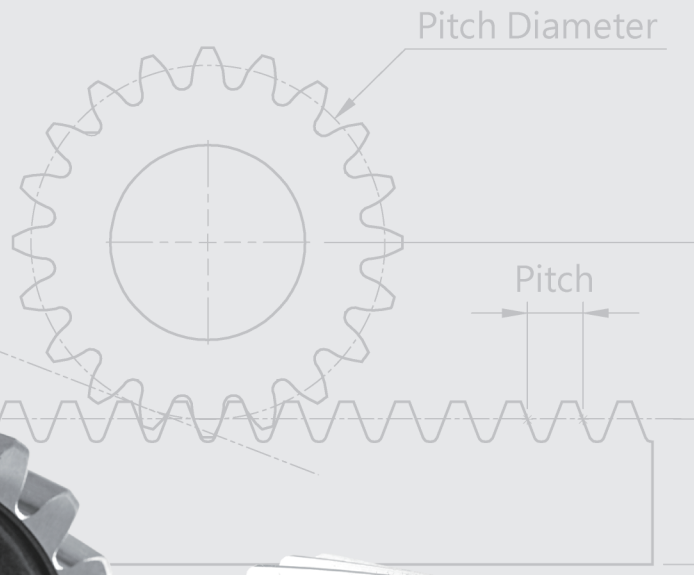
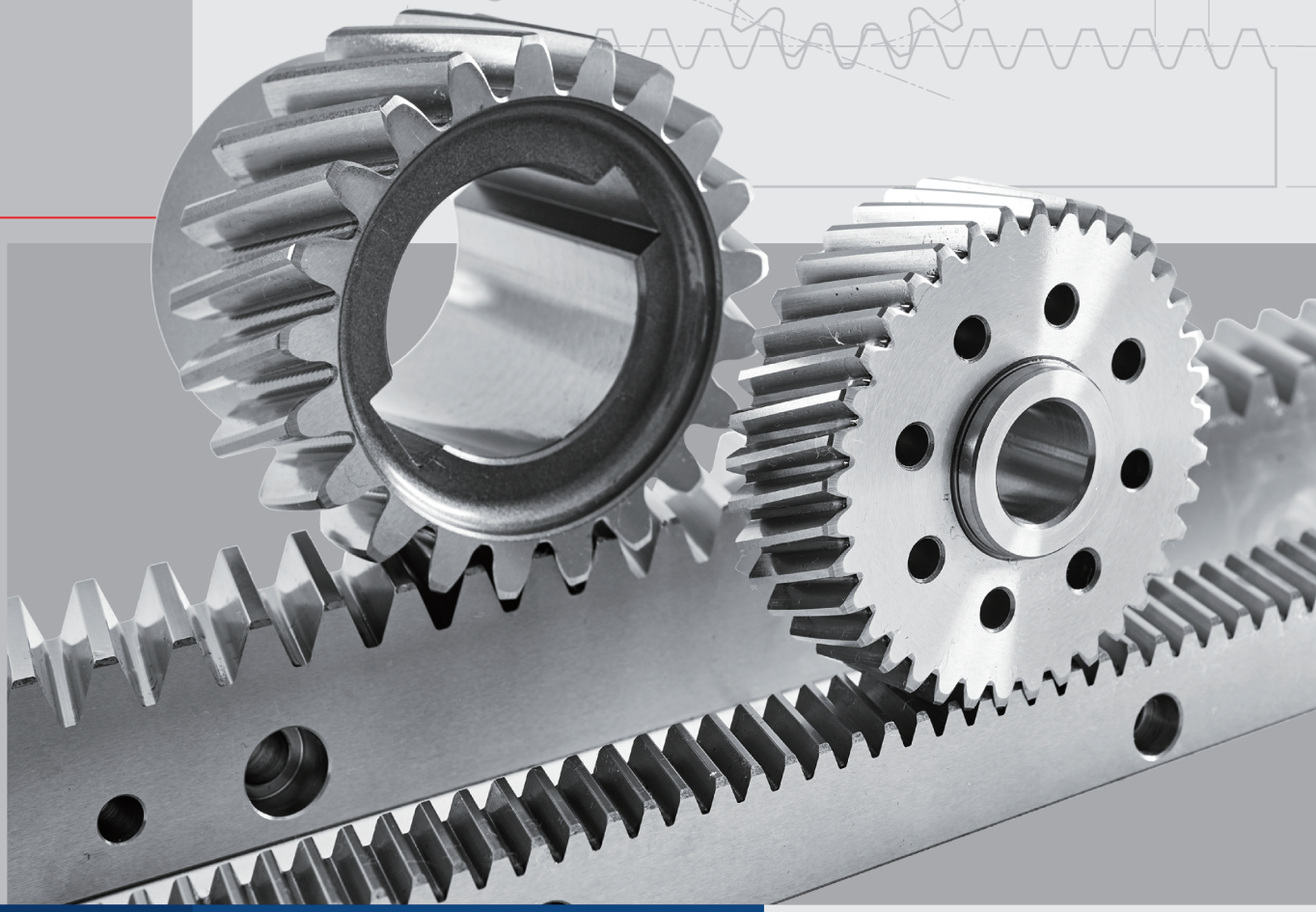
KAI HE MACHINERY CO., LTD





Grinding Rack Gear

Professional Manufacturer

KAI HE MACHINERY

KAI HE is mainly specialized in the production of transmission rack gears. the first ground rack manufacturer in Taiwan , while today it is a certified company (ISO 9001 : 2015), technologically advanced and structured with updated production plants.

Internally HAI HE has highly qualified personnel in order to offer customized answers to the most complex demands of every customer. Today, thanks to the production flexibility and to the industrial automation, KAI HE is able to realize products with high competitive prices in all over the world, both with standard features and with the most elaborate customizations.

With over 15 years of experience in rack manufacturing under their belt and rank among the top five rack manufacturers in Asia, Kai He Machinery Co., Ltd. is also the first Taiwanese company to use all German-made machinery while insisting on only using Taiwan-produced steel.

Kai He stresses the importance of its ten manufacturing processes and is adamant that these processes are the reason that it could provide products of high precision, high rigidity, and great precision, just like those produced by German brands.

Using the latest and most cutting-edge Computer Numerical Control (CNC) milling and grinding machines from Germany, Kai He ensures that the rack tooth surfaces are uniform and of the same quality even when mass produced.

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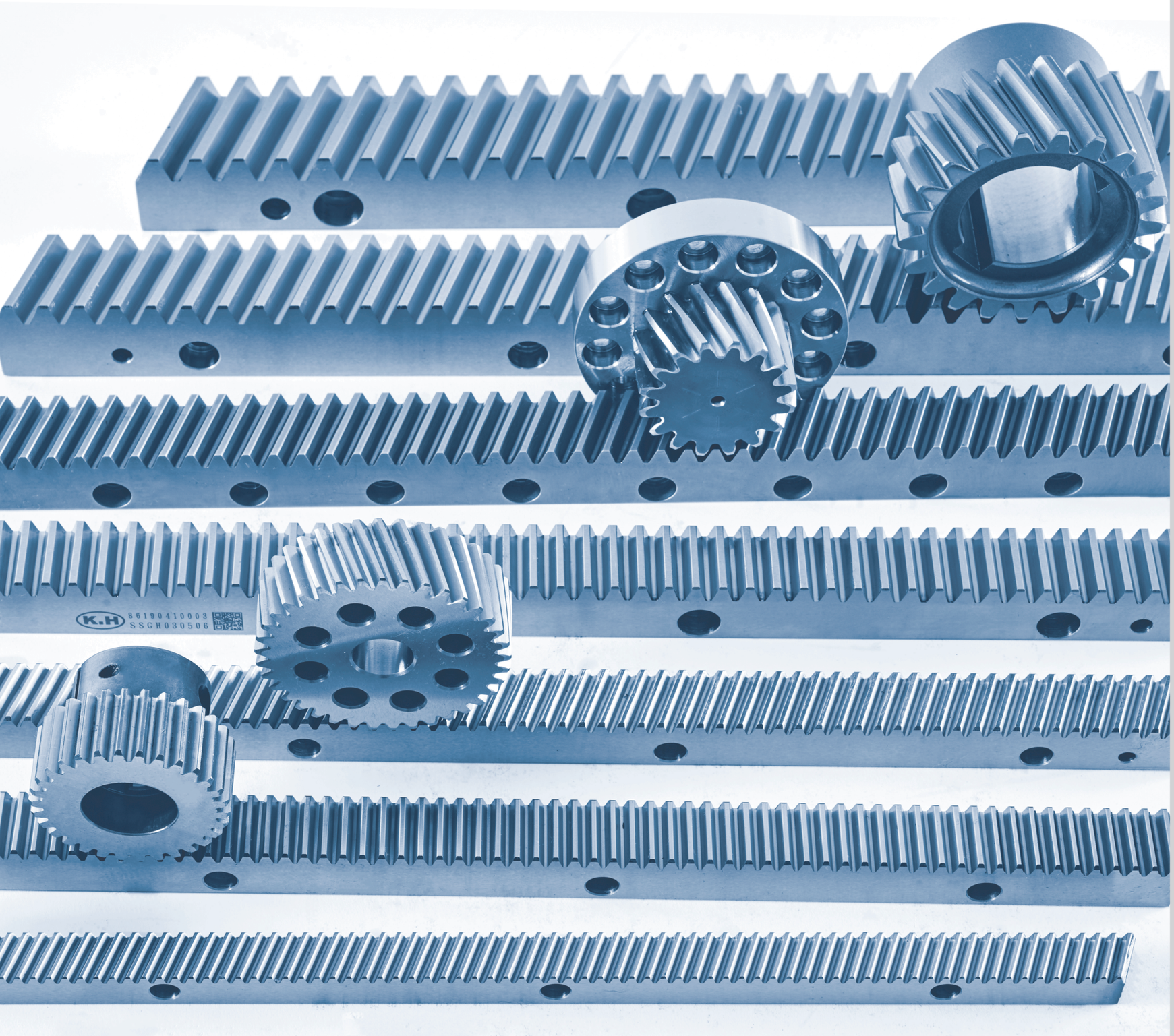

