | * | 0.95                  | 0.1 |
| CSSH010042 | -JIS3 | 42           | 10 | 30 | 42  | 44  | 8  | 18 | * | * | 0.96                  | 0.2 |
| CSSH010044 | -JIS3 | 44           | 10 | 30 | 44  | 46  | 8  | 18 | * | * | 0.97                  | 0.2 |
| CSSH010045 | -JIS3 | 45           | 10 | 30 | 45  | 47  | 8  | 18 | * | * | 0.97                  | 0.2 |
| CSSH010048 | -JIS3 | 48           | 10 | 30 | 48  | 50  | 8  | 18 | * | * | 0.98                  | 0.2 |
| CSSH010050 | -JIS3 | 50           | 12 | 35 | 50  | 52  | 8  | 18 | * | * | 0.99                  | 0.2 |
| CSSH010055 | -JIS3 | 55           | 12 | 35 | 55  | 57  | 8  | 18 | * | * | 1.00                  | 0.3 |
| CSSH010056 | -JIS3 | 56           | 12 | 35 | 56  | 58  | 8  | 18 | * | * | 1.01                  | 0.3 |
| CSSH010060 | -JIS3 | 60           | 12 | 40 | 60  | 62  | 8  | 18 | * | * | 1.02                  | 0.3 |
| CSSH010064 | -JIS3 | 64           | 12 | 40 | 64  | 66  | 8  | 18 | * | * | 1.03                  | 0.4 |
| CSSH010070 | -JIS3 | 70           | 12 | 40 | 70  | 72  | 8  | 18 | * | * | 1.04                  | 0.4 |
| CSSH010075 | -JIS3 | 75           | 12 | 40 | 75  | 77  | 8  | 18 | * | * | 1.05                  | 0.5 |
| CSSH010080 | -JIS3 | 80           | 15 | 50 | 80  | 82  | 8  | 18 | * | * | 1.06                  | 0.6 |
| CSSH010090 | -JIS3 | 90           | 15 | 50 | 90  | 92  | 8  | 18 | * | * | 1.07                  | 0.7 |
| CSSH010100 | -JIS3 | 100          | 15 | 50 | 100 | 102 | 8  | 18 | * | * | 1.08                  | 0.9 |
| CSSH010120 | -JIS3 | 120          | 15 | 50 | 120 | 122 | 8  | 18 | * | * | 1.10                  | 1.2 |

※Weight only for reference. Actual scale should be Weighing.

## CSSH-JIS3



Dimension : mm

Series CSSH-JIS3 Straight Skiving Pinions

Quality Grade JIS 3

Material S45C

Hardness: HRC 50~55°

Surfaces: Black-coated (Exclude Teeth)

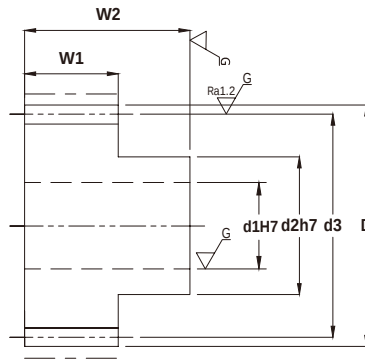
Skiving after Hardening

Keyway and screw holes are available upon request.

| Code       | JIS   | No. of Teeth | d1 | d2   | d3    | D     | W1 | W2 | k | h | F <sub>ta</sub><br>kN | KG  |
|------------|-------|--------------|----|------|-------|-------|----|----|---|---|-----------------------|-----|
| Module 1.5 |       |              |    |      |       |       |    |    |   |   |                       |     |
| CSSH015014 | -JIS3 | 14           | 10 | 17   | 21    | 24    | 15 | 29 | * | * | *                     | 0.1 |
| CSSH015015 | -JIS3 | 15           | 10 | 18   | 22.5  | 25.5  | 15 | 29 | * | * | *                     | 0.1 |
| CSSH015016 | -JIS3 | 16           | 10 | 20   | 24    | 27    | 15 | 29 | * | * | 1.18                  | 0.1 |
| CSSH015017 | -JIS3 | 17           | 10 | 21   | 25.5  | 28.5  | 15 | 29 | * | * | 1.40                  | 0.1 |
| CSSH015018 | -JIS3 | 18           | 10 | 22.5 | 27    | 30    | 15 | 29 | * | * | 1.49                  | 0.1 |
| CSSH015019 | -JIS3 | 19           | 10 | 23   | 28.5  | 31.5  | 15 | 29 | * | * | 1.57                  | 0.1 |
| CSSH015020 | -JIS3 | 20           | 10 | 24   | 30    | 33    | 15 | 29 | * | * | 1.65                  | 0.1 |
| CSSH015021 | -JIS3 | 21           | 10 | 25   | 31.5  | 34.5  | 15 | 29 | * | * | 1.73                  | 0.2 |
| CSSH015022 | -JIS3 | 22           | 12 | 26   | 33    | 36    | 15 | 29 | * | * | 1.82                  | 0.2 |
| CSSH015023 | -JIS3 | 23           | 12 | 27   | 34.5  | 37.5  | 15 | 29 | * | * | 1.90                  | 0.2 |
| CSSH015024 | -JIS3 | 24           | 12 | 28   | 36    | 39    | 15 | 29 | * | * | 1.98                  | 0.2 |
| CSSH015025 | -JIS3 | 25           | 12 | 30   | 37.5  | 40.5  | 15 | 29 | * | * | 2.35                  | 0.2 |
| CSSH015026 | -JIS3 | 26           | 12 | 32   | 39    | 42    | 15 | 29 | * | * | 2.39                  | 0.2 |
| CSSH015027 | -JIS3 | 27           | 15 | 34   | 40.5  | 43.5  | 15 | 29 | * | * | 2.42                  | 0.3 |
| CSSH015028 | -JIS3 | 28           | 15 | 36   | 42    | 45    | 15 | 29 | * | * | 2.45                  | 0.3 |
| CSSH015029 | -JIS3 | 29           | 15 | 37   | 43.5  | 46.5  | 15 | 29 | * | * | 2.47                  | 0.3 |
| CSSH015030 | -JIS3 | 30           | 15 | 38   | 45    | 48    | 15 | 29 | * | * | 2.49                  | 0.3 |
| CSSH015032 | -JIS3 | 32           | 15 | 40   | 48    | 51    | 15 | 29 | * | * | 2.54                  | 0.3 |
| CSSH015034 | -JIS3 | 34           | 15 | 42   | 51    | 54    | 15 | 29 | * | * | 2.58                  | 0.4 |
| CSSH015035 | -JIS3 | 35           | 15 | 42   | 52.5  | 55.5  | 15 | 29 | * | * | 2.60                  | 0.4 |
| CSSH015036 | -JIS3 | 36           | 15 | 45   | 54    | 57    | 15 | 29 | * | * | 2.61                  | 0.4 |
| CSSH015038 | -JIS3 | 38           | 15 | 45   | 57    | 60    | 15 | 29 | * | * | 2.65                  | 0.5 |
| CSSH015040 | -JIS3 | 40           | 15 | 50   | 60    | 63    | 15 | 29 | * | * | 2.68                  | 0.5 |
| CSSH015042 | -JIS3 | 42           | 15 | 50   | 63    | 66    | 15 | 29 | * | * | 2.70                  | 0.6 |
| CSSH015044 | -JIS3 | 44           | 15 | 50   | 66    | 69    | 15 | 29 | * | * | 2.73                  | 0.6 |
| CSSH015045 | -JIS3 | 45           | 18 | 50   | 67.5  | 70.5  | 15 | 29 | * | * | 2.74                  | 0.7 |
| CSSH015048 | -JIS3 | 48           | 18 | 50   | 72    | 75    | 15 | 29 | * | * | 2.77                  | 0.8 |
| CSSH015050 | -JIS3 | 50           | 18 | 60   | 75    | 78    | 15 | 29 | * | * | 2.79                  | 0.8 |
| CSSH015055 | -JIS3 | 55           | 18 | 60   | 82.5  | 85.5  | 15 | 29 | * | * | 2.83                  | 1.0 |
| CSSH015056 | -JIS3 | 56           | 18 | 60   | 84    | 87    | 15 | 29 | * | * | 2.84                  | 1.0 |
| CSSH015060 | -JIS3 | 60           | 20 | 60   | 90    | 93    | 15 | 29 | * | * | 2.87                  | 1.2 |
| CSSH015064 | -JIS3 | 64           | 20 | 60   | 96    | 99    | 15 | 29 | * | * | 2.90                  | 1.3 |
| CSSH015070 | -JIS3 | 70           | 20 | 60   | 105   | 108   | 15 | 29 | * | * | 2.93                  | 1.6 |
| CSSH015075 | -JIS3 | 75           | 20 | 60   | 112.5 | 115.5 | 15 | 29 | * | * | 2.96                  | 1.8 |
| CSSH015080 | -JIS3 | 80           | 20 | 70   | 120   | 123   | 15 | 29 | * | * | 2.98                  | 2.0 |
| CSSH015090 | -JIS3 | 90           | 20 | 70   | 135   | 138   | 15 | 29 | * | * | 3.02                  | 2.6 |
| CSSH015100 | -JIS3 | 100          | 20 | 70   | 150   | 153   | 15 | 29 | * | * | 3.05                  | 3.1 |

※Weight only for reference. Actual scale should be Weighing.

## CSSH-JIS3



Dimension : mm

Series CSSH-JIS3 Straight Skiving Pinions

Quality Grade JIS 3

Material S45C

Hardness: HRC 50~55°

Surfaces: Black-coated (Exclude Teeth)

Skiving after Hardening

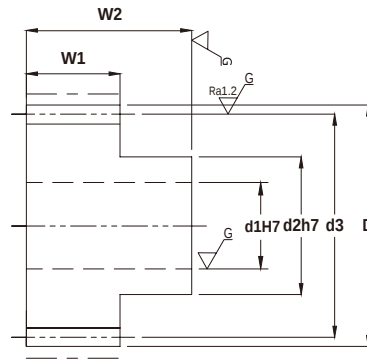
Keyway and screw holes are available upon request.

Straight  
JIS

| Code       | JIS   | No. of Teeth | d1 | d2 | d3  | D   | W1 | W2 | k | h | F <sub>ta</sub><br>kN | KG  |
|------------|-------|--------------|----|----|-----|-----|----|----|---|---|-----------------------|-----|
| Module 2   |       |              |    |    |     |     |    |    |   |   |                       |     |
| CSSH020014 | -JIS3 | 14           | 12 | 22 | 28  | 32  | 20 | 36 | * | * | *                     | 0.2 |
| CSSH020015 | -JIS3 | 15           | 12 | 24 | 30  | 34  | 20 | 36 | * | * | *                     | 0.2 |
| CSSH020016 | -JIS3 | 16           | 12 | 26 | 32  | 36  | 20 | 36 | * | * | 2.10                  | 0.2 |
| CSSH020017 | -JIS3 | 17           | 12 | 28 | 34  | 38  | 20 | 36 | * | * | 2.50                  | 0.2 |
| CSSH020018 | -JIS3 | 18           | 12 | 30 | 36  | 40  | 20 | 36 | * | * | 2.64                  | 0.3 |
| CSSH020019 | -JIS3 | 19           | 12 | 31 | 38  | 42  | 20 | 36 | * | * | 2.79                  | 0.3 |
| CSSH020020 | -JIS3 | 20           | 15 | 32 | 40  | 44  | 20 | 36 | * | * | 2.94                  | 0.3 |
| CSSH020021 | -JIS3 | 21           | 15 | 34 | 42  | 46  | 20 | 36 | * | * | 3.09                  | 0.4 |
| CSSH020022 | -JIS3 | 22           | 15 | 36 | 44  | 48  | 20 | 36 | * | * | 3.23                  | 0.4 |
| CSSH020023 | -JIS3 | 23           | 15 | 37 | 46  | 50  | 20 | 36 | * | * | 3.38                  | 0.4 |
| CSSH020024 | -JIS3 | 24           | 15 | 38 | 48  | 52  | 20 | 36 | * | * | 3.53                  | 0.5 |
| CSSH020025 | -JIS3 | 25           | 15 | 40 | 50  | 54  | 20 | 36 | * | * | 4.18                  | 0.5 |
| CSSH020026 | -JIS3 | 26           | 15 | 42 | 52  | 56  | 20 | 36 | * | * | 4.25                  | 0.5 |
| CSSH020027 | -JIS3 | 27           | 15 | 44 | 54  | 58  | 20 | 36 | * | * | 4.30                  | 0.6 |
| CSSH020028 | -JIS3 | 28           | 15 | 45 | 56  | 60  | 20 | 36 | * | * | 4.35                  | 0.6 |
| CSSH020029 | -JIS3 | 29           | 15 | 48 | 58  | 62  | 20 | 36 | * | * | 4.39                  | 0.6 |
| CSSH020030 | -JIS3 | 30           | 18 | 50 | 60  | 64  | 20 | 36 | * | * | 4.44                  | 0.7 |
| CSSH020032 | -JIS3 | 32           | 18 | 50 | 64  | 68  | 20 | 36 | * | * | 4.51                  | 0.8 |
| CSSH020034 | -JIS3 | 34           | 18 | 50 | 68  | 72  | 20 | 36 | * | * | 4.59                  | 0.9 |
| CSSH020035 | -JIS3 | 35           | 18 | 50 | 70  | 74  | 20 | 36 | * | * | 4.62                  | 0.9 |
| CSSH020036 | -JIS3 | 36           | 18 | 50 | 72  | 76  | 20 | 36 | * | * | 4.65                  | 1.0 |
| CSSH020038 | -JIS3 | 38           | 18 | 50 | 76  | 80  | 20 | 36 | * | * | 4.71                  | 1.1 |
| CSSH020040 | -JIS3 | 40           | 20 | 60 | 80  | 84  | 20 | 36 | * | * | 4.76                  | 1.2 |
| CSSH020042 | -JIS3 | 42           | 20 | 60 | 84  | 88  | 20 | 36 | * | * | 4.81                  | 1.3 |
| CSSH020044 | -JIS3 | 44           | 20 | 60 | 88  | 92  | 20 | 36 | * | * | 4.85                  | 1.4 |
| CSSH020045 | -JIS3 | 45           | 20 | 60 | 90  | 94  | 20 | 36 | * | * | 4.88                  | 1.5 |
| CSSH020048 | -JIS3 | 48           | 20 | 60 | 96  | 100 | 20 | 36 | * | * | 4.93                  | 1.7 |
| CSSH020050 | -JIS3 | 50           | 25 | 60 | 100 | 104 | 20 | 36 | * | * | 4.97                  | 1.8 |
| CSSH020055 | -JIS3 | 55           | 25 | 60 | 110 | 114 | 20 | 36 | * | * | 5.04                  | 2.2 |
| CSSH020056 | -JIS3 | 56           | 25 | 60 | 112 | 116 | 20 | 36 | * | * | 5.06                  | 2.2 |
| CSSH020060 | -JIS3 | 60           | 25 | 65 | 120 | 124 | 20 | 36 | * | * | 5.11                  | 2.6 |
| CSSH020064 | -JIS3 | 64           | 25 | 65 | 128 | 132 | 20 | 36 | * | * | 5.16                  | 2.9 |
| CSSH020070 | -JIS3 | 70           | 25 | 70 | 140 | 144 | 20 | 36 | * | * | 5.22                  | 3.5 |
| CSSH020075 | -JIS3 | 75           | 25 | 70 | 150 | 154 | 20 | 36 | * | * | 5.26                  | 3.9 |
| CSSH020080 | -JIS3 | 80           | 25 | 80 | 160 | 164 | 20 | 36 | * | * | 5.30                  | 4.5 |
| CSSH020090 | -JIS3 | 90           | 25 | 80 | 180 | 184 | 20 | 36 | * | * | 5.37                  | 5.6 |
| CSSH020100 | -JIS3 | 100          | 25 | 80 | 200 | 204 | 20 | 36 | * | * | 5.42                  | 6.9 |

※Weight only for reference. Actual scale should be Weighing.

## CSSH-JIS3



Dimension : mm

Series CSSH-JIS3 Straight Skiving Pinions

Quality Grade JIS 3

Material S45C

Hardness: HRC 50~55°

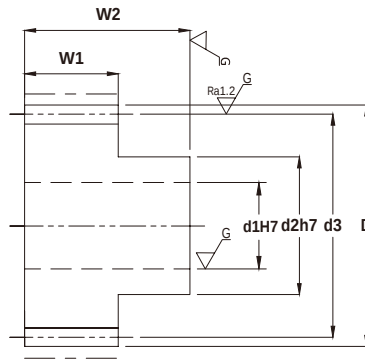
Surfaces: Black-coated (Exclude Teeth)

Skiving after Hardening

Keyway and screw holes are available upon request.

| Code       | JIS   | No. of Teeth | d1 | d2 | d3    | D     | W1 | W2 | k | h | F <sub>ta</sub><br>kN | KG  |
|------------|-------|--------------|----|----|-------|-------|----|----|---|---|-----------------------|-----|
| Module 2.5 |       |              |    |    |       |       |    |    |   |   |                       |     |
| CSSH025014 | -JIS3 | 14           | 15 | 28 | 35    | 40    | 25 | 43 | * | * | *                     | 0.3 |
| CSSH025015 | -JIS3 | 15           | 15 | 30 | 37.5  | 42.5  | 25 | 43 | * | * | *                     | 0.4 |
| CSSH025016 | -JIS3 | 16           | 15 | 32 | 40    | 45    | 25 | 43 | * | * | 3.28                  | 0.4 |
| CSSH025017 | -JIS3 | 17           | 15 | 35 | 42.5  | 47.5  | 25 | 43 | * | * | 3.90                  | 0.4 |
| CSSH025018 | -JIS3 | 18           | 15 | 38 | 45    | 50    | 25 | 43 | * | * | 4.13                  | 0.5 |
| CSSH025019 | -JIS3 | 19           | 15 | 39 | 47.5  | 52.5  | 25 | 43 | * | * | 4.36                  | 0.5 |
| CSSH025020 | -JIS3 | 20           | 18 | 40 | 50    | 55    | 25 | 43 | * | * | 4.59                  | 0.6 |
| CSSH025021 | -JIS3 | 21           | 18 | 42 | 52.5  | 57.5  | 25 | 43 | * | * | 4.82                  | 0.7 |
| CSSH025022 | -JIS3 | 22           | 18 | 44 | 55    | 60    | 25 | 43 | * | * | 5.05                  | 0.7 |
| CSSH025023 | -JIS3 | 23           | 18 | 46 | 57.5  | 62.5  | 25 | 43 | * | * | 5.28                  | 0.8 |
| CSSH025024 | -JIS3 | 24           | 18 | 48 | 60    | 65    | 25 | 43 | * | * | 5.51                  | 0.8 |
| CSSH025025 | -JIS3 | 25           | 20 | 50 | 62.5  | 67.5  | 25 | 43 | * | * | 6.53                  | 0.9 |
| CSSH025026 | -JIS3 | 26           | 20 | 54 | 65    | 70    | 25 | 43 | * | * | 6.65                  | 1.0 |
| CSSH025027 | -JIS3 | 27           | 20 | 56 | 67.5  | 72.5  | 25 | 43 | * | * | 6.73                  | 1.0 |
| CSSH025028 | -JIS3 | 28           | 20 | 60 | 70    | 75    | 25 | 43 | * | * | 6.80                  | 1.1 |
| CSSH025029 | -JIS3 | 29           | 20 | 60 | 72.5  | 77.5  | 25 | 43 | * | * | 6.87                  | 1.2 |
| CSSH025030 | -JIS3 | 30           | 20 | 65 | 75    | 80    | 25 | 43 | * | * | 6.94                  | 1.3 |
| CSSH025032 | -JIS3 | 32           | 20 | 70 | 80    | 85    | 25 | 43 | * | * | 7.05                  | 1.4 |
| CSSH025034 | -JIS3 | 34           | 20 | 70 | 85    | 90    | 25 | 43 | * | * | 7.17                  | 1.6 |
| CSSH025035 | -JIS3 | 35           | 20 | 70 | 87.5  | 92.5  | 25 | 43 | * | * | 7.23                  | 1.7 |
| CSSH025036 | -JIS3 | 36           | 20 | 70 | 90    | 95    | 25 | 43 | * | * | 7.27                  | 1.8 |
| CSSH025038 | -JIS3 | 38           | 20 | 70 | 95    | 100   | 25 | 43 | * | * | 7.36                  | 2.0 |
| CSSH025040 | -JIS3 | 40           | 25 | 70 | 100   | 105   | 25 | 43 | * | * | 7.45                  | 2.2 |
| CSSH025042 | -JIS3 | 42           | 25 | 75 | 105   | 110   | 25 | 43 | * | * | 7.52                  | 2.4 |
| CSSH025044 | -JIS3 | 44           | 25 | 75 | 110   | 115   | 25 | 43 | * | * | 7.59                  | 2.6 |
| CSSH025045 | -JIS3 | 45           | 25 | 75 | 112.5 | 117.5 | 25 | 43 | * | * | 7.62                  | 2.7 |
| CSSH025048 | -JIS3 | 48           | 25 | 75 | 120   | 125   | 25 | 43 | * | * | 7.71                  | 3.1 |
| CSSH025050 | -JIS3 | 50           | 25 | 80 | 125   | 130   | 25 | 43 | * | * | 7.77                  | 3.4 |
| CSSH025055 | -JIS3 | 55           | 25 | 80 | 137.5 | 142.5 | 25 | 43 | * | * | 7.88                  | 4.0 |
| CSSH025056 | -JIS3 | 56           | 25 | 80 | 140   | 145   | 25 | 43 | * | * | 7.90                  | 4.2 |
| CSSH025060 | -JIS3 | 60           | 25 | 80 | 150   | 155   | 25 | 43 | * | * | 7.99                  | 4.8 |
| CSSH025070 | -JIS3 | 70           | 25 | 80 | 170   | 180   | 25 | 43 | * | * | 8.15                  | 6.4 |
| CSSH025075 | -JIS3 | 75           | 25 | 90 | 187.5 | 192.5 | 25 | 43 | * | * | 8.22                  | 7.4 |
| CSSH025080 | -JIS3 | 80           | 25 | 90 | 200   | 205   | 25 | 43 | * | * | 8.28                  | 8.4 |

## CSSH-JIS3



Dimension : mm

Series CSSH-JIS3 Straight Skiving Pinions

Quality Grade JIS 3

Material S45C

Hardness: HRC 50~55°

Surfaces: Black-coated (Exclude Teeth)

Skiving after Hardening

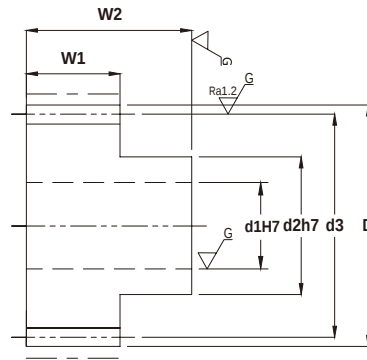
Keyway and screw holes are available upon request.



| Code       | JIS   | No. of Teeth | d1 | d2  | d3  | D   | W1 | W2 | k | h | F <sub>ta</sub><br>kN | KG   |
|------------|-------|--------------|----|-----|-----|-----|----|----|---|---|-----------------------|------|
| Module 3   |       |              |    |     |     |     |    |    |   |   |                       |      |
| CSSH030014 | -JIS3 | 14           | 16 | 34  | 42  | 48  | 30 | 50 | * | * | *                     | 0.4  |
| CSSH030015 | -JIS3 | 15           | 16 | 36  | 45  | 51  | 30 | 50 | * | * | *                     | 0.5  |
| CSSH030016 | -JIS3 | 16           | 16 | 38  | 48  | 54  | 30 | 50 | * | * | 4.72                  | 0.5  |
| CSSH030017 | -JIS3 | 17           | 16 | 37  | 51  | 57  | 30 | 50 | * | * | 5.62                  | 0.6  |
| CSSH030018 | -JIS3 | 18           | 16 | 40  | 54  | 60  | 30 | 50 | * | * | 5.96                  | 0.7  |
| CSSH030019 | -JIS3 | 19           | 16 | 45  | 57  | 63  | 30 | 50 | * | * | 6.29                  | 0.7  |
| CSSH030020 | -JIS3 | 20           | 20 | 50  | 60  | 66  | 30 | 50 | * | * | 6.62                  | 0.8  |
| CSSH030021 | -JIS3 | 21           | 20 | 52  | 63  | 69  | 30 | 50 | * | * | 6.95                  | 0.9  |
| CSSH030022 | -JIS3 | 22           | 20 | 54  | 66  | 72  | 30 | 50 | * | * | 7.28                  | 1.0  |
| CSSH030023 | -JIS3 | 23           | 20 | 56  | 69  | 75  | 30 | 50 | * | * | 7.61                  | 1.0  |
| CSSH030024 | -JIS3 | 24           | 20 | 58  | 72  | 78  | 30 | 50 | * | * | 7.94                  | 1.1  |
| CSSH030025 | -JIS3 | 25           | 20 | 60  | 75  | 81  | 30 | 50 | * | * | 9.41                  | 1.2  |
| CSSH030026 | -JIS3 | 26           | 20 | 62  | 78  | 84  | 30 | 50 | * | * | 9.58                  | 1.3  |
| CSSH030027 | -JIS3 | 27           | 20 | 65  | 81  | 87  | 30 | 50 | * | * | 9.69                  | 1.4  |
| CSSH030028 | -JIS3 | 28           | 20 | 70  | 84  | 90  | 30 | 50 | * | * | 9.80                  | 1.5  |
| CSSH030029 | -JIS3 | 29           | 20 | 70  | 87  | 93  | 30 | 50 | * | * | 9.89                  | 1.6  |
| CSSH030030 | -JIS3 | 30           | 25 | 75  | 90  | 96  | 30 | 50 | * | * | 9.99                  | 1.7  |
| CSSH030032 | -JIS3 | 32           | 25 | 75  | 96  | 102 | 30 | 50 | * | * | 10.16                 | 1.9  |
| CSSH030034 | -JIS3 | 34           | 25 | 75  | 102 | 108 | 30 | 50 | * | * | 10.32                 | 2.2  |
| CSSH030035 | -JIS3 | 35           | 25 | 80  | 105 | 111 | 30 | 50 | * | * | 10.47                 | 2.3  |
| CSSH030036 | -JIS3 | 36           | 25 | 80  | 108 | 114 | 30 | 50 | * | * | 10.60                 | 2.4  |
| CSSH030038 | -JIS3 | 38           | 25 | 80  | 114 | 120 | 30 | 50 | * | * | 10.72                 | 2.7  |
| CSSH030040 | -JIS3 | 40           | 25 | 80  | 120 | 126 | 30 | 50 | * | * | 10.83                 | 2.9  |
| CSSH030042 | -JIS3 | 42           | 25 | 80  | 126 | 132 | 30 | 50 | * | * | 10.93                 | 3.2  |
| CSSH030044 | -JIS3 | 44           | 25 | 80  | 132 | 138 | 30 | 50 | * | * | 10.98                 | 3.5  |
| CSSH030045 | -JIS3 | 45           | 25 | 80  | 135 | 141 | 30 | 50 | * | * | 11.10                 | 3.7  |
| CSSH030048 | -JIS3 | 48           | 25 | 80  | 144 | 150 | 30 | 50 | * | * | 11.19                 | 4.2  |
| CSSH030050 | -JIS3 | 50           | 30 | 85  | 150 | 156 | 30 | 50 | * | * | 11.19                 | 4.5  |
| CSSH030055 | -JIS3 | 55           | 30 | 90  | 165 | 171 | 30 | 50 | * | * | 11.35                 | 5.4  |
| CSSH030056 | -JIS3 | 56           | 30 | 90  | 168 | 174 | 30 | 50 | * | * | 11.38                 | 5.6  |
| CSSH030060 | -JIS3 | 60           | 30 | 100 | 180 | 186 | 30 | 50 | * | * | 11.51                 | 6.4  |
| CSSH030070 | -JIS3 | 70           | 30 | 100 | 210 | 216 | 30 | 50 | * | * | 11.74                 | 8.6  |
| CSSH030075 | -JIS3 | 75           | 30 | 100 | 225 | 231 | 30 | 50 | * | * | 11.83                 | 9.9  |
| CSSH030080 | -JIS3 | 80           | 30 | 100 | 240 | 246 | 30 | 50 | * | * | 11.92                 | 11.2 |

※Weight only for reference. Actual scale should be Weighing.