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KAI HE MACHINERY CO., LTD
RACK & PINION TERMINOLOGY

Module

The module is the relative size of the rack and pinion as described by the pinion. It is the ratio of the diameter of a gear to the number of teeth on the gear. The module and number of teeth give the reference pitch diameter:

$$\text{Module (M)} = \frac{\text{Pitch Diameter}}{\text{Number of Teeth (z)}}$$

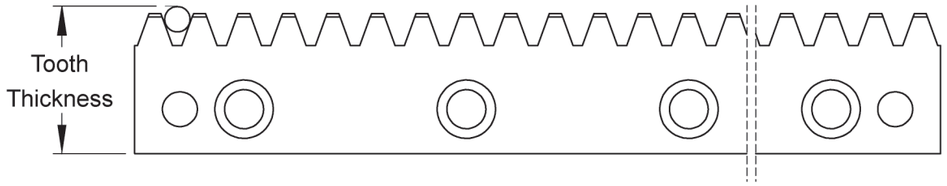
Reference Pitch Diameter = Module (M) x Number of Teeth (z)

The rack and pinion must have the same modules.

Tooth Thickness Tolerance

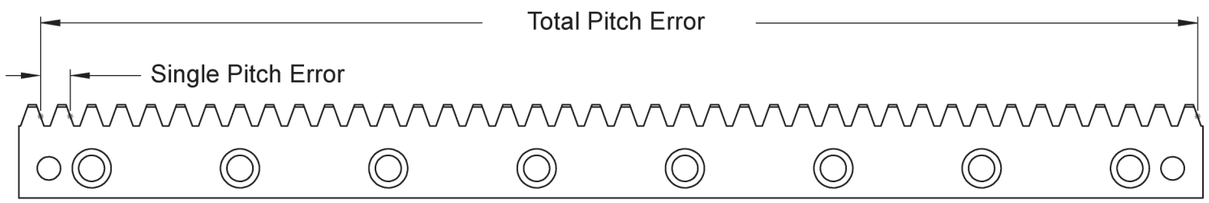
Tooth Thickness Tolerance is the relationship between tooth thickness and a measuring pin measurement.

- The tooth thickness of racks is usually measured via the pin measurement as tooth thickness can not be measured directly.
- A measuring pin is put into the teeth and measured to the back of the rack.



Pitch Error

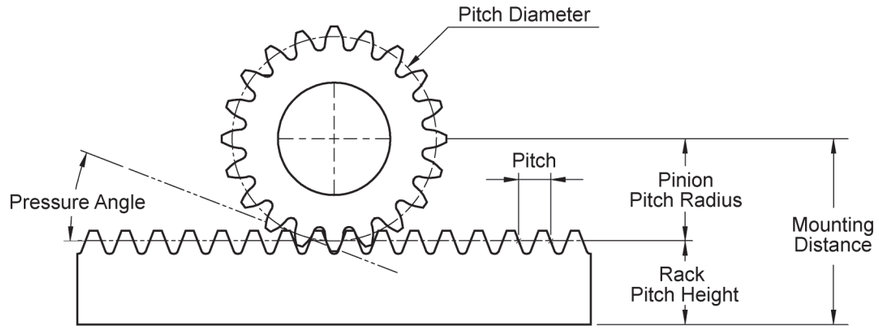
Pitch: Distance between teeth as measured from a point on one rack tooth to the corresponding point on the next gear tooth.



Single Pitch Error: Error in the pitch between two teeth relative to the ideal.

Total Pitch Error: Culmulative pitch error over the length of the rack.

Circular Pitch:
The distance from a point on one gear tooth to the corresponding point on the next gear tooth, measured along the pitch circle.



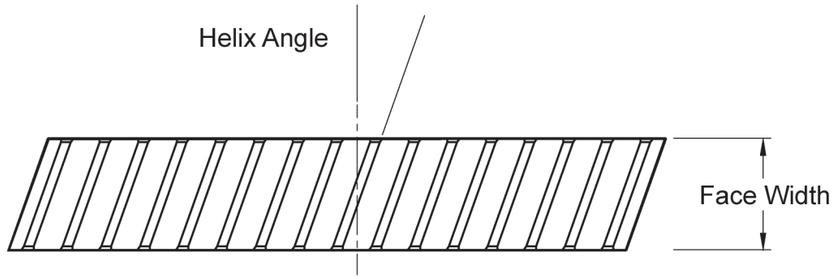
Pitch Circle: A circle transcribing the contact point on the teeth where the rack and pinion mesh correctly.

Pitch Diameter: The diameter of the gear's pitch circle.

Pressure Angle: The angle made by the sides of the tooth as it angles towards the top of the tooth. Mating gears and racks must have the same pressure angle.

Mounting Distance: Distance between the center of the pinion and the bottom of the rack that ensures proper mesh. The mounting distance sould stay consistent for the length of the rack.

Mounting Distance = Pitch Height of Rack + Pitch Radius of Pinion



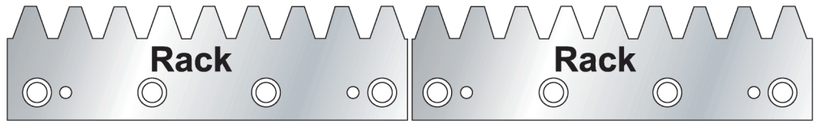
Helix Angle: Angle of the rack or gear tooth.
Racks and pinions use a common helix angle of 19°31'42"

Rack Installation

These are the three main steps to installing rack. See the Rack Installation Instructions for more detailed installation information. Installation of multiple rack pieces end-to-end requires an opposite tooth installation gauge:

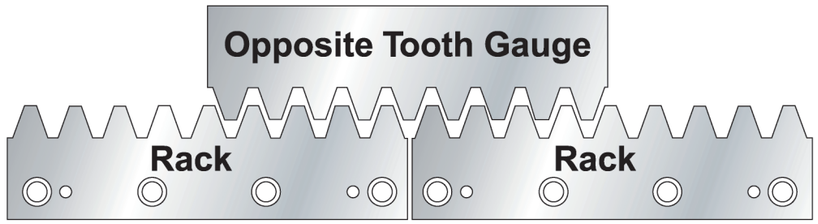
Step 1

Put the racks on the base, end to end, without the screw



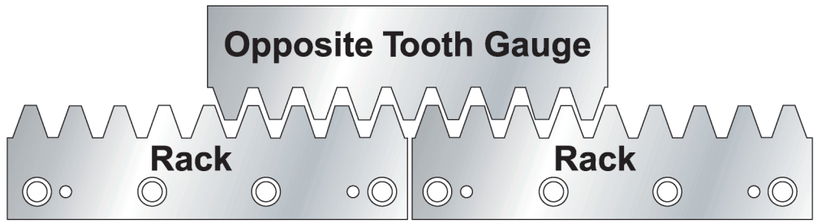
Step 2

Put the racks gauge across the ends of the joined racks and adjust the pitch. The ends of the racks each from half a tooth.



Step 3

Bolt the racks to the base in sequence. Install dowel pins.

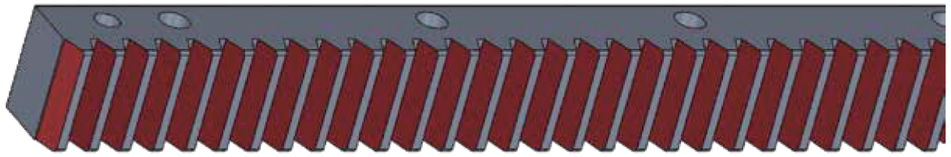


Rack & Pinion Alignment

For best performance, the rack and pinion must be installed with proper tooth engagement. To check this, we recommed using a red compound and check the gear mesh contact pattern under load conditions.

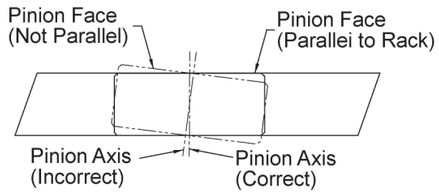
Correct

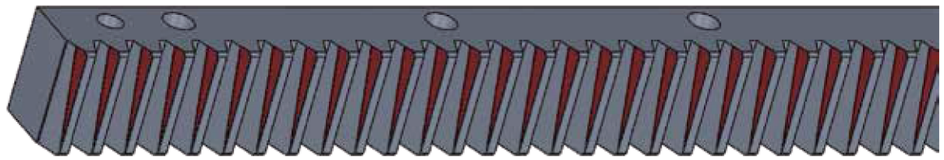
Contact is even across the face of the tooth



Not Parallel

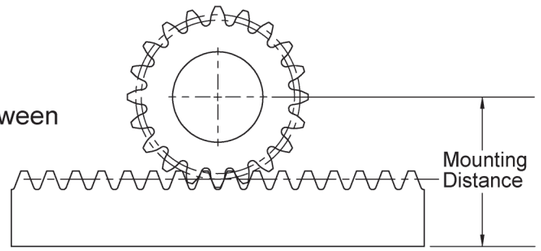
The pinion and rack are not parallel. Adjust the pinion so the face of the pinion and the side of the rack are parallel.
The axis of the pinion should be perpendicular to the rack.