## CSSH-JIS3



Dimension : mm

Series CSSH-JIS3 Straight Skiving Pinions

Quality Grade JIS 3

Material S45C

Hardness: HRC 50~55°

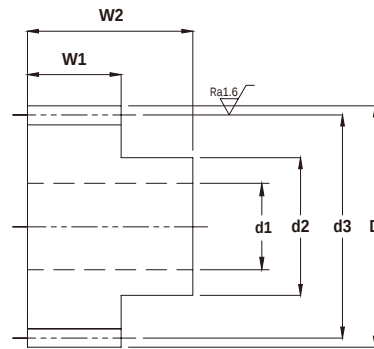
Surfaces: Black-coated (Exclude Teeth)

Skiving after Hardening

Keyway and screw holes are available upon request.

| Code       | JIS   | No. of Teeth | d1 | d2  | d3  | D   | W1 | W2 | k | h | F <sub>ta</sub><br>kN | KG   |
|------------|-------|--------------|----|-----|-----|-----|----|----|---|---|-----------------------|------|
| Module 2.5 |       |              |    |     |     |     |    |    |   |   |                       |      |
| CSSH040014 | -JIS3 | 14           | 20 | 40  | 56  | 64  | 40 | 65 | * | * | *                     | 0.8  |
| CSSH040015 | -JIS3 | 15           | 20 | 45  | 60  | 68  | 40 | 65 | * | * | *                     | 0.9  |
| CSSH040016 | -JIS3 | 16           | 20 | 50  | 64  | 72  | 40 | 65 | * | * | 8.40                  | 1.0  |
| CSSH040018 | -JIS3 | 18           | 20 | 60  | 72  | 80  | 40 | 65 | * | * | 10.59                 | 1.3  |
| CSSH040020 | -JIS3 | 20           | 20 | 65  | 80  | 88  | 40 | 65 | * | * | 11.77                 | 1.6  |
| CSSH040022 | -JIS3 | 22           | 20 | 70  | 88  | 96  | 40 | 65 | * | * | 12.95                 | 1.8  |
| CSSH040024 | -JIS3 | 24           | 20 | 75  | 96  | 104 | 40 | 65 | * | * | 14.12                 | 2.2  |
| CSSH040025 | -JIS3 | 25           | 20 | 80  | 100 | 108 | 40 | 65 | * | * | 16.73                 | 2.3  |
| CSSH040028 | -JIS3 | 28           | 20 | 85  | 112 | 120 | 40 | 65 | * | * | 17.42                 | 2.9  |
| CSSH040030 | -JIS3 | 30           | 20 | 90  | 120 | 128 | 40 | 65 | * | * | 17.77                 | 3.3  |
| CSSH040032 | -JIS3 | 32           | 25 | 90  | 128 | 136 | 40 | 65 | * | * | 18.06                 | 3.7  |
| CSSH040035 | -JIS3 | 35           | 25 | 90  | 140 | 148 | 40 | 65 | * | * | 18.51                 | 4.4  |
| CSSH040036 | -JIS3 | 36           | 25 | 90  | 144 | 152 | 40 | 65 | * | * | 18.62                 | 4.6  |
| CSSH040040 | -JIS3 | 40           | 25 | 90  | 160 | 168 | 40 | 65 | * | * | 19.07                 | 5.7  |
| CSSH040042 | -JIS3 | 42           | 25 | 90  | 168 | 176 | 40 | 65 | * | * | 19.25                 | 6.2  |
| CSSH040044 | -JIS3 | 44           | 30 | 90  | 176 | 184 | 40 | 65 | * | * | 19.43                 | 6.8  |
| CSSH040045 | -JIS3 | 45           | 30 | 90  | 180 | 188 | 40 | 65 | * | * | 19.52                 | 7.1  |
| CSSH040048 | -JIS3 | 48           | 30 | 100 | 192 | 200 | 40 | 65 | * | * | 19.74                 | 8.0  |
| CSSH040050 | -JIS3 | 50           | 30 | 100 | 200 | 108 | 40 | 65 | * | * | 19.89                 | 2.3  |
| CSSH040055 | -JIS3 | 55           | 30 | 100 | 220 | 228 | 40 | 65 | * | * | 20.18                 | 10.4 |
| CSSH040056 | -JIS3 | 56           | 30 | 110 | 224 | 232 | 40 | 65 | * | * | 20.24                 | 10.8 |
| CSSH040060 | -JIS3 | 60           | 30 | 110 | 240 | 248 | 40 | 65 | * | * | 20.47                 | 12.3 |
| Module 5   |       |              |    |     |     |     |    |    |   |   |                       |      |
| CSSH050020 | -JIS3 | 20           | 25 | 82  | 100 | 110 | 50 | 75 | * | * | 18.39                 | 3.3  |
| CSSH050025 | -JIS3 | 25           | 25 | 105 | 125 | 135 | 50 | 75 | * | * | 26.14                 | 4.9  |
| CSSH050030 | -JIS3 | 30           | 25 | 120 | 150 | 160 | 50 | 75 | * | * | 27.76                 | 6.9  |
| Module 6   |       |              |    |     |     |     |    |    |   |   |                       |      |
| CSSH060020 | -JIS3 | 20           | 25 | 100 | 120 | 132 | 60 | 88 | * | * | 26.49                 | 4.7  |
| CSSH060025 | -JIS3 | 25           | 30 | 125 | 150 | 162 | 60 | 88 | * | * | 36.65                 | 7.1  |
| CSSH060030 | -JIS3 | 30           | 30 | 150 | 180 | 192 | 60 | 88 | * | * | 39.98                 | 10.0 |

## CSM-JIS4



Dimension : mm

Series CSM-JIS4 Straight Soft Pinions

Quality Grade JIS 4

Material S45C / S50C

Surfaces: Black-coated

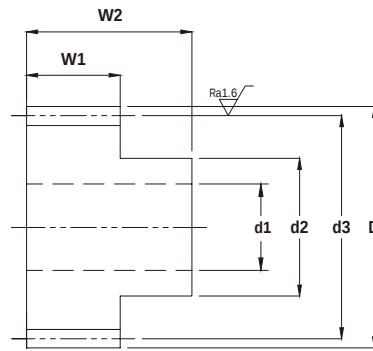
Keyway and screw holes are available upon request.



| Code      | JIS   | No. of Teeth | d1 | d2 | d3 | D  | W1 | W2 | k | h | F <sub>ta</sub><br>kN | KG  |
|-----------|-------|--------------|----|----|----|----|----|----|---|---|-----------------------|-----|
| Module 1  |       |              |    |    |    |    |    |    |   |   |                       |     |
| CSM010015 | -JIS4 | 15           | 8  | 17 | 15 | 17 | 10 | 20 | * | * | *                     | 0.1 |
| CSM010016 | -JIS4 | 16           | 8  | 18 | 16 | 18 | 10 | 20 | * | * | 0.07                  | 0.1 |
| CSM010017 | -JIS4 | 17           | 8  | 19 | 17 | 19 | 10 | 20 | * | * | 0.09                  | 0.1 |
| CSM010018 | -JIS4 | 18           | 8  | 20 | 18 | 20 | 10 | 20 | * | * | 0.09                  | 0.1 |
| CSM010019 | -JIS4 | 19           | 8  | 21 | 19 | 21 | 10 | 20 | * | * | 0.10                  | 0.1 |
| CSM010020 | -JIS4 | 20           | 8  | 16 | 20 | 22 | 10 | 20 | * | * | 0.10                  | 0.1 |
| CSM010021 | -JIS4 | 21           | 8  | 17 | 21 | 23 | 10 | 20 | * | * | 0.11                  | 0.1 |
| CSM010022 | -JIS4 | 22           | 8  | 18 | 22 | 24 | 10 | 20 | * | * | 0.11                  | 0.1 |
| CSM010023 | -JIS4 | 23           | 8  | 18 | 23 | 25 | 10 | 20 | * | * | 0.12                  | 0.1 |
| CSM010024 | -JIS4 | 24           | 8  | 20 | 24 | 26 | 10 | 20 | * | * | 0.12                  | 0.1 |
| CSM010025 | -JIS4 | 25           | 8  | 20 | 25 | 27 | 10 | 20 | * | * | 0.15                  | 0.1 |
| CSM010026 | -JIS4 | 26           | 8  | 22 | 26 | 28 | 10 | 20 | * | * | 0.15                  | 0.1 |
| CSM010027 | -JIS4 | 27           | 8  | 22 | 27 | 29 | 10 | 20 | * | * | 0.16                  | 4.8 |
| CSM010028 | -JIS4 | 28           | 8  | 22 | 28 | 30 | 10 | 20 | * | * | 0.16                  | 0.1 |
| CSM010029 | -JIS4 | 29           | 8  | 24 | 29 | 31 | 10 | 20 | * | * | 0.17                  | 0.1 |
| CSM010030 | -JIS4 | 30           | 10 | 25 | 30 | 32 | 10 | 20 | * | * | 0.18                  | 0.1 |
| CSM010032 | -JIS4 | 32           | 10 | 26 | 32 | 34 | 10 | 20 | * | * | 0.19                  | 0.1 |
| CSM010034 | -JIS4 | 34           | 10 | 26 | 34 | 36 | 10 | 20 | * | * | 0.20                  | 0.1 |
| CSM010035 | -JIS4 | 35           | 10 | 26 | 35 | 37 | 10 | 20 | * | * | 0.21                  | 0.1 |
| CSM010036 | -JIS4 | 36           | 10 | 28 | 36 | 38 | 10 | 20 | * | * | 0.21                  | 0.1 |
| CSM010038 | -JIS4 | 38           | 10 | 32 | 38 | 40 | 10 | 20 | * | * | 0.22                  | 0.1 |
| CSM010040 | -JIS4 | 40           | 10 | 35 | 40 | 42 | 10 | 20 | * | * | 0.24                  | 0.2 |
| CSM010042 | -JIS4 | 42           | 10 | 35 | 42 | 44 | 10 | 20 | * | * | 0.25                  | 0.2 |
| CSM010044 | -JIS4 | 44           | 10 | 35 | 44 | 46 | 10 | 20 | * | * | 0.26                  | 0.2 |
| CSM010045 | -JIS4 | 45           | 10 | 35 | 45 | 47 | 10 | 20 | * | * | 0.26                  | 0.2 |
| CSM010046 | -JIS4 | 46           | 10 | 35 | 46 | 48 | 10 | 20 | * | * | 0.27                  | 0.2 |
| CSM010048 | -JIS4 | 48           | 10 | 35 | 48 | 50 | 10 | 20 | * | * | 0.28                  | 0.2 |
| CSM010050 | -JIS4 | 50           | 10 | 35 | 50 | 52 | 10 | 20 | * | * | 0.35                  | 0.3 |
| CSM010052 | -JIS4 | 52           | 10 | 35 | 52 | 54 | 10 | 20 | * | * | 0.37                  | 0.3 |
| CSM010054 | -JIS4 | 54           | 10 | 35 | 54 | 56 | 10 | 20 | * | * | 0.38                  | 0.3 |
| CSM010055 | -JIS4 | 55           | 10 | 35 | 55 | 57 | 10 | 20 | * | * | 0.39                  | 0.3 |
| CSM010056 | -JIS4 | 56           | 10 | 35 | 56 | 58 | 10 | 20 | * | * | 0.40                  | 0.3 |
| CSM010058 | -JIS4 | 58           | 10 | 35 | 58 | 60 | 10 | 20 | * | * | 0.41                  | 0.3 |
| CSM010060 | -JIS4 | 60           | 10 | 35 | 60 | 62 | 10 | 20 | * | * | 0.43                  | 0.4 |
| CSM010062 | -JIS4 | 62           | 10 | 40 | 62 | 64 | 10 | 20 | * | * | 0.44                  | 0.4 |
| CSM010064 | -JIS4 | 64           | 10 | 40 | 64 | 66 | 10 | 20 | * | * | 0.45                  | 0.4 |
| CSM010065 | -JIS4 | 65           | 10 | 40 | 65 | 67 | 10 | 20 | * | * | 0.46                  | 0.4 |
| CSM010066 | -JIS4 | 66           | 10 | 40 | 66 | 68 | 10 | 20 | * | * | 0.47                  | 0.4 |
| CSM010068 | -JIS4 | 68           | 10 | 40 | 68 | 70 | 10 | 20 | * | * | 0.48                  | 0.5 |
| CSM010070 | -JIS4 | 70           | 10 | 40 | 70 | 72 | 10 | 20 | * | * | 0.50                  | 0.5 |
| CSM010072 | -JIS4 | 72           | 10 | 40 | 72 | 74 | 10 | 20 | * | * | 0.51                  | 0.5 |
| CSM010075 | -JIS4 | 75           | 10 | 40 | 75 | 77 | 10 | 20 | * | * | 0.53                  | 0.5 |
| CSM010076 | -JIS4 | 76           | 10 | 40 | 76 | 78 | 10 | 20 | * | * | 0.54                  | 0.6 |
| CSM010080 | -JIS4 | 80           | 10 | 40 | 80 | 82 | 10 | 20 | * | * | 1.29                  | 0.6 |

※Weight only for reference. Actual scale should be Weighing.

## CSM-JIS4



Dimension : mm

Series CSM-JIS4 Straight Soft Pinions

Quality Grade JIS 4

Material S45C

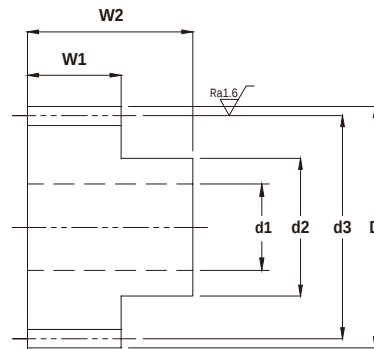
Surfaces: Black-coated

Keyway and screw holes are available upon request.

| Code       | JIS   | No. of Teeth | d1 | d2   | d3   | D    | W1 | W2 | k | h | F <sub>ta</sub><br>kN | KG  |
|------------|-------|--------------|----|------|------|------|----|----|---|---|-----------------------|-----|
| Module 1   |       |              |    |      |      |      |    |    |   |   |                       |     |
| CSM010084  | -JIS4 | 84           | 10 | 40   | 84   | 86   | 10 | 20 | * | * | 0.60                  | 0.7 |
| CSM010085  | -JIS4 | 85           | 10 | 40   | 85   | 87   | 10 | 20 | * | * | 0.60                  | 0.7 |
| CSM010088  | -JIS4 | 88           | 10 | 40   | 88   | 90   | 10 | 20 | * | * | 0.62                  | 0.7 |
| CSM010090  | -JIS4 | 90           | 10 | 40   | 90   | 92   | 10 | 20 | * | * | 0.64                  | 0.8 |
| CSM010100  | -JIS4 | 100          | 10 | 40   | 100  | 102  | 10 | 20 | * | * | 0.71                  | 1.0 |
| CSM010120  | -JIS4 | 120          | 15 | 50   | 120  | 122  | 10 | 20 | * | * | 0.78                  | 1.4 |
| Module 1.5 |       |              |    |      |      |      |    |    |   |   |                       |     |
| CSM015012  | -JIS4 | 12           | 8  | 21   | 18   | 21   | 15 | 30 | * | * | *                     | 0.1 |
| CSM015013  | -JIS4 | 13           | 8  | 22.5 | 19.5 | 22.5 | 15 | 30 | * | * | *                     | 0.1 |
| CSM015014  | -JIS4 | 14           | 8  | 16   | 21   | 24   | 15 | 25 | * | * | *                     | 0.1 |
| CSM015015  | -JIS4 | 15           | 8  | 18   | 22.5 | 25.5 | 15 | 25 | * | * | *                     | 0.1 |
| CSM015016  | -JIS4 | 16           | 8  | 20   | 24   | 27   | 15 | 25 | * | * | 0.17                  | 0.1 |
| CSM015017  | -JIS4 | 17           | 8  | 21   | 25.5 | 28.5 | 15 | 25 | * | * | 0.20                  | 0.1 |
| CSM015018  | -JIS4 | 18           | 8  | 22   | 27   | 30   | 15 | 25 | * | * | 0.21                  | 0.1 |
| CSM015019  | -JIS4 | 19           | 8  | 23   | 28.5 | 31.5 | 15 | 25 | * | * | 0.22                  | 0.1 |
| CSM015020  | -JIS4 | 20           | 8  | 24   | 30   | 33   | 15 | 25 | * | * | 0.23                  | 0.1 |
| CSM015021  | -JIS4 | 21           | 8  | 25   | 31.5 | 34.5 | 15 | 25 | * | * | 0.24                  | 0.1 |
| CSM015022  | -JIS4 | 22           | 8  | 26   | 33   | 36   | 15 | 25 | * | * | 0.26                  | 0.1 |
| CSM015023  | -JIS4 | 23           | 8  | 27   | 34.5 | 37.5 | 15 | 25 | * | * | 0.27                  | 0.2 |
| CSM015024  | -JIS4 | 24           | 8  | 28   | 36   | 39   | 15 | 25 | * | * | 0.28                  | 0.2 |
| CSM015025  | -JIS4 | 25           | 8  | 30   | 37.5 | 40.5 | 15 | 25 | * | * | 0.33                  | 0.2 |
| CSM015026  | -JIS4 | 26           | 10 | 32   | 39   | 42   | 15 | 25 | * | * | 0.34                  | 0.2 |
| CSM015027  | -JIS4 | 27           | 10 | 34   | 40.5 | 43.5 | 15 | 25 | * | * | 0.36                  | 0.2 |
| CSM015028  | -JIS4 | 28           | 10 | 36   | 42   | 45   | 15 | 25 | * | * | 0.37                  | 0.2 |
| CSM015029  | -JIS4 | 29           | 10 | 37   | 43.5 | 46.5 | 15 | 25 | * | * | 0.38                  | 0.2 |
| CSM015030  | -JIS4 | 30           | 10 | 38   | 45   | 48   | 15 | 25 | * | * | 0.40                  | 0.3 |
| CSM015032  | -JIS4 | 32           | 10 | 40   | 48   | 51   | 15 | 25 | * | * | 0.42                  | 0.3 |
| CSM015034  | -JIS4 | 34           | 10 | 40   | 51   | 54   | 15 | 25 | * | * | 0.45                  | 0.3 |
| CSM015035  | -JIS4 | 35           | 10 | 42   | 52.5 | 55.5 | 15 | 25 | * | * | 0.46                  | 0.4 |
| CSM015036  | -JIS4 | 36           | 10 | 45   | 54   | 57   | 15 | 25 | * | * | 0.48                  | 0.4 |
| CSM015038  | -JIS4 | 38           | 12 | 45   | 57   | 60   | 15 | 25 | * | * | 0.50                  | 0.4 |
| CSM015040  | -JIS4 | 40           | 12 | 45   | 60   | 63   | 15 | 25 | * | * | 0.53                  | 0.5 |
| CSM015042  | -JIS4 | 42           | 12 | 45   | 63   | 66   | 15 | 25 | * | * | 0.55                  | 0.5 |
| CSM015044  | -JIS4 | 44           | 12 | 45   | 66   | 69   | 15 | 25 | * | * | 0.58                  | 0.6 |
| CSM015045  | -JIS4 | 45           | 12 | 45   | 67.5 | 70.5 | 15 | 25 | * | * | 0.59                  | 0.6 |
| CSM015046  | -JIS4 | 46           | 12 | 45   | 69   | 72   | 15 | 25 | * | * | 0.61                  | 0.6 |
| CSM015048  | -JIS4 | 48           | 12 | 45   | 72   | 75   | 15 | 25 | * | * | 0.63                  | 0.7 |
| CSM015050  | -JIS4 | 50           | 12 | 45   | 75   | 78   | 15 | 25 | * | * | 0.80                  | 0.7 |
| CSM015052  | -JIS4 | 52           | 15 | 50   | 78   | 81   | 15 | 25 | * | * | 0.83                  | 0.8 |
| CSM015054  | -JIS4 | 54           | 15 | 50   | 81   | 84   | 15 | 25 | * | * | 0.86                  | 0.8 |
| CSM015055  | -JIS4 | 55           | 15 | 50   | 82.5 | 85.5 | 15 | 25 | * | * | 0.88                  | 0.8 |
| CSM015056  | -JIS4 | 56           | 15 | 50   | 84   | 87   | 15 | 25 | * | * | 0.89                  | 0.9 |
| CSM015058  | -JIS4 | 58           | 15 | 50   | 87   | 90   | 15 | 25 | * | * | 0.93                  | 0.9 |

※Weight only for reference. Actual scale should be Weighing.

## CSM-JIS4



Dimension : mm

Series CSM-JIS4 Straight Soft Pinions

Quality Grade JIS 4

Material S45C

Surfaces: Black-coated

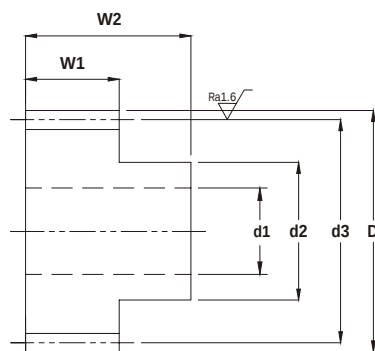
Keyway and screw holes are available upon request.

Straight  
JIS

| Code       | JIS   | No. of Teeth | d1 | d2 | d3    | D     | W1 | W2 | k | h | F <sub>ta</sub><br>kN | KG  |
|------------|-------|--------------|----|----|-------|-------|----|----|---|---|-----------------------|-----|
| Module 1.5 |       |              |    |    |       |       |    |    |   |   |                       |     |
| CSM015060  | -JIS4 | 60           | 15 | 50 | 90    | 93    | 15 | 25 | * | * | 0.96                  | 1.0 |
| CSM015062  | -JIS4 | 62           | 15 | 55 | 93    | 96    | 15 | 25 | * | * | 0.99                  | 1.1 |
| CSM015064  | -JIS4 | 64           | 15 | 55 | 96    | 99    | 15 | 25 | * | * | 1.02                  | 1.1 |
| CSM015065  | -JIS4 | 65           | 15 | 55 | 97.5  | 100.5 | 15 | 25 | * | * | 1.04                  | 1.2 |
| CSM015066  | -JIS4 | 66           | 15 | 55 | 99    | 102   | 15 | 25 | * | * | 1.05                  | 1.2 |
| CSM015068  | -JIS4 | 68           | 15 | 55 | 102   | 105   | 15 | 25 | * | * | 1.08                  | 1.3 |
| CSM015070  | -JIS4 | 70           | 15 | 55 | 105   | 108   | 15 | 25 | * | * | 1.12                  | 1.3 |
| CSM015072  | -JIS4 | 72           | 15 | 55 | 108   | 111   | 15 | 25 | * | * | 1.15                  | 1.4 |
| CSM015075  | -JIS4 | 75           | 15 | 60 | 112.5 | 115.5 | 15 | 25 | * | * | 1.20                  | 1.5 |
| CSM015076  | -JIS4 | 76           | 15 | 60 | 114   | 117   | 15 | 25 | * | * | 1.21                  | 1.6 |
| CSM015080  | -JIS4 | 80           | 15 | 60 | 120   | 123   | 15 | 25 | * | * | 1.28                  | 1.7 |
| CSM015090  | -JIS4 | 90           | 15 | 60 | 135   | 138   | 15 | 25 | * | * | 1.44                  | 2.2 |
| CSM015100  | -JIS4 | 100          | 15 | 60 | 150   | 153   | 15 | 25 | * | * | 1.60                  | 2.7 |
| Module 2   |       |              |    |    |       |       |    |    |   |   |                       |     |
| CSM020012  | -JIS4 | 12           | 10 | 18 | 24    | 28    | 20 | 30 | * | * | *                     | 0.1 |
| CSM020013  | -JIS4 | 13           | 10 | 20 | 26    | 30    | 20 | 30 | * | * | *                     | 0.1 |
| CSM020014  | -JIS4 | 14           | 10 | 20 | 28    | 32    | 20 | 30 | * | * | *                     | 0.1 |
| CSM020020  | -JIS4 | 15           | 12 | 24 | 30    | 34    | 20 | 30 | * | * | *                     | 0.2 |
| CSM020016  | -JIS4 | 16           | 12 | 26 | 32    | 36    | 20 | 30 | * | * | 0.29                  | 0.2 |
| CSM020017  | -JIS4 | 17           | 12 | 28 | 34    | 38    | 20 | 30 | * | * | 0.35                  | 0.2 |
| CSM020018  | -JIS4 | 18           | 12 | 30 | 36    | 40    | 20 | 30 | * | * | 0.37                  | 0.2 |
| CSM020019  | -JIS4 | 19           | 12 | 31 | 38    | 42    | 20 | 30 | * | * | 0.39                  | 0.2 |
| CSM020020  | -JIS4 | 20           | 12 | 32 | 40    | 44    | 20 | 30 | * | * | 0.41                  | 0.3 |
| CSM020021  | -JIS4 | 21           | 12 | 34 | 42    | 46    | 20 | 30 | * | * | 0.43                  | 0.3 |
| CSM020022  | -JIS4 | 22           | 12 | 36 | 44    | 48    | 20 | 30 | * | * | 0.45                  | 0.3 |
| CSM020023  | -JIS4 | 23           | 12 | 37 | 46    | 50    | 20 | 30 | * | * | 0.47                  | 0.3 |
| CSM020024  | -JIS4 | 24           | 12 | 38 | 48    | 52    | 20 | 30 | * | * | 0.50                  | 0.4 |
| CSM020025  | -JIS4 | 25           | 12 | 40 | 50    | 54    | 20 | 30 | * | * | 0.59                  | 0.4 |
| CSM020026  | -JIS4 | 26           | 12 | 42 | 52    | 56    | 20 | 30 | * | * | 0.61                  | 0.4 |
| CSM020027  | -JIS4 | 27           | 12 | 45 | 54    | 58    | 20 | 30 | * | * | 0.63                  | 0.5 |
| CSM020028  | -JIS4 | 28           | 12 | 45 | 56    | 60    | 20 | 30 | * | * | 0.66                  | 0.5 |
| CSM020029  | -JIS4 | 29           | 12 | 47 | 58    | 62    | 20 | 30 | * | * | 0.68                  | 0.5 |
| CSM020030  | -JIS4 | 30           | 12 | 50 | 60    | 64    | 20 | 30 | * | * | 0.70                  | 0.6 |
| CSM020032  | -JIS4 | 32           | 12 | 50 | 64    | 68    | 20 | 30 | * | * | 0.75                  | 0.6 |
| CSM020034  | -JIS4 | 34           | 12 | 50 | 68    | 72    | 20 | 30 | * | * | 0.80                  | 0.7 |
| CSM020035  | -JIS4 | 35           | 12 | 52 | 70    | 74    | 20 | 30 | * | * | 0.82                  | 0.8 |
| CSM020036  | -JIS4 | 36           | 12 | 55 | 72    | 76    | 20 | 30 | * | * | 0.85                  | 0.8 |
| CSM020038  | -JIS4 | 38           | 12 | 55 | 76    | 80    | 20 | 30 | * | * | 0.89                  | 0.9 |
| CSM020040  | -JIS4 | 40           | 15 | 55 | 80    | 84    | 20 | 30 | * | * | 0.94                  | 1.0 |
| CSM020042  | -JIS4 | 42           | 15 | 55 | 84    | 88    | 20 | 30 | * | * | 0.99                  | 1.1 |
| CSM020044  | -JIS4 | 44           | 15 | 55 | 88    | 92    | 20 | 30 | * | * | 1.03                  | 1.2 |
| CSM020045  | -JIS4 | 45           | 15 | 55 | 90    | 94    | 20 | 30 | * | * | 1.06                  | 1.2 |

※Weight only for reference. Actual scale should be Weighing.

## CSM-JIS4



Dimension : mm

Series CSM-JIS4 Straight Soft Pinions

Quality Grade JIS 4

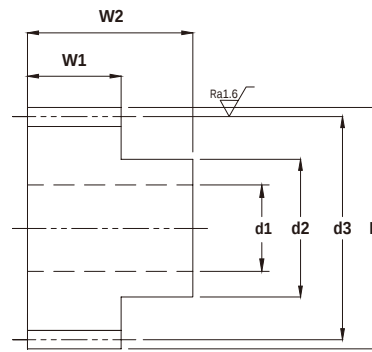
Material S45C

Surfaces: Black-coated

Keyway and screw holes are available upon request.

| Code      | JIS   | No. of Teeth | d1 | d2 | d3  | D   | W1 | W2 | k | h | F <sub>ta</sub><br>kN | KG  |
|-----------|-------|--------------|----|----|-----|-----|----|----|---|---|-----------------------|-----|
| Module 2  |       |              |    |    |     |     |    |    |   |   |                       |     |
| CSM020046 | -JIS4 | 46           | 15 | 55 | 92  | 96  | 20 | 30 | * | * | 1.08                  | 1.3 |
| CSM020048 | -JIS4 | 48           | 15 | 55 | 96  | 100 | 20 | 30 | * | * | 1.13                  | 1.4 |
| CSM020050 | -JIS4 | 50           | 15 | 55 | 100 | 104 | 20 | 30 | * | * | 1.42                  | 1.5 |
| CSM020052 | -JIS4 | 52           | 15 | 55 | 104 | 108 | 20 | 30 | * | * | 1.47                  | 1.6 |
| CSM020054 | -JIS4 | 54           | 15 | 55 | 108 | 112 | 20 | 30 | * | * | 1.53                  | 1.7 |
| CSM020055 | -JIS4 | 55           | 15 | 55 | 110 | 114 | 20 | 30 | * | * | 1.56                  | 1.8 |
| CSM020056 | -JIS4 | 56           | 15 | 55 | 112 | 116 | 20 | 30 | * | * | 1.59                  | 1.9 |
| CSM020058 | -JIS4 | 58           | 15 | 60 | 116 | 120 | 20 | 30 | * | * | 1.64                  | 2.0 |
| CSM020060 | -JIS4 | 60           | 15 | 60 | 120 | 124 | 20 | 30 | * | * | 1.70                  | 2.1 |
| CSM020062 | -JIS4 | 62           | 15 | 60 | 124 | 128 | 20 | 30 | * | * | 1.76                  | 2.3 |
| CSM020064 | -JIS4 | 64           | 15 | 60 | 128 | 132 | 20 | 30 | * | * | 1.81                  | 2.4 |
| CSM020065 | -JIS4 | 65           | 15 | 60 | 130 | 134 | 20 | 30 | * | * | 1.84                  | 2.5 |
| CSM020066 | -JIS4 | 66           | 15 | 60 | 132 | 136 | 20 | 30 | * | * | 1.87                  | 2.6 |
| CSM020068 | -JIS4 | 68           | 15 | 60 | 136 | 140 | 20 | 30 | * | * | 1.93                  | 2.7 |
| CSM020070 | -JIS4 | 70           | 15 | 60 | 140 | 144 | 20 | 30 | * | * | 1.98                  | 2.9 |
| CSM020072 | -JIS4 | 72           | 15 | 60 | 144 | 148 | 20 | 30 | * | * | 2.04                  | 3.0 |
| CSM020075 | -JIS4 | 75           | 20 | 60 | 150 | 154 | 20 | 30 | * | * | 2.13                  | 3.3 |
| CSM020076 | -JIS4 | 76           | 20 | 60 | 152 | 156 | 20 | 30 | * | * | 2.16                  | 3.4 |
| CSM020080 | -JIS4 | 80           | 20 | 60 | 160 | 164 | 20 | 30 | * | * | 2.27                  | 3.7 |
| CSM020090 | -JIS4 | 90           | 20 | 70 | 180 | 184 | 20 | 30 | * | * | 2.55                  | 4.7 |
| CSM020100 | -JIS4 | 100          | 20 | 70 | 200 | 204 | 20 | 30 | * | * | 2.84                  | 5.8 |

## CSM-JIS4



Dimension : mm

Series CSM-JIS4 Straight Soft Pinions

Quality Grade JIS 4

Material S45C

Surfaces: Black-coated

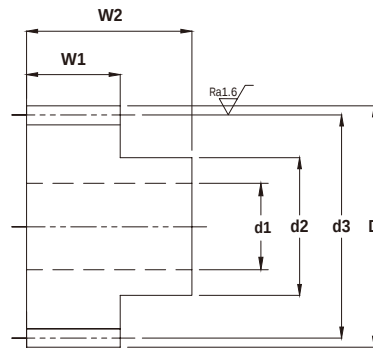
Keyway and screw holes are available upon request.