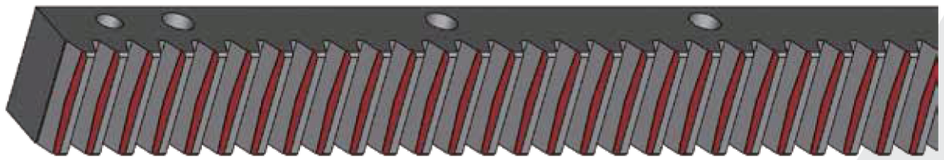




Incorrect Mounting Distance

There is insufficient tooth contact between the rack and pinion. Adjust the center distance between the rack and the pinion.
The pinion specification tables include the center distance for each size pinion.





Quality	Total Pitch Error (μm/1000mm)	Tooth Thickness Tolerance (μm/1000mm)	Applications (Examples)
5	±25	-22	● High precision machine tools with electrical preload. ● Machine tools, lifting axis,multiple pinion contact.
6	±35	-36	● Wood, plastic, composite, aluminium working machines. ● Machine tools, integratable racks, water cutting machines, tube bending systems, plasma cutting machines, laser cutting machines.
7	±45	-47	● Wood working machines, Linear axis with high requirement for a smooth running. ● Robots.
8	±60	-95	● Portals, handing linear axis. ● Linear axis.
9	±90	-109	● Linear axis with low load feed units for adjustment.
10	±200	-109	● Lifting axis, Handling, welding robots.

S	H	G	H	02	10	06	EXAMPLE

Quality
05= Din 5 (Q5)
06= Din 6 (Q6)
07= Din 7 (Q7)
08= Din 8 (Q8)
09= Din 9 (Q9)
10= Din 10 (Q10)

Length
05= 500mm
10= 1000mm
15= 1500mm
20= 2000mm

Module
1.5= M1.5
0 2= M2
0 3= M3

Heat - Treatment
H= Induction Hardened
Q= Quenched

Surfaces
F= Milled Tooth
G= Ground Tooth

Tooth System
S= Straight Tooth
H= Helical Tooth

Material
S= C45
R= 42CrMo4

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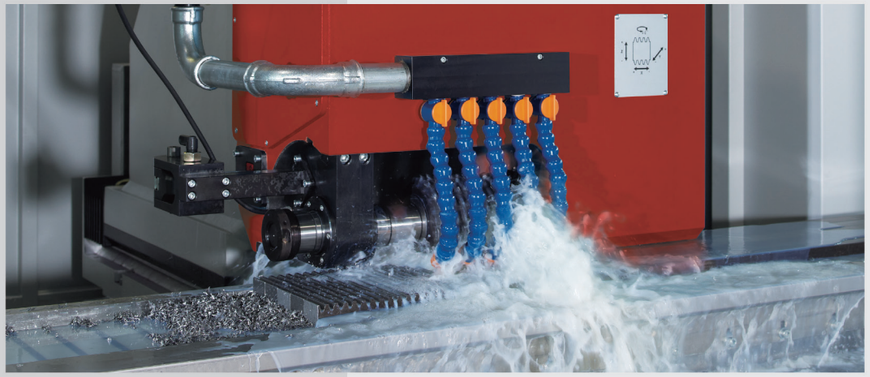
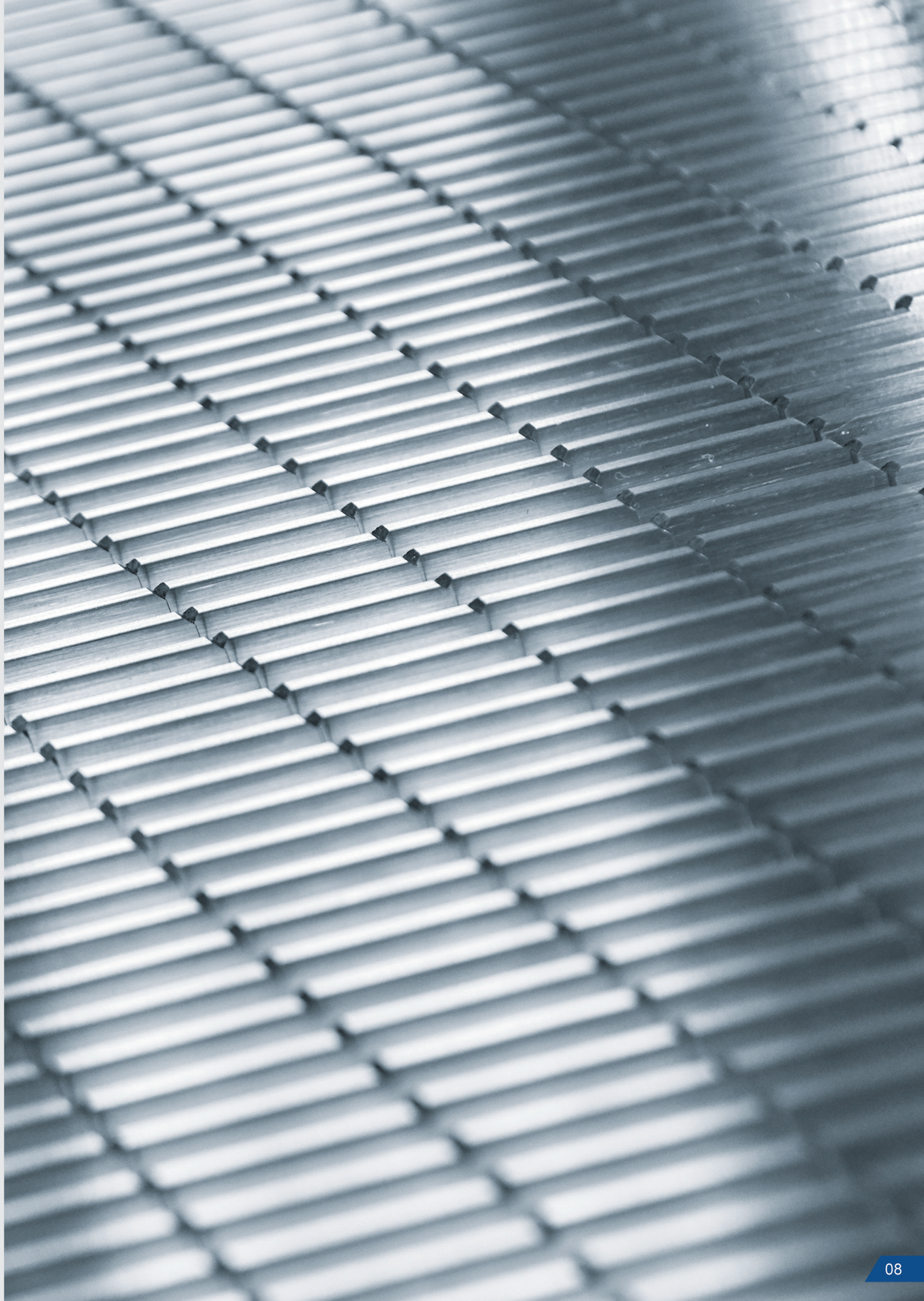




	Quality Classes	Quality Tolerances	Pitch Error

M1.5 L500	Quality Classes	Tooth Thickness Error (mm)	Single Pitch Error (mm)	Total Pitch Error (mm)
	Q5	-0.015	±0.005	±0.024
	Q6	-0.020	±0.008	±0.026
	Q7	-0.040	±0.008	±0.034
	Q8	-0.066	±0.015	±0.060
	Q9	-0.080	±0.020	±0.080
	Q10	-0.120	±0.034	±0.140

M1.5 L1000	Quality Classes	Tooth Thickness Error (mm)	Single Pitch Error (mm)	Total Pitch Error (mm)
	Q5	-0.015	±0.005	±0.024
	Q6	-0.020	±0.008	±0.032
	Q7	-0.040	±0.008	±0.042
	Q8	-0.066	±0.015	±0.060
	Q9	-0.080	±0.020	±0.090
	Q10	-0.120	±0.034	±0.140

M1.5 L1500	Quality Classes	Tooth Thickness Error (mm)	Single Pitch Error (mm)	Total Pitch Error (mm)
	Q5	N/A	N/A	N/A
	Q6	-0.020	±0.009	±0.036
	Q7	-0.040	±0.009	±0.042
	Q8	-0.088	±0.016	±0.072
	Q9	-0.130	±0.024	±0.090
	Q10	-0.180	±0.037	±0.148

M1.5 L2000	Quality Classes	Tooth Thickness Error (mm)	Single Pitch Error (mm)	Total Pitch Error (mm)
	Q5	N/A	N/A	N/A
	Q6	-0.020	±0.009	±0.038
	Q7	-0.040	±0.009	±0.044
	Q8	-0.088	±0.016	±0.072
	Q9	-0.130	±0.024	±0.104
	Q10	-0.180	±0.038	±0.160