Straight  
JIS

| Code       | JIS   | No. of Teeth | d1 | d2 | d3    | D     | W1 | W2 | k | h | F <sub>ta</sub><br>kN | KG  |
|------------|-------|--------------|----|----|-------|-------|----|----|---|---|-----------------------|-----|
| Module 2.5 |       |              |    |    |       |       |    |    |   |   |                       |     |
| CSM025012  | -JIS4 | 12           | 12 | 23 | 30    | 35    | 25 | 37 | * | * | *                     | 0.2 |
| CSM025013  | -JIS4 | 13           | 12 | 25 | 32.5  | 37.5  | 25 | 37 | * | * | *                     | 0.2 |
| CSM025014  | -JIS4 | 14           | 12 | 25 | 35    | 40    | 25 | 37 | * | * | *                     | 0.3 |
| CSM025015  | -JIS4 | 15           | 15 | 30 | 37.5  | 42.5  | 25 | 37 | * | * | *                     | 0.3 |
| CSM025016  | -JIS4 | 16           | 15 | 32 | 40    | 45    | 25 | 37 | * | * | 0.46                  | 0.3 |
| CSM025017  | -JIS4 | 17           | 15 | 35 | 42.5  | 47.5  | 25 | 37 | * | * | 0.55                  | 0.4 |
| CSM025018  | -JIS4 | 18           | 15 | 38 | 45    | 50    | 25 | 37 | * | * | 0.58                  | 0.4 |
| CSM025019  | -JIS4 | 19           | 15 | 39 | 47.5  | 52.5  | 25 | 37 | * | * | 0.61                  | 0.5 |
| CSM025020  | -JIS4 | 20           | 15 | 40 | 50    | 55    | 25 | 37 | * | * | 0.64                  | 0.5 |
| CSM025021  | -JIS4 | 21           | 15 | 42 | 52.5  | 57.5  | 25 | 37 | * | * | 0.68                  | 0.6 |
| CSM025022  | -JIS4 | 22           | 15 | 44 | 55    | 60    | 25 | 37 | * | * | 0.71                  | 0.6 |
| CSM025023  | -JIS4 | 23           | 15 | 46 | 57.5  | 62.5  | 25 | 37 | * | * | 0.74                  | 0.7 |
| CSM025024  | -JIS4 | 24           | 15 | 48 | 60    | 65    | 25 | 37 | * | * | 0.77                  | 0.7 |
| CSM025025  | -JIS4 | 25           | 15 | 50 | 62.5  | 67.5  | 25 | 37 | * | * | 0.92                  | 0.8 |
| CSM025026  | -JIS4 | 26           | 15 | 55 | 65    | 70    | 25 | 37 | * | * | 0.95                  | 0.8 |
| CSM025027  | -JIS4 | 27           | 15 | 60 | 67.5  | 72.5  | 25 | 37 | * | * | 0.99                  | 0.9 |
| CSM025028  | -JIS4 | 28           | 15 | 60 | 70    | 75    | 25 | 37 | * | * | 1.03                  | 1.0 |
| CSM025029  | -JIS4 | 29           | 15 | 62 | 72.5  | 77.5  | 25 | 37 | * | * | 1.06                  | 1.0 |
| CSM025030  | -JIS4 | 30           | 15 | 65 | 75    | 80    | 25 | 37 | * | * | 1.10                  | 1.1 |
| CSM025032  | -JIS4 | 32           | 15 | 70 | 80    | 85    | 25 | 37 | * | * | 1.17                  | 1.2 |
| CSM025034  | -JIS4 | 34           | 15 | 70 | 85    | 90    | 25 | 37 | * | * | 1.25                  | 1.4 |
| CSM025035  | -JIS4 | 35           | 15 | 70 | 87.5  | 92.5  | 25 | 37 | * | * | 1.28                  | 1.5 |
| CSM025036  | -JIS4 | 36           | 15 | 70 | 90    | 95    | 25 | 37 | * | * | 1.32                  | 1.5 |
| CSM025038  | -JIS4 | 38           | 20 | 70 | 95    | 100   | 25 | 37 | * | * | 1.39                  | 1.7 |
| CSM025040  | -JIS4 | 40           | 20 | 70 | 100   | 105   | 25 | 37 | * | * | 1.47                  | 1.9 |
| CSM025042  | -JIS4 | 42           | 20 | 70 | 105   | 110   | 25 | 37 | * | * | 1.54                  | 2.1 |
| CSM025044  | -JIS4 | 44           | 20 | 70 | 110   | 115   | 25 | 37 | * | * | 1.61                  | 2.3 |
| CSM025045  | -JIS4 | 45           | 20 | 70 | 112.5 | 117.5 | 25 | 37 | * | * | 1.65                  | 2.4 |
| CSM025046  | -JIS4 | 46           | 20 | 70 | 115   | 120   | 25 | 37 | * | * | 1.69                  | 2.5 |
| CSM025048  | -JIS4 | 48           | 20 | 70 | 120   | 125   | 25 | 37 | * | * | 1.76                  | 2.7 |
| CSM025050  | -JIS4 | 50           | 20 | 70 | 125   | 130   | 25 | 37 | * | * | 2.22                  | 2.9 |
| CSM025052  | -JIS4 | 52           | 20 | 70 | 130   | 135   | 25 | 37 | * | * | 2.30                  | 3.1 |
| CSM025054  | -JIS4 | 54           | 20 | 70 | 135   | 140   | 25 | 37 | * | * | 2.39                  | 3.4 |
| CSM025055  | -JIS4 | 55           | 20 | 70 | 137.5 | 142.5 | 25 | 37 | * | * | 2.44                  | 3.5 |
| CSM025056  | -JIS4 | 56           | 20 | 70 | 140   | 145   | 25 | 37 | * | * | 2.48                  | 3.6 |
| CSM025058  | -JIS4 | 58           | 20 | 70 | 145   | 150   | 25 | 37 | * | * | 2.57                  | 3.8 |
| CSM025060  | -JIS4 | 60           | 25 | 70 | 150   | 155   | 25 | 37 | * | * | 2.66                  | 4.1 |
| CSM025062  | -JIS4 | 62           | 25 | 80 | 155   | 160   | 25 | 37 | * | * | 2.75                  | 4.4 |
| CSM025064  | -JIS4 | 64           | 25 | 80 | 160   | 165   | 25 | 37 | * | * | 2.84                  | 4.7 |
| CSM025065  | -JIS4 | 65           | 25 | 80 | 162.5 | 167.5 | 25 | 37 | * | * | 2.88                  | 4.8 |
| CSM025066  | -JIS4 | 66           | 25 | 80 | 165   | 170   | 25 | 37 | * | * | 2.92                  | 4.9 |
| CSM025068  | -JIS4 | 68           | 25 | 80 | 170   | 175   | 25 | 37 | * | * | 3.01                  | 5.2 |
| CSM025070  | -JIS4 | 70           | 25 | 80 | 175   | 180   | 25 | 37 | * | * | 3.10                  | 5.5 |
| CSM025072  | -JIS4 | 72           | 25 | 80 | 180   | 185   | 25 | 37 | * | * | 3.19                  | 5.9 |

※Weight only for reference. Actual scale should be Weighing.

## CSM-JIS4



Dimension : mm

Series CSM-JIS4 Straight Soft Pinions

Quality Grade JIS 4

Material S45C

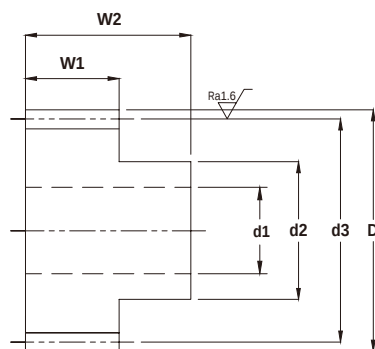
Surfaces: Black-coated

Keyway and screw holes are available upon request.

| Code       | JIS   | No. of Teeth | d1 | d2 | d3    | D     | W1 | W2 | k | h | F <sub>ta</sub><br>kN | KG   |
|------------|-------|--------------|----|----|-------|-------|----|----|---|---|-----------------------|------|
| Module 2.5 |       |              |    |    |       |       |    |    |   |   |                       |      |
| CSM025075  | -JIS4 | 75           | 25 | 80 | 187.5 | 192.5 | 25 | 37 | * | * | 3.32                  | 6.3  |
| CSM025076  | -JIS4 | 76           | 25 | 80 | 190   | 195   | 25 | 37 | * | * | 3.37                  | 6.5  |
| CSM025080  | -JIS4 | 80           | 25 | 80 | 200   | 205   | 25 | 37 | * | * | 3.54                  | 7.2  |
| CSM025090  | -JIS4 | 90           | 30 | 90 | 225   | 230   | 25 | 37 | * | * | 3.99                  | 9.1  |
| CSM025100  | -JIS4 | 100          | 30 | 90 | 250   | 255   | 25 | 37 | * | * | 4.43                  | 11.1 |
| Module 3   |       |              |    |    |       |       |    |    |   |   |                       |      |
| CSM030012  | -JIS4 | 12           | 15 | 28 | 36    | 42    | 30 | 45 | * | * | *                     | 0.3  |
| CSM030013  | -JIS4 | 13           | 15 | 30 | 39    | 45    | 30 | 45 | * | * | *                     | 0.3  |
| CSM030014  | -JIS4 | 14           | 15 | 32 | 42    | 48    | 30 | 45 | * | * | *                     | 0.4  |
| CSM030015  | -JIS4 | 15           | 15 | 36 | 45    | 51    | 30 | 45 | * | * | *                     | 0.4  |
| CSM030016  | -JIS4 | 16           | 15 | 38 | 48    | 54    | 30 | 45 | * | * | 0.66                  | 0.5  |
| CSM030017  | -JIS4 | 17           | 15 | 39 | 51    | 57    | 30 | 45 | * | * | 0.79                  | 0.5  |
| CSM030018  | -JIS4 | 18           | 15 | 40 | 54    | 60    | 30 | 45 | * | * | 0.84                  | 0.6  |
| CSM030019  | -JIS4 | 19           | 15 | 45 | 57    | 63    | 30 | 45 | * | * | 0.88                  | 0.7  |
| CSM030020  | -JIS4 | 20           | 15 | 50 | 60    | 66    | 30 | 45 | * | * | 0.93                  | 0.7  |
| CSM030021  | -JIS4 | 21           | 15 | 52 | 63    | 69    | 30 | 45 | * | * | 0.97                  | 0.8  |
| CSM030022  | -JIS4 | 22           | 15 | 54 | 66    | 72    | 30 | 45 | * | * | 1.02                  | 0.9  |
| CSM030023  | -JIS4 | 23           | 15 | 56 | 69    | 75    | 30 | 45 | * | * | 1.07                  | 0.9  |
| CSM030024  | -JIS4 | 24           | 15 | 58 | 72    | 78    | 30 | 45 | * | * | 1.11                  | 1.0  |
| CSM030025  | -JIS4 | 25           | 20 | 60 | 75    | 81    | 30 | 45 | * | * | 1.32                  | 1.1  |
| CSM030026  | -JIS4 | 26           | 20 | 65 | 78    | 84    | 30 | 45 | * | * | 1.37                  | 1.2  |
| CSM030027  | -JIS4 | 27           | 20 | 65 | 81    | 87    | 30 | 45 | * | * | 1.43                  | 1.3  |
| CSM030028  | -JIS4 | 28           | 20 | 70 | 84    | 90    | 30 | 45 | * | * | 1.48                  | 1.3  |
| CSM030029  | -JIS4 | 29           | 20 | 70 | 87    | 93    | 30 | 45 | * | * | 1.53                  | 1.4  |
| CSM030030  | -JIS4 | 30           | 20 | 75 | 90    | 96    | 30 | 45 | * | * | 1.58                  | 1.5  |
| CSM030032  | -JIS4 | 32           | 20 | 75 | 96    | 102   | 30 | 45 | * | * | 1.69                  | 1.7  |
| CSM030034  | -JIS4 | 34           | 20 | 80 | 102   | 108   | 30 | 45 | * | * | 1.80                  | 1.9  |
| CSM030035  | -JIS4 | 35           | 20 | 80 | 105   | 111   | 30 | 45 | * | * | 1.85                  | 2.1  |
| CSM030036  | -JIS4 | 36           | 20 | 80 | 108   | 114   | 30 | 45 | * | * | 1.90                  | 2.2  |
| CSM030038  | -JIS4 | 38           | 25 | 80 | 114   | 120   | 30 | 45 | * | * | 2.01                  | 2.4  |
| CSM030040  | -JIS4 | 40           | 25 | 80 | 120   | 126   | 30 | 45 | * | * | 2.11                  | 2.6  |
| CSM030042  | -JIS4 | 42           | 25 | 80 | 126   | 132   | 30 | 45 | * | * | 2.22                  | 2.9  |
| CSM030044  | -JIS4 | 44           | 25 | 80 | 132   | 138   | 30 | 45 | * | * | 2.32                  | 3.2  |
| CSM030045  | -JIS4 | 45           | 25 | 80 | 135   | 141   | 30 | 45 | * | * | 2.38                  | 3.3  |
| CSM030046  | -JIS4 | 46           | 25 | 80 | 138   | 144   | 30 | 45 | * | * | 2.43                  | 3.5  |
| CSM030048  | -JIS4 | 48           | 25 | 80 | 144   | 150   | 30 | 45 | * | * | 2.53                  | 3.7  |
| CSM030050  | -JIS4 | 50           | 25 | 80 | 150   | 156   | 30 | 45 | * | * | 3.19                  | 4.1  |
| CSM030052  | -JIS4 | 52           | 25 | 80 | 156   | 162   | 30 | 45 | * | * | 3.32                  | 4.4  |
| CSM030054  | -JIS4 | 54           | 25 | 80 | 162   | 168   | 30 | 45 | * | * | 3.45                  | 4.7  |
| CSM030055  | -JIS4 | 55           | 25 | 80 | 165   | 171   | 30 | 45 | * | * | 3.51                  | 4.9  |
| CSM030056  | -JIS4 | 56           | 25 | 80 | 168   | 174   | 30 | 45 | * | * | 3.57                  | 5.0  |
| CSM030058  | -JIS4 | 58           | 25 | 80 | 174   | 180   | 30 | 45 | * | * | 3.70                  | 5.4  |

※Weight only for reference. Actual scale should be Weighing.

## CSM-JIS4



Dimension : mm

Series CSM-JIS4 Straight Soft Pinions

Quality Grade JIS 4

Material S45C

Surfaces: Black-coated

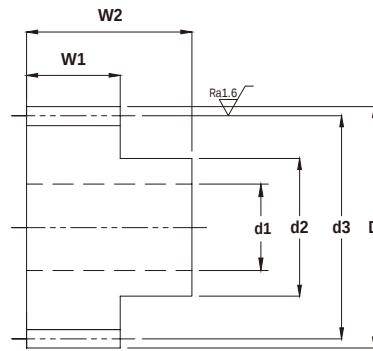
Keyway and screw holes are available upon request.