	Quality Classes	Quality Tolerances	Pitch Error

M2 L500	Quality Classes	Tooth Thickness Error (mm)	Single Pitch Error (mm)	Total Pitch Error (mm)
	Q5	-0.015	±0.005	±0.020
	Q6	-0.020	±0.008	±0.026
	Q7	-0.040	±0.008	±0.034
	Q8	-0.066	±0.016	±0.060
	Q9	-0.085	±0.021	±0.080
	Q10	-0.120	±0.035	±0.144

M2 L1000	Quality Classes	Tooth Thickness Error (mm)	Single Pitch Error (mm)	Total Pitch Error (mm)
	Q5	-0.015	±0.005	±0.025
	Q6	-0.020	±0.008	±0.035
	Q7	-0.040	±0.008	±0.042
	Q8	-0.066	±0.016	±0.060
	Q9	-0.085	±0.021	±0.090
	Q10	-0.120	±0.035	±0.144

M2 L1500	Quality Classes	Tooth Thickness Error (mm)	Single Pitch Error (mm)	Total Pitch Error (mm)
	Q5	-0.015	±0.007	±0.027
	Q6	-0.020	±0.008	±0.036
	Q7	-0.040	±0.008	±0.044
	Q8	-0.095	±0.016	±0.072
	Q9	-0.130	±0.025	±0.104
	Q10	-0.180	±0.038	±0.160

M2 L2000	Quality Classes	Tooth Thickness Error (mm)	Single Pitch Error (mm)	Total Pitch Error (mm)
	Q5	-0.015	±0.007	±0.027
	Q6	-0.020	±0.008	±0.038
	Q7	-0.040	±0.008	±0.046
	Q8	-0.100	±0.016	±0.072
	Q9	-0.135	±0.023	±0.104
	Q10	-0.180	±0.038	±0.160

	Quality Classes	Quality Tolerances	Pitch Error

	Quality Classes	Tooth Thickness Error (mm)	Single Pitch Error (mm)	Total Pitch Error (mm)
M3 L500	Q5	-0.015	±0.006	±0.022
	Q6	-0.020	±0.009	±0.035
	Q7	-0.040	±0.009	±0.037
	Q8	-0.066	±0.016	±0.060
	Q9	-0.085	±0.024	±0.090
	Q10	-0.120	±0.036	±0.160

	Quality Classes	Tooth Thickness Error (mm)	Single Pitch Error (mm)	Total Pitch Error (mm)
M3 L1000	Q5	-0.015	±0.006	±0.025
	Q6	-0.020	±0.009	±0.035
	Q7	-0.040	±0.009	±0.044
	Q8	-0.066	±0.016	±0.066
	Q9	-0.085	±0.024	±0.100
	Q10	-0.120	±0.036	±0.160

	Quality Classes	Tooth Thickness Error (mm)	Single Pitch Error (mm)	Total Pitch Error (mm)
M3 L1500	Q5	-0.015	±0.007	±0.030
	Q6	-0.020	±0.009	±0.036
	Q7	-0.040	±0.009	±0.050
	Q8	-0.095	±0.016	±0.072
	Q9	-0.130	±0.024	±0.104
	Q10	-0.180	±0.041	±0.167

	Quality Classes	Tooth Thickness Error (mm)	Single Pitch Error (mm)	Total Pitch Error (mm)
M3 L2000	Q5	-0.015	±0.008	±0.030
	Q6	-0.020	±0.010	±0.042
	Q7	-0.040	±0.010	±0.052
	Q8	-0.095	±0.018	±0.078
	Q9	-0.130	±0.026	±0.112
	Q10	-0.180	±0.044	±0.180

	Quality Classes	Quality Tolerances	Pitch Error

	Quality Classes	Tooth Thickness Error (mm)	Single Pitch Error (mm)	Total Pitch Error (mm)
M4 L500	Q5	-0.015	±0.007	±0.026
	Q6	-0.020	±0.009	±0.035
	Q7	-0.040	±0.009	±0.040
	Q8	-0.066	±0.016	±0.060
	Q9	-0.085	±0.024	±0.090
	Q10	-0.120	±0.040	±0.170

	Quality Classes	Tooth Thickness Error (mm)	Single Pitch Error (mm)	Total Pitch Error (mm)
M4 L1000	Q5	-0.015	±0.007	±0.026
	Q6	-0.020	±0.009	±0.035
	Q7	-0.040	±0.009	±0.044
	Q8	-0.066	±0.016	±0.066
	Q9	-0.085	±0.024	±0.110
	Q10	-0.120	±0.040	±0.170

	Quality Classes	Tooth Thickness Error (mm)	Single Pitch Error (mm)	Total Pitch Error (mm)
M4 L1500	Q5	-0.015	±0.008	±0.032
	Q6	-0.020	±0.010	±0.040
	Q7	-0.040	±0.010	±0.056
	Q8	-0.095	±0.018	±0.072
	Q9	-0.130	±0.025	±0.120
	Q10	-0.180	±0.045	±0.180

	Quality Classes	Tooth Thickness Error (mm)	Single Pitch Error (mm)	Total Pitch Error (mm)
M4 L2000	Q5	-0.015	±0.008	±0.032
	Q6	-0.020	±0.010	±0.044
	Q7	-0.040	±0.010	±0.056
	Q8	-0.095	±0.019	±0.078
	Q9	-0.130	±0.026	±0.120
	Q10	-0.180	±0.045	±0.180

	Quality Classes	Quality Tolerances	Pitch Error

M5 L500	Quality Classes	Tooth Thickness Error (mm)	Single Pitch Error (mm)	Total Pitch Error (mm)
	Q5	-0.015	±0.007	±0.026
	Q6	-0.020	±0.009	±0.035
	Q7	-0.040	±0.009	±0.040
	Q8	-0.066	±0.018	±0.071
	Q9	-0.085	±0.026	±0.100
	Q10	-0.120	±0.042	±0.170

M5 L1000	Quality Classes	Tooth Thickness Error (mm)	Single Pitch Error (mm)	Total Pitch Error (mm)
	Q5	-0.015	±0.007	±0.028
	Q6	-0.020	±0.010	±0.035
	Q7	-0.040	±0.010	±0.044
	Q8	-0.066	±0.018	±0.078
	Q9	-0.085	±0.026	±0.110
	Q10	-0.120	±0.042	±0.170

M5 L1500	Quality Classes	Tooth Thickness Error (mm)	Single Pitch Error (mm)	Total Pitch Error (mm)
	Q5	N/A	N/A	N/A
	Q6	-0.020	±0.010	±0.040
	Q7	-0.040	±0.010	±0.050
	Q8	-0.095	±0.019	±0.080
	Q9	-0.130	±0.028	±0.120
	Q10	-0.180	±0.045	±0.180

M5 L2000	Quality Classes	Tooth Thickness Error (mm)	Single Pitch Error (mm)	Total Pitch Error (mm)
	Q5	N/A	N/A	N/A
	Q6	-0.020	±0.010	±0.044
	Q7	-0.040	±0.010	±0.054
	Q8	-0.095	±0.019	±0.090
	Q9	-0.130	±0.028	±0.120
	Q10	-0.180	±0.045	±0.190

	Quality Classes	Quality Tolerances	Pitch Error

M6 L500	Quality Classes	Tooth Thickness Error (mm)	Single Pitch Error (mm)	Total Pitch Error (mm)
	Q5	-0.015	±0.007	±0.026
	Q6	-0.020	±0.010	±0.035
	Q7	-0.040	±0.010	±0.040
	Q8	-0.066	±0.018	±0.071
	Q9	-0.085	±0.026	±0.105
	Q10	-0.120	±0.042	±0.170

M6 L1000	Quality Classes	Tooth Thickness Error (mm)	Single Pitch Error (mm)	Total Pitch Error (mm)
	Q5	-0.015	±0.007	±0.028
	Q6	-0.020	±0.010	±0.040
	Q7	-0.040	±0.010	±0.044
	Q8	-0.066	±0.018	±0.078
	Q9	-0.085	±0.026	±0.110
	Q10	-0.120	±0.042	±0.170

M6 L1500	Quality Classes	Tooth Thickness Error (mm)	Single Pitch Error (mm)	Total Pitch Error (mm)
	Q5	N/A	N/A	N/A
	Q6	-0.020	±0.010	±0.040
	Q7	-0.040	±0.010	±0.052
	Q8	-0.095	±0.019	±0.080
	Q9	-0.130	±0.028	±0.120
	Q10	-0.180	±0.045	±0.180

M6 L2000	Quality Classes	Tooth Thickness Error (mm)	Single Pitch Error (mm)	Total Pitch Error (mm)
	Q5	N/A	N/A	N/A
	Q6	-0.020	±0.010	±0.044
	Q7	-0.040	±0.010	±0.054
	Q8	-0.095	±0.019	±0.090
	Q9	-0.130	±0.028	±0.120
	Q10	-0.180	±0.045	±0.190

	Quality Classes	Quality Tolerances	Pitch Error

	Quality Classes	Tooth Thickness Error (mm)	Single Pitch Error (mm)	Total Pitch Error (mm)
M8 L500	Q5	-0.015	±0.008	±0.026
	Q6	-0.020	±0.010	±0.035
	Q7	-0.040	±0.010	±0.042
	Q8	-0.066	±0.021	±0.081
	Q9	-0.085	±0.028	±0.110
	Q10	-0.120	±0.048	±0.180

	Quality Classes	Tooth Thickness Error (mm)	Single Pitch Error (mm)	Total Pitch Error (mm)
M8 L1000	Q5	-0.015	±0.008	±0.030
	Q6	-0.020	±0.011	±0.040
	Q7	-0.040	±0.011	±0.044
	Q8	-0.066	±0.021	±0.084
	Q9	-0.085	±0.028	±0.110
	Q10	-0.120	±0.048	±0.180

	Quality Classes	Tooth Thickness Error (mm)	Single Pitch Error (mm)	Total Pitch Error (mm)
M8 L1500	Q5	N/A	N/A	N/A
	Q6	-0.020	±0.011	±0.041
	Q7	-0.040	±0.011	±0.051
	Q8	-0.095	±0.021	±0.090
	Q9	-0.130	±0.031	±0.130
	Q10	-0.180	±0.050	±0.200

	Quality Classes	Tooth Thickness Error (mm)	Single Pitch Error (mm)	Total Pitch Error (mm)
M8 L2000	Q5	N/A	N/A	N/A
	Q6	-0.020	±0.011	±0.044
	Q7	-0.040	±0.011	±0.054
	Q8	-0.095	±0.021	±0.095
	Q9	-0.130	±0.031	±0.130
	Q10	-0.180	±0.050	±0.200

	Quality Classes	Quality Tolerances	Pitch Error

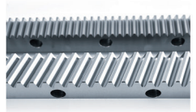
	Quality Classes	Tooth Thickness Error (mm)	Single Pitch Error (mm)	Total Pitch Error (mm)
M10 L500	Q5	-0.015	±0.008	±0.026
	Q6	-0.020	±0.016	±0.026
	Q7	-0.040	±0.016	±0.042
	Q8	-0.066	±0.022	±0.060
	Q9	-0.085	±0.030	±0.110
	Q10	-0.120	±0.048	±0.180

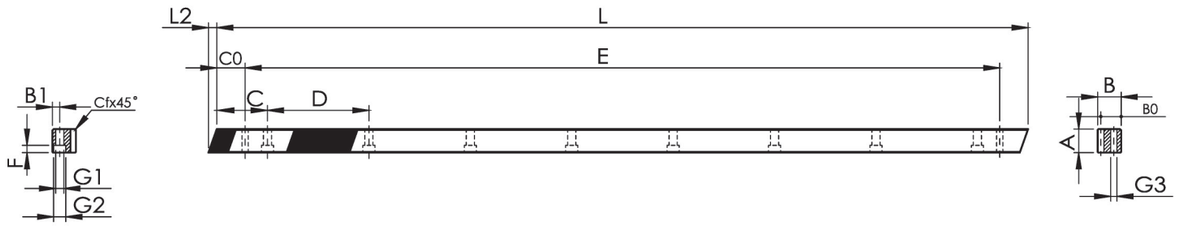
	Quality Classes	Tooth Thickness Error (mm)	Single Pitch Error (mm)	Total Pitch Error (mm)
M10 L1000	Q5	-0.015	±0.008	±0.030
	Q6	-0.036	±0.016	±0.034
	Q7	-0.040	±0.016	±0.043
	Q8	-0.066	±0.022	±0.060
	Q9	-0.085	±0.030	±0.110
	Q10	-0.120	±0.048	±0.180

Q5 - C45

Specifications

Quality	Din5	Heat - Treatment	Teeth Induction Hardened
Material	C45 (Carbon Steel)	Hardness	HRC 50-55
Helical Angle	19° 31´ 42" Right Hand	Surface	Ground Surfaces and Ground Teeth
Pressure Angle	20°		





Dimensions (M: Module • Pt: Tooth Pitch • Z: Number of Teeth)

Item Code	M	L	L2	Pt	Z	A	B	B0	C	D	N° of Holes	B1	G1	G2	F	C0	E	G3	KG
SHGH1.50505	1.5	500	6	5.0000	100	17	17	15.5	62.50	125	4	8	6	9.5	7	31.7	436.6	5.7	1.3
SHGH1.51005	1.5	1000	6	5.0000	200	17	17	15.5	62.50	125	8	8	6	9.5	7	31.7	936.6	5.7	2.6
SHGH020505	2	500	8.5	6.6666	75	24	24	22.0	62.50	125	4	8	7	11.0	7	31.7	436.6	5.7	2.1
SHGH021005	2	1000	8.5	6.6666	150	24	24	22.0	62.50	125	8	8	7	11.0	7	31.7	936.6	5.7	4.1
SHGH021505	2	1500	8.5	6.6666	225	24	24	22.0	62.50	125	12	8	7	11.0	7	31.7	1436.6	5.7	6.1
SHGH022005	2	2000	8.5	6.6666	300	24	24	22.0	62.50	125	16	8	7	11.0	7	31.7	1936.6	5.7	8.1
SHGH030505	3	500	10.3	10.0000	50	29	29	26.0	62.50	125	4	9	10	15.0	9	35.0	430.0	7.7	2.9
SHGH031005	3	1000	10.3	10.0000	100	29	29	26.0	62.50	125	8	9	10	15.0	9	35.0	930.0	7.7	5.7
SHGH031505	3	1500	10.3	10.0000	150	29	29	26.0	62.50	125	12	9	10	15.0	9	35.0	1430.0	7.7	8.5
SHGH032005	3	2000	10.3	10.0000	200	29	29	26.0	62.50	125	16	9	10	15.0	9	35.0	1930.0	7.7	11.4
SHGH040505	4	506.67	13.8	13.3333	38	39	39	35.0	62.50	125	4	12	10	15.0	9	33.3	433.4	7.7	5.3
SHGH041005	4	1000	13.8	13.3333	75	39	39	35.0	62.50	125	8	12	10	15.0	9	33.3	933.4	7.7	10.4
SHGH041505	4	1506.67	13.8	13.3333	113	39	39	35.0	62.50	125	12	12	10	15.0	9	33.3	1440.1	11.7	15.7
SHGH042005	4	2000	13.8	13.3333	150	39	39	35.0	62.50	125	16	12	10	15.0	9	33.3	1933.4	11.7	20.8
SHGH050505	5	500	17.4	16.6666	30	49	39	34.0	62.50	125	4	12	14	20.0	13	37.5	425.0	11.7	6.1
SHGH051005	5	1000	17.4	16.6666	60	49	39	34.0	62.50	125	8	12	14	20.0	13	37.5	925.0	11.7	12.3
SHGH060505	6	500	20.9	20.0000	25	59	49	43.0	62.50	125	4	16	18	26.0	17	37.5	425.0	15.7	9.1
SHGH061005	6	1000	20.9	20.0000	50	59	49	43.0	62.50	125	8	16	18	26.0	17	37.5	925.0	15.7	18.4
SHGH080505	8	500	28	26.6667	18	79	79	71.0	60.00	120	4	25	22	33.0	21	120.0	240.0	19.7	20.0
SHGH081005	8	1000	28	26.6667	36	79	79	71.0	60.00	120	8	25	22	33.0	21	120.0	720.0	19.7	40.2
SHGH100505	10	500	35.11	33.3333	15	99	99	89.0	62.50	125	4	32	33	48.0	32	125.0	250.0	19.7	35.0
SHGH101005	10	1000	35.11	33.3333	30	99	99	89.0	62.50	125	8	32	33	48.0	32	125.0	750.0	19.7	68.7

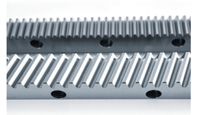
Notes: Available Material on rack- Carbon Steel/42CrMo4/Stainless/Aluminum alloy.

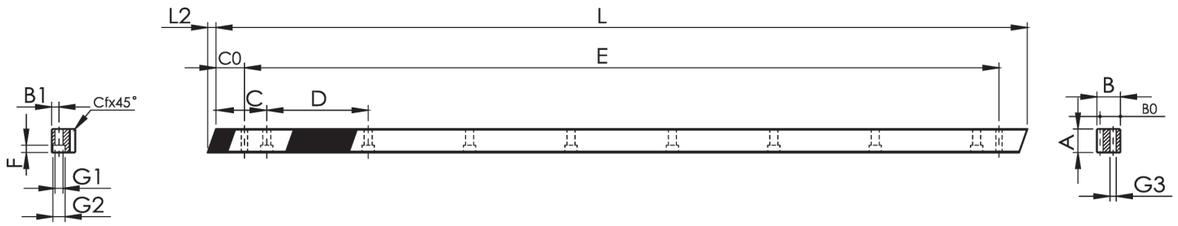
KAI HE MACHINERY CO., LTD
HELICAL RACK SERIES - SHGH

Q6 - C45

Specifications

Quality	Din6	Heat - Treatment	Teeth Induction Hardened
Material	C45 (Carbon Steel)	Hardness	HRC 50-55
Helical Angle	19° 31´ 42" Right Hand	Surface	Ground Surfaces and Ground Teeth
Pressure Angle	20°		





Dimensions (M: Module • Pt: Tooth Pitch • Z: Number of Teeth)