Straight  
JIS

| Code      | JIS   | No. of Teeth | d1 | d2  | d3  | D   | W1 | W2 | k | h | F <sub>ta</sub><br>kN | KG   |
|-----------|-------|--------------|----|-----|-----|-----|----|----|---|---|-----------------------|------|
| Module 3  |       |              |    |     |     |     |    |    |   |   |                       |      |
| CSM030060 | -JIS4 | 60           | 25 | 80  | 180 | 186 | 30 | 45 | * | * | 3.83                  | 5.8  |
| CSM030062 | -JIS4 | 62           | 25 | 80  | 186 | 192 | 30 | 45 | * | * | 3.96                  | 6.1  |
| CSM030064 | -JIS4 | 64           | 25 | 80  | 192 | 198 | 30 | 45 | * | * | 4.08                  | 6.5  |
| CSM030065 | -JIS4 | 65           | 25 | 80  | 195 | 201 | 30 | 45 | * | * | 4.15                  | 6.7  |
| CSM030066 | -JIS4 | 66           | 25 | 90  | 198 | 204 | 30 | 45 | * | * | 4.21                  | 6.9  |
| CSM030068 | -JIS4 | 68           | 25 | 90  | 204 | 210 | 30 | 45 | * | * | 4.34                  | 7.3  |
| CSM030070 | -JIS4 | 70           | 25 | 90  | 210 | 216 | 30 | 45 | * | * | 4.47                  | 7.8  |
| CSM030072 | -JIS4 | 72           | 25 | 90  | 216 | 222 | 30 | 45 | * | * | 4.59                  | 8.2  |
| CSM030075 | -JIS4 | 75           | 25 | 90  | 225 | 231 | 30 | 45 | * | * | 4.78                  | 8.9  |
| CSM030076 | -JIS4 | 76           | 25 | 90  | 228 | 234 | 30 | 45 | * | * | 4.85                  | 9.1  |
| CSM030080 | -JIS4 | 80           | 30 | 90  | 240 | 246 | 30 | 45 | * | * | 5.10                  | 10.1 |
| CSM030090 | -JIS4 | 90           | 30 | 100 | 270 | 276 | 30 | 45 | * | * | 5.74                  | 12.7 |
| CSM030100 | -JIS4 | 100          | 30 | 100 | 300 | 306 | 30 | 45 | * | * | 6.38                  | 15.6 |

※Weight only for reference. Actual scale should be Weighing.

## CSM-JIS4



Dimension : mm

Series CSM-JIS4 Straight Soft Pinions

Quality Grade JIS 4

Material S45C

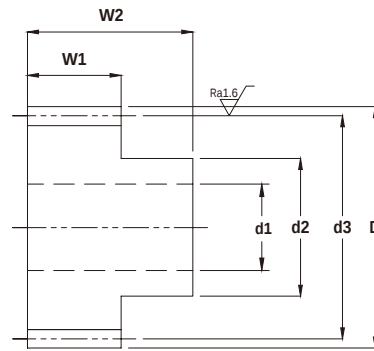
Surfaces: Black-coated

Keyway and screw holes are available upon request.

| Code      | JIS   | No. of Teeth | d1 | d2  | d3  | D   | W1 | W2 | k | h | F <sub>ta</sub><br>kN | KG   |
|-----------|-------|--------------|----|-----|-----|-----|----|----|---|---|-----------------------|------|
| Module 4  |       |              |    |     |     |     |    |    |   |   |                       |      |
| CSM040012 | -JIS4 | 12           | 20 | 35  | 48  | 56  | 40 | 60 | * | * | *                     | 0.6  |
| CSM040013 | -JIS4 | 13           | 20 | 38  | 52  | 60  | 40 | 60 | * | * | *                     | 0.7  |
| CSM040014 | -JIS4 | 14           | 20 | 40  | 56  | 64  | 40 | 60 | * | * | *                     | 0.8  |
| CSM040015 | -JIS4 | 15           | 20 | 45  | 60  | 68  | 40 | 60 | * | * | *                     | 0.9  |
| CSM040016 | -JIS4 | 16           | 20 | 50  | 64  | 72  | 40 | 60 | * | * | 1.18                  | 1.0  |
| CSM040017 | -JIS4 | 17           | 20 | 53  | 68  | 76  | 40 | 60 | * | * | 1.40                  | 1.1  |
| CSM040018 | -JIS4 | 18           | 20 | 55  | 72  | 80  | 40 | 60 | * | * | 1.49                  | 1.2  |
| CSM040019 | -JIS4 | 19           | 20 | 60  | 76  | 84  | 40 | 60 | * | * | 1.57                  | 1.3  |
| CSM040020 | -JIS4 | 20           | 20 | 65  | 80  | 88  | 40 | 60 | * | * | 1.65                  | 1.4  |
| CSM040021 | -JIS4 | 21           | 20 | 69  | 84  | 92  | 40 | 60 | * | * | 1.73                  | 1.6  |
| CSM040022 | -JIS4 | 22           | 20 | 73  | 88  | 96  | 40 | 60 | * | * | 1.81                  | 1.7  |
| CSM040023 | -JIS4 | 23           | 20 | 77  | 92  | 100 | 40 | 60 | * | * | 1.90                  | 1.8  |
| CSM040024 | -JIS4 | 24           | 20 | 80  | 96  | 104 | 40 | 60 | * | * | 1.98                  | 2.0  |
| CSM040025 | -JIS4 | 25           | 20 | 84  | 100 | 108 | 40 | 60 | * | * | 2.35                  | 2.2  |
| CSM040026 | -JIS4 | 26           | 20 | 87  | 104 | 112 | 40 | 60 | * | * | 2.44                  | 2.3  |
| CSM040027 | -JIS4 | 27           | 20 | 90  | 108 | 116 | 40 | 60 | * | * | 2.53                  | 2.5  |
| CSM040028 | -JIS4 | 28           | 20 | 95  | 112 | 120 | 40 | 60 | * | * | 2.63                  | 2.7  |
| CSM040029 | -JIS4 | 29           | 20 | 95  | 116 | 124 | 40 | 60 | * | * | 2.72                  | 2.8  |
| CSM040030 | -JIS4 | 30           | 20 | 100 | 120 | 128 | 40 | 60 | * | * | 2.82                  | 3.0  |
| CSM040032 | -JIS4 | 32           | 22 | 100 | 128 | 136 | 40 | 56 | * | * | 3.00                  | 3.4  |
| CSM040034 | -JIS4 | 34           | 22 | 100 | 136 | 144 | 40 | 56 | * | * | 3.19                  | 3.8  |
| CSM040035 | -JIS4 | 35           | 22 | 100 | 140 | 148 | 40 | 56 | * | * | 3.29                  | 4.1  |
| CSM040036 | -JIS4 | 36           | 22 | 100 | 144 | 152 | 40 | 56 | * | * | 3.38                  | 4.3  |
| CSM040038 | -JIS4 | 38           | 22 | 100 | 152 | 160 | 40 | 56 | * | * | 3.57                  | 4.7  |
| CSM040040 | -JIS4 | 40           | 25 | 100 | 160 | 168 | 40 | 56 | * | * | 3.75                  | 5.2  |
| CSM040042 | -JIS4 | 42           | 25 | 100 | 168 | 176 | 40 | 56 | * | * | 3.94                  | 5.7  |
| CSM040044 | -JIS4 | 44           | 25 | 100 | 176 | 184 | 40 | 56 | * | * | 4.13                  | 6.3  |
| CSM040045 | -JIS4 | 45           | 25 | 100 | 180 | 188 | 40 | 56 | * | * | 4.22                  | 6.5  |
| CSM040046 | -JIS4 | 46           | 25 | 100 | 184 | 192 | 40 | 56 | * | * | 4.32                  | 6.8  |
| CSM040048 | -JIS4 | 48           | 25 | 100 | 192 | 200 | 40 | 56 | * | * | 4.51                  | 7.4  |
| CSM040050 | -JIS4 | 50           | 30 | 100 | 200 | 208 | 40 | 56 | * | * | 5.67                  | 8.0  |
| CSM040052 | -JIS4 | 52           | 30 | 100 | 208 | 216 | 40 | 56 | * | * | 5.90                  | 8.6  |
| CSM040054 | -JIS4 | 54           | 30 | 100 | 216 | 224 | 40 | 56 | * | * | 6.12                  | 9.3  |
| CSM040055 | -JIS4 | 55           | 30 | 100 | 220 | 228 | 40 | 56 | * | * | 6.24                  | 9.6  |
| CSM040056 | -JIS4 | 56           | 30 | 100 | 224 | 232 | 40 | 56 | * | * | 6.35                  | 10.0 |
| CSM040058 | -JIS4 | 58           | 30 | 110 | 232 | 240 | 40 | 56 | * | * | 6.58                  | 10.7 |
| CSM040060 | -JIS4 | 60           | 30 | 110 | 240 | 248 | 40 | 56 | * | * | 6.80                  | 11.4 |
| CSM040062 | -JIS4 | 62           | 30 | 110 | 248 | 256 | 40 | 56 | * | * | 7.03                  | 12.1 |
| CSM040064 | -JIS4 | 64           | 30 | 110 | 256 | 264 | 40 | 56 | * | * | 7.26                  | 12.9 |
| CSM040065 | -JIS4 | 65           | 30 | 110 | 260 | 268 | 40 | 56 | * | * | 7.37                  | 13.3 |
| CSM040066 | -JIS4 | 66           | 30 | 120 | 264 | 272 | 40 | 56 | * | * | 7.48                  | 13.7 |
| CSM040068 | -JIS4 | 68           | 30 | 120 | 272 | 280 | 40 | 56 | * | * | 7.71                  | 14.5 |
| CSM040070 | -JIS4 | 70           | 30 | 120 | 280 | 288 | 40 | 56 | * | * | 7.94                  | 15.3 |
| CSM040080 | -JIS4 | 80           | 30 | 120 | 320 | 328 | 40 | 56 | * | * | 9.07                  | 19.9 |

※Weight only for reference. Actual scale should be Weighing.

## CSM-JIS4



Dimension : mm

Series CSM-JIS4 Straight Soft Pinions

Quality Grade JIS 4

Material S45C

Surfaces: Black-coated

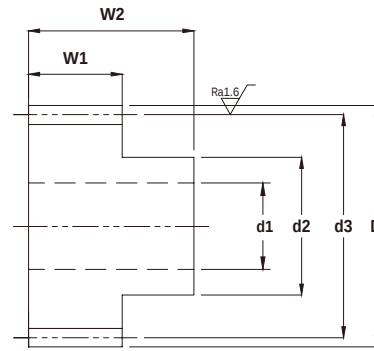
Keyway and screw holes are available upon request.


Straight  
JIS

| Code      | JIS   | No. of Teeth | d1 | d2  | d3  | D   | W1 | W2 | k | h | F <sub>ta</sub><br>kN | KG   |
|-----------|-------|--------------|----|-----|-----|-----|----|----|---|---|-----------------------|------|
| Module 5  |       |              |    |     |     |     |    |    |   |   |                       |      |
| CSM050012 | -JIS4 | 12           | 22 | 46  | 60  | 70  | 50 | 75 | * | * | *                     | 1.1  |
| CSM050013 | -JIS4 | 13           | 22 | 50  | 65  | 75  | 50 | 75 | * | * | *                     | 1.3  |
| CSM050014 | -JIS4 | 14           | 22 | 52  | 70  | 80  | 50 | 75 | * | * | *                     | 1.5  |
| CSM050015 | -JIS4 | 15           | 22 | 60  | 75  | 85  | 50 | 75 | * | * | *                     | 1.7  |
| CSM050016 | -JIS4 | 16           | 22 | 65  | 80  | 90  | 50 | 75 | * | * | 1.84                  | 1.9  |
| CSM050017 | -JIS4 | 17           | 22 | 68  | 85  | 95  | 50 | 75 | * | * | 2.19                  | 2.1  |
| CSM050018 | -JIS4 | 18           | 22 | 70  | 90  | 100 | 50 | 75 | * | * | 2.32                  | 2.3  |
| CSM050019 | -JIS4 | 19           | 22 | 76  | 95  | 105 | 50 | 75 | * | * | 2.45                  | 2.5  |
| CSM050020 | -JIS4 | 20           | 22 | 82  | 100 | 110 | 50 | 75 | * | * | 2.58                  | 2.8  |
| CSM050021 | -JIS4 | 21           | 25 | 90  | 105 | 115 | 50 | 75 | * | * | 2.71                  | 3.1  |
| CSM050022 | -JIS4 | 22           | 25 | 95  | 110 | 120 | 50 | 75 | * | * | 2.84                  | 3.3  |
| CSM050023 | -JIS4 | 23           | 25 | 100 | 115 | 125 | 50 | 75 | * | * | 2.96                  | 3.6  |
| CSM050024 | -JIS4 | 24           | 25 | 100 | 120 | 130 | 50 | 75 | * | * | 3.09                  | 3.9  |
| CSM050025 | -JIS4 | 25           | 25 | 105 | 125 | 135 | 50 | 75 | * | * | 3.67                  | 4.2  |
| CSM050026 | -JIS4 | 26           | 25 | 110 | 130 | 140 | 50 | 75 | * | * | 3.81                  | 4.5  |
| CSM050027 | -JIS4 | 27           | 25 | 110 | 135 | 145 | 50 | 75 | * | * | 3.96                  | 4.9  |
| CSM050028 | -JIS4 | 28           | 25 | 110 | 140 | 150 | 50 | 75 | * | * | 4.11                  | 5.2  |
| CSM050029 | -JIS4 | 29           | 25 | 115 | 145 | 155 | 50 | 75 | * | * | 4.25                  | 5.6  |
| CSM050030 | -JIS4 | 30           | 25 | 120 | 150 | 160 | 50 | 75 | * | * | 4.40                  | 5.9  |
| CSM050032 | -JIS4 | 32           | 30 | 120 | 160 | 170 | 50 | 71 | * | * | 4.69                  | 6.7  |
| CSM050034 | -JIS4 | 34           | 30 | 120 | 170 | 180 | 50 | 71 | * | * | 4.99                  | 7.5  |
| CSM050035 | -JIS4 | 35           | 30 | 120 | 175 | 185 | 50 | 71 | * | * | 5.13                  | 7.9  |
| CSM050036 | -JIS4 | 36           | 30 | 120 | 180 | 190 | 50 | 71 | * | * | 5.28                  | 8.3  |
| CSM050038 | -JIS4 | 38           | 30 | 120 | 190 | 200 | 50 | 71 | * | * | 5.57                  | 9.2  |
| CSM050040 | -JIS4 | 40           | 30 | 120 | 200 | 210 | 50 | 71 | * | * | 5.87                  | 10.2 |
| CSM050042 | -JIS4 | 42           | 30 | 120 | 210 | 220 | 50 | 71 | * | * | 6.16                  | 11.2 |
| CSM050044 | -JIS4 | 44           | 30 | 120 | 220 | 230 | 50 | 71 | * | * | 6.45                  | 12.2 |
| CSM050045 | -JIS4 | 45           | 30 | 120 | 225 | 235 | 50 | 71 | * | * | 6.60                  | 12.8 |
| CSM050046 | -JIS4 | 46           | 30 | 120 | 230 | 240 | 50 | 71 | * | * | 6.75                  | 13.3 |
| CSM050048 | -JIS4 | 48           | 30 | 120 | 240 | 250 | 50 | 71 | * | * | 7.04                  | 14.5 |
| CSM050050 | -JIS4 | 50           | 30 | 120 | 250 | 260 | 50 | 71 | * | * | 8.86                  | 15.6 |
| CSM050052 | -JIS4 | 52           | 30 | 130 | 260 | 270 | 50 | 71 | * | * | 9.21                  | 16.9 |
| CSM050054 | -JIS4 | 54           | 30 | 130 | 270 | 280 | 50 | 71 | * | * | 9.57                  | 18.1 |
| CSM050055 | -JIS4 | 55           | 30 | 130 | 275 | 285 | 50 | 71 | * | * | 9.75                  | 18.8 |
| CSM050056 | -JIS4 | 56           | 30 | 130 | 280 | 290 | 50 | 71 | * | * | 9.92                  | 19.4 |
| CSM050058 | -JIS4 | 58           | 30 | 130 | 290 | 300 | 50 | 71 | * | * | 10.28                 | 20.8 |
| CSM050060 | -JIS4 | 60           | 30 | 130 | 300 | 310 | 50 | 71 | * | * | 10.63                 | 22.2 |

※Weight only for reference. Actual scale should be Weighing.