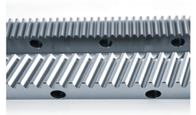
Item Code	M	L	L2	Pt	Z	A	B	B0	C	D	N° of Holes	B1	G1	G2	F	C0	E	G3	KG
SHGH1.50506	1.5	500	6	5.0000	100	17	17	15.5	62.50	125	4	8	6	9.5	7	31.7	436.6	5.7	1.3
SHGH1.51006	1.5	1000	6	5.0000	200	17	17	15.5	62.50	125	8	8	6	9.5	7	31.7	936.6	5.7	2.6
SHGH1.51506	1.5	1500	6	5.0000	300	17	17	15.5	62.50	125	12	8	6	9.5	7	31.7	1436.6	5.7	3.8
SHGH1.52006	1.5	2000	6	5.0000	400	17	17	15.5	62.50	125	16	8	6	9.5	7	31.7	1936.6	5.7	5.4
SHGH020506	2	500	8.5	6.6666	75	24	24	22.0	62.50	125	4	8	7	11.0	7	31.7	436.6	5.7	2.1
SHGH021006	2	1000	8.5	6.6666	150	24	24	22.0	62.50	125	8	8	7	11.0	7	31.7	936.6	5.7	4.1
SHGH021506	2	1500	8.5	6.6666	225	24	24	22.0	62.50	125	12	8	7	11.0	7	31.7	1436.6	5.7	6.1
SHGH022006	2	2000	8.5	6.6666	300	24	24	22.0	62.50	125	16	8	7	11.0	7	31.7	1936.6	5.7	8.1
SHGH030506	3	500	10.3	10.0000	50	29	29	26.0	62.50	125	4	9	10	15.0	9	35.0	430.0	7.7	2.9
SHGH031006	3	1000	10.3	10.0000	100	29	29	26.0	62.50	125	8	9	10	15.0	9	35.0	930.0	7.7	5.7
SHGH031506	3	1500	10.3	10.0000	150	29	29	26.0	62.50	125	12	9	10	15.0	9	35.0	1430.0	7.7	8.5
SHGH032006	3	2000	10.3	10.0000	200	29	29	26.0	62.50	125	16	9	10	15.0	9	35.0	1930.0	7.7	11.4
SHGH040506	4	506.67	13.8	13.3333	38	39	39	35.0	62.50	125	4	12	10	15.0	9	33.3	433.4	7.7	5.4
SHGH041006	4	1000	13.8	13.3333	75	39	39	35.0	62.50	125	8	12	10	15.0	9	33.3	933.4	7.7	10.4
SHGH041506	4	1506.67	13.8	13.3333	113	39	39	35.0	62.50	125	12	12	10	15.0	9	33.3	1440.1	11.7	15.7
SHGH042006	4	2000	13.8	13.3333	150	39	39	35.0	62.50	125	16	12	10	15.0	9	33.3	1933.4	11.7	20.8
SHGH050506	5	500	17.4	16.6666	30	49	39	34.0	62.50	125	4	12	14	20.0	13	37.5	425.0	11.7	6.1
SHGH051006	5	1000	17.4	16.6666	60	49	39	34.0	62.50	125	8	12	14	20.0	13	37.5	925.0	11.7	12.3
SHGH051506	5	1500	17.4	16.6666	90	49	39	34.0	62.50	125	12	12	14	20.0	13	37.5	1425.0	11.7	18.5
SHGH052006	5	2000	17.4	16.6666	120	49	39	34.0	62.50	125	16	12	14	20.0	13	37.5	1925.0	11.7	24.7
SHGH060506	6	500	20.9	20.0000	25	59	49	43.0	62.50	125	4	16	18	26.0	17	37.5	425.0	15.7	9.1
SHGH061006	6	1000	20.9	20.0000	50	59	49	43.0	62.50	125	8	16	18	26.0	17	37.5	925.0	15.7	18.4
SHGH061506	6	1500	20.9	20.0000	75	59	49	43.0	62.50	125	12	16	18	26.0	17	37.5	1425.0	15.7	27.6
SHGH062006	6	2000	20.9	20.0000	100	59	49	43.0	62.50	125	16	16	18	26.0	17	37.5	1925.0	15.7	36.9
SHGH080506	8	480	28	26.6667	18	79	79	71.0	60.00	120	4	25	22	33.0	21	120.0	240.0	19.7	20.0
SHGH081006	8	960	28	26.6667	36	79	79	71.0	60.00	120	8	25	22	33.0	21	120.0	720.0	19.7	40.2
SHGH081506	8	1440	28	26.6667	54	79	79	71.0	60.00	120	12	25	22	33.0	21	120.0	1200.0	19.7	59.6
SHGH082006	8	1920	28	26.6667	72	79	79	71.0	60.00	120	16	25	22	33.0	21	120.0	1680.0	19.7	80.8
SHGH100506	10	500	35.11	33.3333	15	99	99	89.0	62.50	125	4	32	33	48.0	32	125.0	250.0	19.7	35.0
SHGH101006	10	1000	35.11	33.3333	30	99	99	89.0	62.50	125	8	32	33	48.0	32	125.0	750.0	19.7	68.7

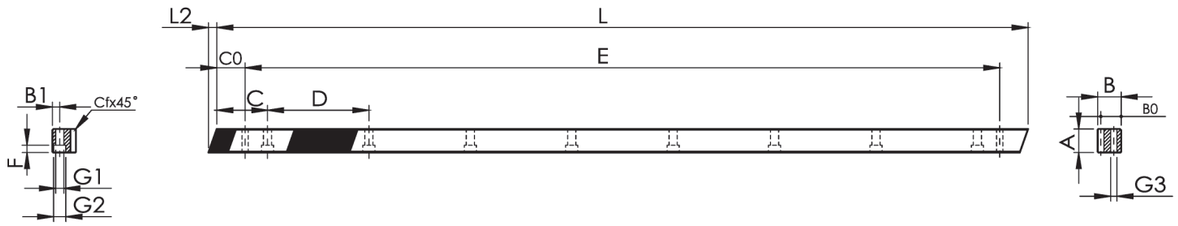
Notes: Available Material on rack- Carbon Steel/42CrMo4/Stainless/Aluminum alloy.

Q7 - C45

Specifications

Quality	Din7	Heat - Treatment	Teeth Induction Hardened
Material	C45 (Carbon Steel)	Hardness	HRC 50-55
Helical Angle	19° 31´ 42" Right Hand	Surface	Ground Surfaces and Ground Teeth
Pressure Angle	20°		





Dimensions (M: Module • Pt: Tooth Pitch • Z: Number of Teeth)

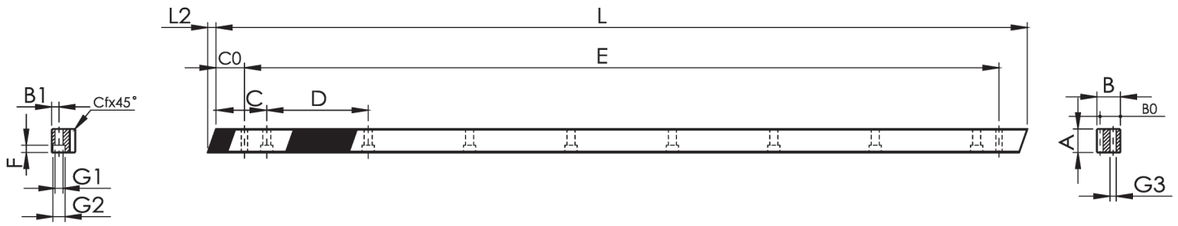
Item Code	M	L	L2	Pt	Z	A	B	B0	C	D	N° of Holes	B1	G1	G2	F	C0	E	G3	KG
SHGH1.50507	1.5	500	6	5.0000	100	17	17	15.5	62.50	125	4	8	6	9.5	7	31.7	436.6	5.7	1.3
SHGH1.51007	1.5	1000	6	5.0000	200	17	17	15.5	62.50	125	8	8	6	9.5	7	31.7	936.6	5.7	2.6
SHGH1.51507	1.5	1500	6	5.0000	300	17	17	15.5	62.50	125	12	8	6	9.5	7	31.7	1436.6	5.7	3.8
SHGH1.52007	1.5	2000	6	5.0000	400	17	17	15.5	62.50	125	16	8	6	9.5	7	31.7	1936.6	5.7	5.4
SHGH020507	2	500	8.5	6.6666	75	24	24	22.0	62.50	125	4	8	7	11.0	7	31.7	436.6	5.7	2.1
SHGH021007	2	1000	8.5	6.6666	150	24	24	22.0	62.50	125	8	8	7	11.0	7	31.7	936.6	5.7	4.1
SHGH021507	2	1500	8.5	6.6666	225	24	24	22.0	62.50	125	12	8	7	11.0	7	31.7	1436.6	5.7	6.1
SHGH022007	2	2000	8.5	6.6666	300	24	24	22.0	62.50	125	16	8	7	11.0	7	31.7	1936.6	5.7	8.1
SHGH030507	3	500	10.3	10.0000	50	29	29	26.0	62.50	125	4	9	10	15.0	9	35.0	430.0	7.7	2.9
SHGH031007	3	1000	10.3	10.0000	100	29	29	26.0	62.50	125	8	9	10	15.0	9	35.0	930.0	7.7	5.8
SHGH031507	3	1500	10.3	10.0000	150	29	29	26.0	62.50	125	12	9	10	15.0	9	35.0	1430.0	7.7	8.5
SHGH032007	3	2000	10.3	10.0000	200	29	29	26.0	62.50	125	16	9	10	15.0	9	35.0	1930.0	7.7	11.4
SHGH040507	4	506.67	13.8	13.3333	38	39	39	35.0	62.50	125	4	12	10	15.0	9	33.3	433.4	7.7	5.4
SHGH041007	4	1000	13.8	13.3333	75	39	39	35.0	62.50	125	8	12	10	15.0	9	33.3	933.4	7.7	10.4
SHGH041507	4	1506.67	13.8	13.3333	113	39	39	35.0	62.50	125	12	12	10	15.0	9	33.3	1440.1	11.7	15.7
SHGH042007	4	2000	13.8	13.3333	150	39	39	35.0	62.50	125	16	12	10	15.0	9	33.3	1933.4	11.7	20.8
SHGH050507	5	500	17.4	16.6666	30	49	39	34.0	62.50	125	4	12	14	20.0	13	37.5	425.0	11.7	6.1
SHGH051007	5	1000	17.4	16.6666	60	49	39	34.0	62.50	125	8	12	14	20.0	13	37.5	925.0	11.7	12.3
SHGH051507	5	1500	17.4	16.6666	90	49	39	34.0	62.50	125	12	12	14	20.0	13	37.5	1425.0	11.7	18.5
SHGH052007	5	2000	17.4	16.6666	120	49	39	34.0	62.50	125	16	12	14	20.0	13	37.5	1925.0	11.7	24.7
SHGH060507	6	500	20.9	20.0000	25	59	49	43.0	62.50	125	4	16	18	26.0	17	37.5	425.0	15.7	9.1
SHGH061007	6	1000	20.9	20.0000	50	59	49	43.0	62.50	125	8	16	18	26.0	17	37.5	925.0	15.7	18.4
SHGH061507	6	1500	20.9	20.0000	75	59	49	43.0	62.50	125	12	16	18	26.0	17	37.5	1425.0	15.7	27.6
SHGH062007	6	2000	20.9	20.0000	100	59	49	43.0	62.50	125	16	16	18	26.0	17	37.5	1925.0	15.7	36.9
SHGH080507	8	480	28	26.6667	18	79	79	71.0	60.00	120	4	25	22	33.0	21	120.0	240.0	19.7	20.0
SHGH081007	8	960	28	26.6667	36	79	79	71.0	60.00	120	8	25	22	33.0	21	120.0	720.0	19.7	40.2
SHGH081507	8	1440	28	26.6667	54	79	79	71.0	60.00	120	12	25	22	33.0	21	120.0	1200.0	19.7	59.6
SHGH082007	8	1920	28	26.6667	72	79	79	71.0	60.00	120	16	25	22	33.0	21	120.0	1680.0	19.7	80.8
SHGH100507	10	500	35.11	33.3333	15	99	99	89.0	62.50	125	4	32	33	48.0	32	125.0	250.0	19.7	35.0
SHGH101007	10	1000	35.11	33.3333	30	99	99	89.0	62.50	125	8	32	33	48.0	32	125.0	750.0	19.7	68.7

Notes: Available Material on rack- Carbon Steel/42CrMo4/Stainless/Aluminum alloy.

Q8 - C45

Specifications

Quality	Din8	Heat - Treatment	Material Quenched
Material	C45 (Carbon Steel)	Hardness	HRC 15-20
Helical Angle	19° 31´ 42" Right Hand	Surface	Milled Surfaces and Milled Teeth
Pressure Angle	20°		



Dimensions (M: Module • Pt: Tooth Pitch • Z: Number of Teeth)

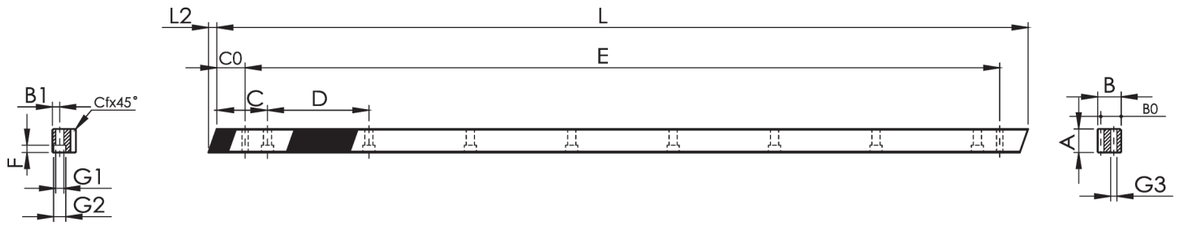
Item Code	M	L	L2	Pt	Z	A	B	B0	C	D	N° of Holes	B1	G1	G2	F	C0	E	G3	KG
SHFQ1.50508	1.5	500	6	5.0000	100	17	17	15.5	62.50	125	4	8	6	9.5	7	31.7	436.6	5.7	1.3
SHFQ1.51008	1.5	1000	6	5.0000	200	17	17	15.5	62.50	125	8	8	6	9.5	7	31.7	936.6	5.7	2.6
SHFQ1.51508	1.5	1500	6	5.0000	300	17	17	15.5	62.50	125	12	8	6	9.5	7	31.7	1436.6	5.7	3.8
SHFQ1.52008	1.5	2000	6	5.0000	400	17	17	15.5	62.50	125	16	8	6	9.5	7	31.7	1936.6	5.7	5.4
SHFQ020508	2	500	8.5	6.6666	75	25	24	22.0	62.50	125	4	8	7	11.0	7	31.7	436.6	5.7	2.1
SHFQ021008	2	1000	8.5	6.6666	150	25	24	22.0	62.50	125	8	8	7	11.0	7	31.7	936.6	5.7	4.1
SHFQ021508	2	1500	8.5	6.6666	225	25	24	22.0	62.50	125	12	8	7	11.0	7	31.7	1436.6	5.7	6.1
SHFQ022008	2	2000	8.5	6.6666	300	25	24	22.0	62.50	125	16	8	7	11.0	7	31.7	1936.6	5.7	8.1
SHFQ030508	3	500	10.3	10.0000	50	30	29	26.0	62.50	125	4	9	10	15.0	9	35.0	430.0	7.7	2.9
SHFQ031008	3	1000	10.3	10.0000	100	30	29	26.0	62.50	125	8	9	10	15.0	9	35.0	930.0	7.7	5.8
SHFQ031508	3	1500	10.3	10.0000	150	30	29	26.0	62.50	125	12	9	10	15.0	9	35.0	1430.0	7.7	8.5
SHFQ032008	3	2000	10.3	10.0000	200	30	29	26.0	62.50	125	16	9	10	15.0	9	35.0	1930.0	7.7	11.4
SHFQ040508	4	506.67	13.8	13.3333	38	40	39	35.0	62.50	125	4	12	10	15.0	9	33.3	433.4	7.7	5.4
SHFQ041008	4	1000	13.8	13.3333	75	40	39	35.0	62.50	125	8	12	10	15.0	9	33.3	933.4	7.7	10.4
SHFQ041508	4	1506.67	13.8	13.3333	113	40	39	35.0	62.50	125	12	12	10	15.0	9	33.3	1440.1	7.7	15.7
SHFQ042008	4	2000	13.8	13.3333	150	40	39	35.0	62.50	125	16	12	10	15.0	9	33.3	1933.4	7.7	20.8
SHFQ050508	5	500	17.4	16.6666	30	50	39	34.0	62.50	125	4	12	14	20.0	13	37.5	425.0	11.7	6.1
SHFQ051008	5	1000	17.4	16.6666	60	50	39	34.0	62.50	125	8	12	14	20.0	13	37.5	925.0	11.7	12.3
SHFQ051508	5	1500	17.4	16.6666	90	50	39	34.0	62.50	125	12	12	14	20.0	13	37.5	1425.0	11.7	18.5
SHFQ052008	5	2000	17.4	16.6666	120	50	39	34.0	62.50	125	16	12	14	20.0	13	37.5	1925.0	11.7	24.7
SHFQ060508	6	500	20.9	20.0000	25	59	49	43.0	62.50	125	4	16	18	26.0	17	37.5	425.0	15.7	9.1
SHFQ061008	6	1000	20.9	20.0000	50	59	49	43.0	62.50	125	8	16	18	26.0	17	37.5	925.0	15.7	18.4
SHFQ061508	6	1500	20.9	20.0000	75	59	49	43.0	62.50	125	12	16	18	26.0	17	37.5	1425.0	15.7	27.6
SHFQ062008	6	2000	20.9	20.0000	100	59	49	43.0	62.50	125	16	16	18	26.0	17	37.5	1925.0	15.7	36.9
SHFQ080508	8	480	28	26.6667	18	79	79	71.0	60.00	120	4	25	22	33.0	21	120.0	240.0	19.7	20.0
SHFQ081008	8	960	28	26.6667	36	79	79	71.0	60.00	120	8	25	22	33.0	21	120.0	720.0	19.7	40.2
SHFQ081508	8	1440	28	26.6667	54	79	79	71.0	60.00	120	12	25	22	33.0	21	120.0	1200.0	19.7	59.6
SHFQ082008	8	1920	28	26.6667	72	79	79	71.0	60.00	120	16	25	22	33.0	21	120.0	1680.0	19.7	80.8
SHFQ100508	10	500	35.11	33.3333	15	99	99	89.0	62.50	125	4	32	33	48.0	32	125.0	250.0	19.7	35.0
SHFQ101008	10	1000	35.11	33.3333	30	99	99	89.0	62.50	125	8	32	33	48.0	32	125.0	750.0	19.7	68.7

Notes: Available Material on rack- Carbon Steel/42CrMo4/Stainless/Aluminum alloy.