## CSM-JIS4



Dimension : mm

Series CSM-JIS4 Straight Soft Pinions

Quality Grade JIS 4

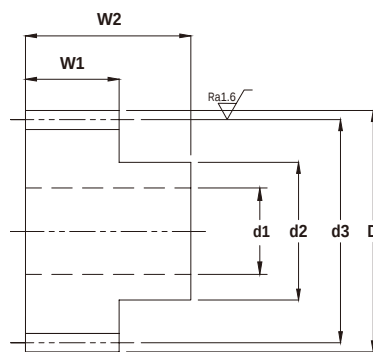
Material S45C

Surfaces: Black-coated

Keyway and screw holes are available upon request.

| Code      | JIS   | No. of Teeth | d1 | d2  | d3  | D   | W1 | W2 | k | h | F <sub>ta</sub><br>kN | KG   |
|-----------|-------|--------------|----|-----|-----|-----|----|----|---|---|-----------------------|------|
| Module 6  |       |              |    |     |     |     |    |    |   |   |                       |      |
| CSM060012 | -JIS4 | 12           | 25 | 55  | 72  | 84  | 60 | 88 | * | * | *                     | 1.9  |
| CSM060013 | -JIS4 | 13           | 25 | 58  | 78  | 90  | 60 | 88 | * | * | *                     | 2.2  |
| CSM060014 | -JIS4 | 14           | 25 | 60  | 84  | 96  | 60 | 88 | * | * | *                     | 2.5  |
| CSM060015 | -JIS4 | 15           | 25 | 70  | 90  | 102 | 60 | 88 | * | * | *                     | 2.8  |
| CSM060016 | -JIS4 | 16           | 25 | 75  | 96  | 108 | 60 | 88 | * | * | 2.65                  | 3.2  |
| CSM060017 | -JIS4 | 17           | 25 | 78  | 102 | 114 | 60 | 88 | * | * | 3.16                  | 3.5  |
| CSM060018 | -JIS4 | 18           | 25 | 80  | 108 | 120 | 60 | 88 | * | * | 3.34                  | 3.9  |
| CSM060019 | -JIS4 | 19           | 25 | 90  | 114 | 126 | 60 | 88 | * | * | 3.53                  | 4.3  |
| CSM060020 | -JIS4 | 20           | 25 | 100 | 120 | 132 | 60 | 88 | * | * | 3.71                  | 4.7  |
| CSM060021 | -JIS4 | 21           | 28 | 105 | 126 | 138 | 60 | 88 | * | * | 3.90                  | 5.2  |
| CSM060022 | -JIS4 | 22           | 28 | 110 | 132 | 144 | 60 | 88 | * | * | 4.08                  | 5.6  |
| CSM060023 | -JIS4 | 23           | 28 | 115 | 138 | 150 | 60 | 88 | * | * | 4.27                  | 6.1  |
| CSM060024 | -JIS4 | 24           | 28 | 120 | 144 | 156 | 60 | 88 | * | * | 4.45                  | 6.6  |
| CSM060025 | -JIS4 | 25           | 28 | 125 | 150 | 162 | 60 | 88 | * | * | 5.28                  | 7.1  |
| CSM060026 | -JIS4 | 26           | 28 | 130 | 156 | 168 | 60 | 88 | * | * | 5.49                  | 7.7  |
| CSM060027 | -JIS4 | 27           | 28 | 135 | 162 | 174 | 60 | 88 | * | * | 5.70                  | 8.2  |
| CSM060028 | -JIS4 | 28           | 28 | 140 | 168 | 180 | 60 | 88 | * | * | 5.91                  | 8.8  |
| CSM060030 | -JIS4 | 30           | 30 | 150 | 180 | 192 | 60 | 88 | * | * | 6.34                  | 10.0 |
| CSM060032 | -JIS4 | 32           | 30 | 150 | 192 | 204 | 60 | 83 | * | * | 6.76                  | 11.3 |
| CSM060034 | -JIS4 | 34           | 30 | 150 | 204 | 216 | 60 | 83 | * | * | 7.18                  | 12.7 |
| CSM060035 | -JIS4 | 35           | 30 | 150 | 210 | 222 | 60 | 83 | * | * | 7.39                  | 13.4 |
| CSM060036 | -JIS4 | 36           | 30 | 150 | 216 | 228 | 60 | 83 | * | * | 7.60                  | 14.1 |
| CSM060038 | -JIS4 | 38           | 30 | 150 | 228 | 240 | 60 | 83 | * | * | 8.02                  | 15.6 |
| CSM060040 | -JIS4 | 40           | 30 | 150 | 240 | 252 | 60 | 83 | * | * | 8.45                  | 17.2 |
| CSM060042 | -JIS4 | 42           | 40 | 150 | 252 | 264 | 60 | 83 | * | * | 8.87                  | 18.9 |
| CSM060044 | -JIS4 | 44           | 40 | 150 | 264 | 276 | 60 | 83 | * | * | 9.29                  | 20.7 |
| CSM060045 | -JIS4 | 45           | 40 | 180 | 270 | 282 | 60 | 83 | * | * | 9.50                  | 21.6 |
| CSM060046 | -JIS4 | 46           | 40 | 180 | 276 | 288 | 60 | 83 | * | * | 9.71                  | 22.5 |
| CSM060048 | -JIS4 | 48           | 40 | 180 | 288 | 300 | 60 | 83 | * | * | 10.14                 | 24.4 |
| CSM060050 | -JIS4 | 50           | 40 | 180 | 300 | 312 | 60 | 83 | * | * | 12.76                 | 26.4 |

## CSM-JIS4



Dimension : mm

Series CSM-JIS4 Straight Soft Pinions

Quality Grade JIS 4

Material S45C

Surfaces: Black-coated

Keyway and screw holes are available upon request.


Straight  
JIS

| Code      | JIS   | No. of Teeth | d1 | d2  | d3  | D   | W1 | W2  | k | h | F <sub>ta</sub><br>kN | KG   |
|-----------|-------|--------------|----|-----|-----|-----|----|-----|---|---|-----------------------|------|
| Module 8  |       |              |    |     |     |     |    |     |   |   |                       |      |
| CSM080012 | -JIS4 | 12           | 28 | 75  | 96  | 112 | 75 | 110 | * | * | *                     | 4.3  |
| CSM080013 | -JIS4 | 13           | 28 | 80  | 104 | 120 | 75 | 110 | * | * | *                     | 4.9  |
| CSM080014 | -JIS4 | 14           | 28 | 85  | 112 | 128 | 75 | 110 | * | * | *                     | 5.6  |
| CSM080015 | -JIS4 | 15           | 28 | 90  | 120 | 136 | 75 | 110 | * | * | *                     | 6.3  |
| CSM080016 | -JIS4 | 16           | 28 | 100 | 128 | 144 | 75 | 110 | * | * | 4.95                  | 7.0  |
| CSM080017 | -JIS4 | 17           | 28 | 105 | 136 | 152 | 75 | 110 | * | * | 5.26                  | 7.8  |
| CSM080018 | -JIS4 | 18           | 28 | 110 | 144 | 160 | 75 | 110 | * | * | 5.57                  | 8.7  |
| CSM080019 | -JIS4 | 19           | 28 | 120 | 152 | 168 | 75 | 110 | * | * | 5.88                  | 9.6  |
| CSM080020 | -JIS4 | 20           | 28 | 130 | 160 | 176 | 75 | 110 | * | * | 6.19                  | 10.5 |
| CSM080021 | -JIS4 | 21           | 30 | 140 | 168 | 184 | 75 | 110 | * | * | 6.50                  | 11.5 |
| CSM080022 | -JIS4 | 22           | 30 | 150 | 176 | 192 | 75 | 110 | * | * | 6.80                  | 12.5 |
| CSM080023 | -JIS4 | 23           | 30 | 155 | 184 | 200 | 75 | 110 | * | * | 7.11                  | 13.6 |
| CSM080024 | -JIS4 | 24           | 30 | 160 | 192 | 208 | 75 | 110 | * | * | 8.45                  | 14.7 |
| CSM080025 | -JIS4 | 25           | 30 | 170 | 200 | 216 | 75 | 110 | * | * | 8.80                  | 15.8 |
| CSM080026 | -JIS4 | 26           | 30 | 170 | 208 | 224 | 75 | 110 | * | * | 9.15                  | 17.0 |
| CSM080027 | -JIS4 | 27           | 30 | 170 | 216 | 232 | 75 | 110 | * | * | 9.50                  | 18.3 |
| CSM080028 | -JIS4 | 28           | 30 | 180 | 224 | 240 | 75 | 110 | * | * | 9.85                  | 19.5 |
| CSM080030 | -JIS4 | 30           | 30 | 180 | 240 | 256 | 75 | 110 | * | * | 10.56                 | 22.2 |
| Module 10 |       |              |    |     |     |     |    |     |   |   |                       |      |
| CSM100015 | -JIS4 | 15           | 30 | 115 | 150 | 170 | 90 | 130 | * | * | *                     | 11.6 |
| CSM100020 | -JIS4 | 20           | 30 | 165 | 200 | 220 | 90 | 130 | * | * | 9.28                  | 19.4 |
| CSM100025 | -JIS4 | 25           | 40 | 200 | 250 | 270 | 90 | 130 | * | * | 13.20                 | 29.2 |

## MSGH-CP-DIN6

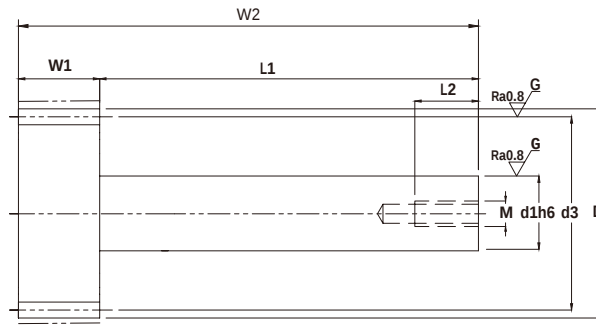


Fig . 1

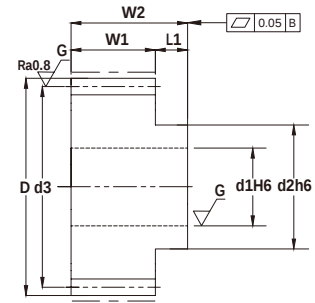


Fig . 2

Dimension : mm

Series MSGH-CP-DIN6 Straight Teeth Ground Pinions

Quality Grade DIN 6

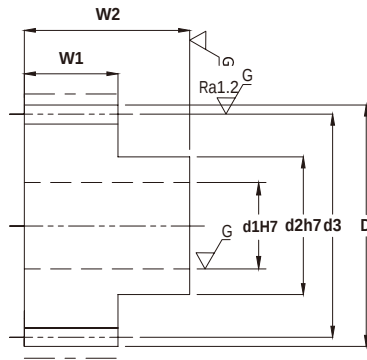
Material SCM415 / SCM440

Hardness: HRC 50~55°

Teeth Ground after Hardening

| Code           | Fig. | DIN   | Module | No. of Teeth | d1   | d2 | d3     | D      | W1   | W2  | L1    | L2 | Hole | F <sub>ta</sub><br>kN | KG  |
|----------------|------|-------|--------|--------------|------|----|--------|--------|------|-----|-------|----|------|-----------------------|-----|
| <b>CP 5</b>    |      |       |        |              |      |    |        |        |      |     |       |    |      |                       |     |
| MSGH-CP0500201 | 1    | -DIN6 | 1.5915 | 20           | 20h6 | *  | 31.831 | 35.014 | 11.5 | 90  | 78.5  | 19 | M8   | 1.87                  | 1.4 |
| MSGH-CP0500202 | 1    | -DIN6 | 1.5915 | 20           | 20h6 | *  | 31.831 | 35.014 | 14.5 | 90  | 75.5  | 19 | M8   | 2.07                  | 1.4 |
| MSGH-CP0500203 | 2    | -DIN6 | 1.5915 | 20           | 10h6 | 25 | 31.831 | 35.014 | 14.5 | 23  | 8.5   | *  | *    | 2.07                  | 0.5 |
| <b>CP 7.5</b>  |      |       |        |              |      |    |        |        |      |     |       |    |      |                       |     |
| MSGH-CP0750201 | 1    | -DIN6 | 2.3873 | 20           | 25h6 | *  | 47.746 | 52.520 | 19.5 | 108 | 88.5  | 22 | M10  | 4.18                  | 3.7 |
| MSGH-CP0750202 | 2    | -DIN6 | 2.3873 | 20           | 15h7 | 40 | 47.746 | 52.520 | 19.5 | 30  | 10.5  | *  | *    | 4.18                  | 1.4 |
| <b>CP 10</b>   |      |       |        |              |      |    |        |        |      |     |       |    |      |                       |     |
| MSGH-CP1000201 | 1    | -DIN6 | 3.1831 | 20           | 40h6 | *  | 63.662 | 70.028 | 29.5 | 162 | 132.5 | 28 | M12  | 8.44                  | 9.8 |
| MSGH-CP1000202 | 2    | -DIN6 | 3.1831 | 20           | 15h7 | 50 | 63.662 | 70.028 | 29.5 | 43  | 13.5  | *  | *    | 8.44                  | 3.7 |

## MSSH-CP-JIS3



Dimension : mm

Series MSSH-CP-JIS3 Straight Skiving Pinions

Quality Grade JIS 3

Material SCM415 / SCM440

Hardness: HRC 50~55°

Surfaces: Black-coated (Exclude Teeth)

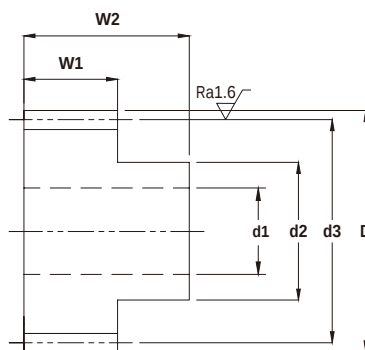
Skiving after Hardening

Keyway and screw holes are available upon request.


Straight  
JIS

| Code          | JIS   | Module | No. of Teeth | d1 | d2  | d3     | D      | W1 | W2 | k | h | F <sub>ta</sub><br>kN | KG   |
|---------------|-------|--------|--------------|----|-----|--------|--------|----|----|---|---|-----------------------|------|
| <b>CP 5</b>   |       |        |              |    |     |        |        |    |    |   |   |                       |      |
| MSSH-CP050020 | -JIS3 | 1.5915 | 20           | 8  | 25  | 31.83  | 35.01  | 15 | 30 | * | * | 1.76                  | 0.2  |
| MSSH-CP050025 | -JIS3 | 1.5915 | 25           | 10 | 32  | 39.79  | 42.97  | 15 | 30 | * | * | 2.50                  | 0.3  |
| MSSH-CP050030 | -JIS3 | 1.5915 | 30           | 10 | 38  | 47.74  | 50.93  | 15 | 30 | * | * | 3.00                  | 0.4  |
| MSSH-CP050040 | -JIS3 | 1.5915 | 40           | 12 | 50  | 63.66  | 66.84  | 15 | 30 | * | * | 4.00                  | 0.6  |
| <b>CP 10</b>  |       |        |              |    |     |        |        |    |    |   |   |                       |      |
| MSSH-CP100020 | -JIS3 | 3.1831 | 20           | 15 | 50  | 63.66  | 70.03  | 30 | 50 | * | * | 7.03                  | 0.9  |
| MSSH-CP100025 | -JIS3 | 3.1831 | 25           | 20 | 60  | 79.57  | 85.94  | 30 | 50 | * | * | 10.00                 | 1.4  |
| MSSH-CP100030 | -JIS3 | 3.1831 | 30           | 20 | 75  | 95.49  | 101.86 | 30 | 50 | * | * | 11.99                 | 1.9  |
| MSSH-CP100040 | -JIS3 | 3.1831 | 40           | 25 | 80  | 127.32 | 133.69 | 30 | 50 | * | * | 15.99                 | 3.3  |
| <b>CP 15</b>  |       |        |              |    |     |        |        |    |    |   |   |                       |      |
| MSSH-CP150020 | -JIS3 | 4.7746 | 20           | 25 | 75  | 95.49  | 105.04 | 50 | 77 | * | * | 17.57                 | 2.6  |
| MSSH-CP150025 | -JIS3 | 4.7746 | 25           | 25 | 100 | 119.37 | 128.92 | 50 | 77 | * | * | 21.96                 | 3.9  |
| MSSH-CP150030 | -JIS3 | 4.7746 | 30           | 25 | 110 | 143.24 | 152.79 | 50 | 77 | * | * | 29.98                 | 5.5  |
| <b>CP 20</b>  |       |        |              |    |     |        |        |    |    |   |   |                       |      |
| MSSH-CP200020 | -JIS3 | 6.3662 | 20           | 25 | 100 | 127.32 | 140.06 | 60 | 90 | * | * | 28.11                 | 5.4  |
| MSSH-CP200025 | -JIS3 | 6.3662 | 25           | 30 | 130 | 159.16 | 171.89 | 60 | 90 | * | * | 39.98                 | 8.2  |
| MSSH-CP200030 | -JIS3 | 6.3662 | 30           | 30 | 150 | 190.99 | 203.72 | 60 | 90 | * | * | 47.98                 | 11.5 |

## CSM-CP-JIS4



Dimension : mm

Series CSM-CP-JIS4 Straight Soft Pinion

Quality Grade JIS 4

Material S45C

Surfaces: Black-coated

Keyway and screw holes are available upon request.

| Code         | JIS   | Module | No. of Teeth | d1 | d2  | d3     | D      | W1 | W2 | k | h | F <sub>ta</sub><br>kN | KG   |
|--------------|-------|--------|--------------|----|-----|--------|--------|----|----|---|---|-----------------------|------|
| <b>CP 5</b>  |       |        |              |    |     |        |        |    |    |   |   |                       |      |
| CSM-CP050020 | -JIS4 | 1.5915 | 20           | 8  | 25  | 31.83  | 35.01  | 15 | 30 | * | * | 0.25                  | 0.2  |
| CSM-CP050025 | -JIS4 | 1.5915 | 25           | 10 | 32  | 39.79  | 42.97  | 15 | 30 | * | * | 0.35                  | 0.3  |
| CSM-CP050030 | -JIS4 | 1.5915 | 30           | 10 | 38  | 47.74  | 50.93  | 15 | 30 | * | * | 0.42                  | 0.4  |
| CSM-CP050040 | -JIS4 | 1.5915 | 40           | 12 | 45  | 63.66  | 66.84  | 15 | 30 | * | * | 0.56                  | 0.6  |
| <b>CP 10</b> |       |        |              |    |     |        |        |    |    |   |   |                       |      |
| CSM-CP100020 | -JIS4 | 3.1831 | 20           | 15 | 50  | 63.66  | 70.03  | 30 | 50 | * | * | 0.98                  | 0.9  |
| CSM-CP100025 | -JIS4 | 3.1831 | 25           | 20 | 60  | 79.57  | 85.94  | 30 | 50 | * | * | 1.40                  | 1.4  |
| CSM-CP100030 | -JIS4 | 3.1831 | 30           | 20 | 75  | 95.49  | 101.86 | 30 | 50 | * | * | 1.68                  | 1.9  |
| CSM-CP100040 | -JIS4 | 3.1831 | 40           | 20 | 80  | 127.32 | 133.69 | 30 | 50 | * | * | 2.24                  | 3.3  |
| <b>CP 15</b> |       |        |              |    |     |        |        |    |    |   |   |                       |      |
| CSM-CP150020 | -JIS4 | 4.7746 | 20           | 22 | 75  | 95.49  | 105.04 | 50 | 77 | * | * | 2.46                  | 2.6  |
| CSM-CP150025 | -JIS4 | 4.7746 | 25           | 25 | 100 | 119.36 | 128.92 | 50 | 77 | * | * | 3.08                  | 3.9  |
| CSM-CP150030 | -JIS4 | 4.7746 | 30           | 25 | 110 | 143.24 | 152.79 | 50 | 77 | * | * | 4.20                  | 5.5  |
| <b>CP 20</b> |       |        |              |    |     |        |        |    |    |   |   |                       |      |
| CSM-CP200020 | -JIS4 | 6.3662 | 20           | 25 | 100 | 127.32 | 140.06 | 60 | 90 | * | * | 3.94                  | 5.4  |
| CSM-CP200025 | -JIS4 | 6.3662 | 25           | 30 | 130 | 159.15 | 171.89 | 60 | 90 | * | * | 5.60                  | 8.2  |
| CSM-CP200030 | -JIS4 | 6.3662 | 30           | 30 | 150 | 190.98 | 203.72 | 60 | 90 | * | * | 6.72                  | 11.5 |

## ■ Contents of Rollers

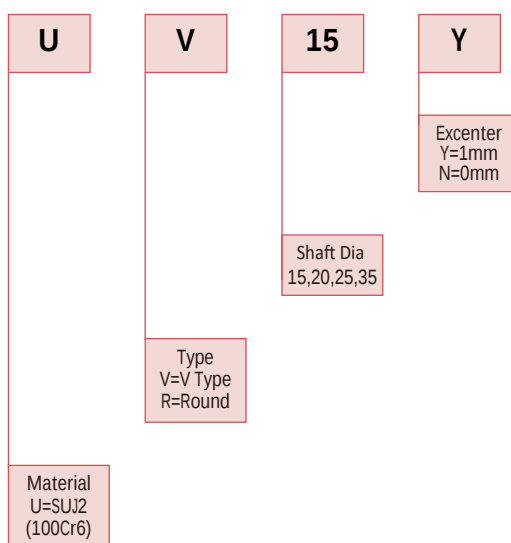


Roller

| Code | Material         | Type          | Shaft Dia.           | Page  |
|------|------------------|---------------|----------------------|-------|
| UV   | SUJ2<br>(100Cr6) | V Type Roller | 15<br>20<br>25<br>35 | P.127 |
| UR   | SUJ2<br>(100Cr6) | Round Roller  | 15<br>20<br>25<br>35 | P.128 |

## ■ Rollers Code Instrction

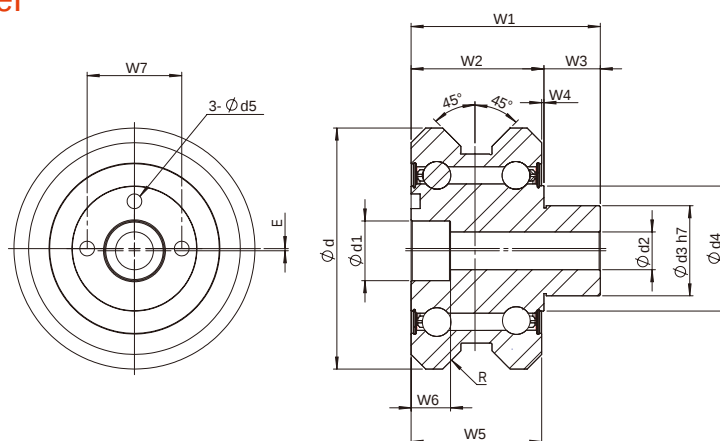
Example : UV15Y



## UV V Type Roller



Roller



Dimension : mm

## Series UV V Type Roller

Material SUJ2

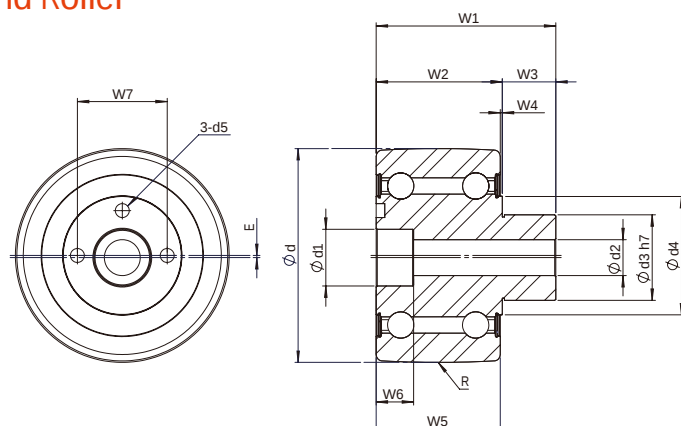
Type: V Type

Hardness: HRC 60~64°

Radial Tolerance 0~0.01 mm

| Code  | Shaft Dia. | Excenter | $\phi d$ | $\phi d1$ | W1 | W2 | W3 | W4 | W5 | W6   | W7   | R    | $\phi d2$ | $\phi d3$ | $\phi d4$ | $\phi d5$ | C r(KN) | C or(KN) | KG  |
|-------|------------|----------|----------|-----------|----|----|----|----|----|------|------|------|-----------|-----------|-----------|-----------|---------|----------|-----|
| UV15Y | 15         | 1 mm     | 53       | 13.5      | 35 | 23 | 12 | 1  | 22 | 9    | 18.5 | R250 | 8.4       | 15        | 23        | 2.4x3     | 14.40   | 8.47     | 0.2 |
| UV15N | 15         | 0 mm     | 53       | 13.5      | 35 | 23 | 12 | 1  | 22 | 9    | 18.5 | R250 | 8.4       | 15        | 23        | 2.4x3     | 14.40   | 8.47     | 0.2 |
| UV20Y | 20         | 1 mm     | 63       | 16.5      | 46 | 31 | 15 | 1  | 30 | 11   | 22.5 | R300 | 10.5      | 20        | 26.7      | 2.4x3     | 15.76   | 10.18    | 0.5 |
| UV20N | 20         | 0 mm     | 63       | 16.5      | 46 | 31 | 15 | 1  | 30 | 11   | 22.5 | R300 | 10.5      | 20        | 26.7      | 2.4x3     | 15.76   | 10.18    | 0.5 |
| UV25Y | 25         | 1 mm     | 77       | 20.5      | 60 | 40 | 20 | 1  | 39 | 13   | 27.5 | R360 | 13.0      | 25        | 35.4      | 4.1x3     | 26.46   | 18.10    | 1.0 |
| UV25N | 25         | 0 mm     | 77       | 20.5      | 60 | 40 | 20 | 1  | 39 | 13   | 27.5 | R360 | 13.0      | 25        | 35.4      | 4.1x3     | 26.46   | 18.10    | 1.0 |
| UV35Y | 35         | 1 mm     | 107      | 28.5      | 84 | 59 | 25 | 1  | 58 | 17.5 | 42   | R500 | 16.8      | 40        | 55.55     | 4.1x3     | 45.15   | 35.15    | 2.5 |
| UV35N | 35         | 0 mm     | 107      | 28.5      | 84 | 59 | 25 | 1  | 58 | 17.5 | 42   | R500 | 16.8      | 40        | 55.55     | 4.1x3     | 45.15   | 35.15    | 2.5 |

## UR Round Roller



Dimension : mm

## Series UR Round Roller

Material SUJ2

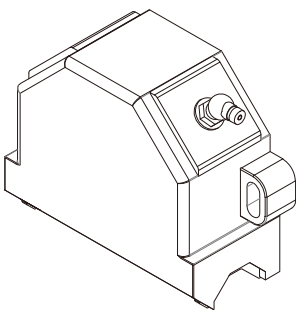
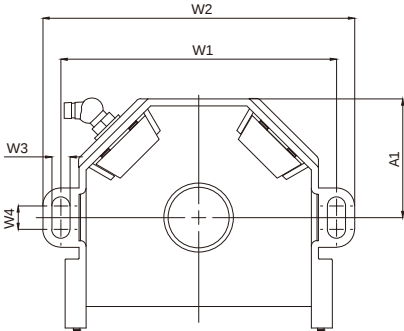
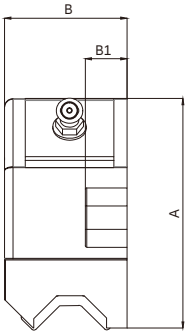
Type: Round

Hardness: HRC 60~64°

Radial Tolerance 0~0.01 mm

| Code  | Shaft Dia. | Excenter | $\phi d$ | $\phi d1$ | W1 | W2 | W3 | W4 | W5 | W6   | W7   | R    | $\phi d2$ | $\phi d3$ | $\phi d4$ | $\phi d5$ | C <sub>r</sub> (KN) | C <sub>or</sub> (KN) | KG  |
|-------|------------|----------|----------|-----------|----|----|----|----|----|------|------|------|-----------|-----------|-----------|-----------|---------------------|----------------------|-----|
| UR15Y | 15         | 1 mm     | 47       | 13.5      | 35 | 23 | 12 | 1  | 22 | 9    | 18.5 | R500 | 8.4       | 15        | 23        | 2.36x4    | 14.40               | 8.47                 | 0.2 |
| UR20Y | 20         | 1 mm     | 72       | 16.5      | 46 | 31 | 15 | 1  | 30 | 17.5 | 22.5 | R500 | 10.5      | 20        | 26.7      | 2.2x3     | 15.76               | 10.18                | 0.6 |
| UR25Y | 25         | 1 mm     | 85       | 20        | 60 | 40 | 20 | 1  | 39 | 17.5 | 27.5 | R500 | 13        | 25        | 35.4      | 4x4       | 26.46               | 18.10                | 1.0 |
| UR35Y | 35         | 1 mm     | 100      | 26.5      | 84 | 59 | 25 | 1  | 58 | 17.5 | 42   | R500 | 16.8      | 40        | 55.55     | 6.5x4     | 45.15               | 35.15                | 2.7 |

RH V Type Roller



Dimension : mm

Series RH V Type Roller Lubricated Cover Unit  
Material PA6

| Code  | A     | A1   | B    | B1 | W1  | W2  | W3  | W4  |
|-------|-------|------|------|----|-----|-----|-----|-----|
| RH-15 | 58.3  | 30.5 | 26.5 | 12 | 71  | 81  | 4.5 | 7.5 |
| RH-20 | 68.85 | 35.5 | 34.5 | 12 | 84  | 96  | 5.5 | 7.5 |
| RH-25 | 82.85 | 43   | 44   | 15 | 99  | 112 | 6.5 | 8.5 |
| RH-35 | 113   | 58   | 63   | 15 | 128 | 141 | 6.5 | 8.5 |

※Weight only for reference. Actual scale should be Weighing.



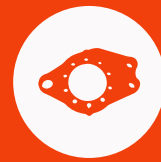
# YOSO German quality, Industrie 4.0 best platform



Stable



Heavy load



Precise

YOSO focuses on high-precision rack and pinion manufacturing and innovation.

Jingpeng Machinery Equipment (Shanghai) Co., Ltd.

Contact information:

 Telephone: 0086-13636560152

 Address: Room 123, Building 11, Block B, No. 1101 Huyi Road, Jiading District, Shanghai

 Website: [www.yosomove.com](http://www.yosomove.com)



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