Q9 - C45

Specifications

Quality	Din9	Heat - Treatment	Soft
Material	C45 (Carbon Steel)	Hardness	HRC 8-12
Helical Angle	19° 31´ 42" Right Hand	Surface	Milled Surfaces and Milled Teeth
Pressure Angle	20°		



Dimensions (M: Module • Pt: Tooth Pitch • Z: Number of Teeth)

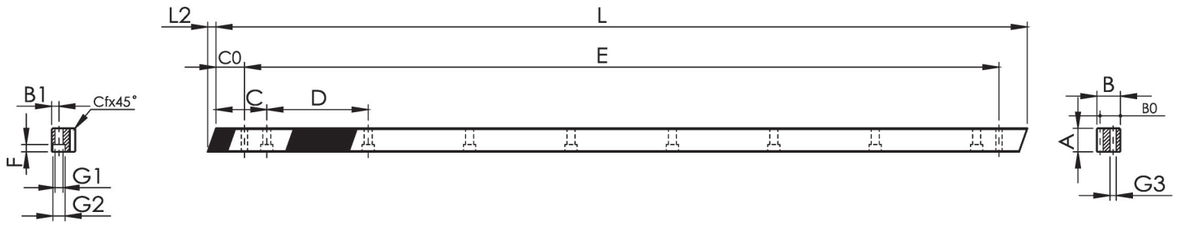
Item Code	M	L	L2	Pt	Z	A	B	B0	C	D	N° of Holes	B1	G1	G2	F	C0	E	G3	KG
SHF1.50509	1.5	500	6	5.0000	100	17	17	15.5	62.50	125	4	8	6	9.5	7	31.7	436.6	5.7	1.4
SHF1.51009	1.5	1000	6	5.0000	200	17	17	15.5	62.50	125	8	8	6	9.5	7	31.7	936.6	5.7	2.7
SHF1.51509	1.5	1500	6	5.0000	300	17	17	15.5	62.50	125	12	8	6	9.5	7	31.7	1436.6	5.7	4.0
SHF1.52009	1.5	2000	6	5.0000	400	17	17	15.5	62.50	125	16	8	6	9.5	7	31.7	1936.6	5.7	5.4
SHF020509	2	500	8.5	6.6666	75	24	24	22.0	62.50	125	4	8	7	11.0	7	31.7	436.6	5.7	2.1
SHF021009	2	1000	8.5	6.6666	150	24	24	22.0	62.50	125	8	8	7	11.0	7	31.7	936.6	5.7	4.2
SHF021509	2	1500	8.5	6.6666	225	24	24	22.0	62.50	125	12	8	7	11.0	7	31.7	1436.6	5.7	6.3
SHF022009	2	2000	8.5	6.6666	300	24	24	22.0	62.50	125	16	8	7	11.0	7	31.7	1936.6	5.7	8.4
SHF030509	3	500	10.3	10.0000	50	29	29	26.0	62.50	125	4	9	10	15.0	9	35.0	430.0	7.7	3.0
SHF031009	3	1000	10.3	10.0000	100	29	29	26.0	62.50	125	8	9	10	15.0	9	35.0	930.0	7.7	5.9
SHF031509	3	1500	10.3	10.0000	150	29	29	26.0	62.50	125	12	9	10	15.0	9	35.0	1430.0	7.7	8.8
SHF032009	3	2000	10.3	10.0000	200	29	29	26.0	62.50	125	16	9	10	15.0	9	35.0	1930.0	7.7	11.8
SHF040509	4	506.67	13.8	13.3333	38	39	39	35.0	62.50	125	4	12	10	15.0	9	33.3	433.4	7.7	5.4
SHF041009	4	1000	13.8	13.3333	75	39	39	35.0	62.50	125	8	12	10	15.0	9	33.3	933.4	7.7	10.7
SHF041509	4	1506.67	13.8	13.3333	113	39	39	35.0	62.50	125	12	12	10	15.0	9	33.3	1440.1	7.7	16.1
SHF042009	4	2000	13.8	13.3333	150	39	39	35.0	62.50	125	16	12	10	15.0	9	33.3	1933.4	7.7	21.3
SHF050509	5	500	17.4	16.6666	30	49	39	34.0	62.50	125	4	12	14	20.0	13	37.5	425.0	11.7	6.3
SHF051009	5	1000	17.4	16.6666	60	49	39	34.0	62.50	125	8	12	14	20.0	13	37.5	925.0	11.7	12.6
SHF051509	5	1500	17.4	16.6666	90	49	39	34.0	62.50	125	12	12	14	20.0	13	37.5	1425.0	11.7	18.9
SHF052009	5	2000	17.4	16.6666	120	49	39	34.0	62.50	125	16	12	14	20.0	13	37.5	1925.0	11.7	25.2
SHF060509	6	500	20.9	20.0000	25	59	49	43.0	62.50	125	4	16	18	26.0	17	37.5	425.0	15.7	9.3
SHF061009	6	1000	20.9	20.0000	50	59	49	43.0	62.50	125	8	16	18	26.0	17	37.5	925.0	15.7	18.7
SHF061509	6	1500	20.9	20.0000	75	59	49	43.0	62.50	125	12	16	18	26.0	17	37.5	1425.0	15.7	28.1
SHF062009	6	2000	20.9	20.0000	100	59	49	43.0	62.50	125	16	16	18	26.0	17	37.5	1925.0	15.7	37.5
SHF080509	8	480	28	26.6667	18	79	79	71.0	60.00	120	4	25	22	33.0	21	120.0	240.0	19.7	20.0
SHF081009	8	960	28	26.6667	36	79	79	71.0	60.00	120	8	25	22	33.0	21	120.0	720.0	19.7	40.2
SHF081509	8	1440	28	26.6667	54	79	79	71.0	60.00	120	12	25	22	33.0	21	120.0	1200.0	19.7	59.6
SHF082009	8	1920	28	26.6667	72	79	79	71.0	60.00	120	16	25	22	33.0	21	120.0	1680.0	19.7	80.8
SHF100509	10	500	35.11	33.3333	15	99	99	89.0	62.50	125	4	32	33	48.0	32	125.0	250.0	19.7	35.0
SHF101009	10	1000	35.11	33.3333	30	99	99	89.0	62.50	125	8	32	33	48.0	32	125.0	750.0	19.7	68.7

Notes: Available Material on rack- Carbon Steel/42CrMo4/Stainless/Aluminum alloy.

Q10 - C45

Specifications

Quality	Din10	Heat - Treatment	Teeth Induction Hardened
Material	C45 (Carbon Steel)	Hardness	HRC 50-55
Helical Angle	19° 31´ 42" Right Hand	Surface	Milled Surfaces and Milled Teeth
Pressure Angle	20°	Finishing	Options



Dimensions (M: Module • Pt: Tooth Pitch • Z: Number of Teeth)

Item Code	M	L	L2	Pt	Z	A	B	B0	C	D	N° of Holes	B1	G1	G2	F	C0	E	G3	KG
SHFH1.50510	1.5	500	6	5.0000	100	17	17	15.5	62.50	125	4	8	6	9.5	7	31.7	436.6	5.7	1.4
SHFH1.51010	1.5	1000	6	5.0000	200	17	17	15.5	62.50	125	8	8	6	9.5	7	31.7	936.6	5.7	2.8
SHFH1.51510	1.5	1500	6	5.0000	300	17	17	15.5	62.50	125	12	8	6	9.5	7	31.7	1436.6	5.7	4.3
SHFH1.52010	1.5	2000	6	5.0000	400	17	17	15.5	62.50	125	16	8	6	9.5	7	31.7	1936.6	5.7	5.4
SHFH020510	2	500	8.5	6.6666	75	24	24	22.0	62.50	125	4	8	7	11.0	7	31.7	436.6	5.7	2.2
SHFH021010	2	1000	8.5	6.6666	150	24	24	22.0	62.50	125	8	8	7	11.0	7	31.7	936.6	5.7	4.4
SHFH021510	2	1500	8.5	6.6666	225	24	24	22.0	62.50	125	12	8	7	11.0	7	31.7	1436.6	5.7	6.6
SHFH022010	2	2000	8.5	6.6666	300	24	24	22.0	62.50	125	16	8	7	11.0	7	31.7	1936.6	5.7	8.8
SHFH030510	3	500	10.3	10.0000	50	29	29	26.0	62.50	125	4	9	10	15.0	9	35.0	430.0	7.7	3.1
SHFH031010	3	1000	10.3	10.0000	100	29	29	26.0	62.50	125	8	9	10	15.0	9	35.0	930.0	7.7	6.1
SHFH031510	3	1500	10.3	10.0000	150	29	29	26.0	62.50	125	12	9	10	15.0	9	35.0	1430.0	7.7	9.2
SHFH032010	3	2000	10.3	10.0000	200	29	29	26.0	62.50	125	16	9	10	15.0	9	35.0	1930.0	7.7	12.2
SHFH040510	4	506.67	13.8	13.3333	38	39	39	35.0	62.50	125	4	12	10	15.0	9	33.3	433.4	7.7	5.5
SHFH041010	4	1000	13.8	13.3333	75	39	39	35.0	62.50	125	8	12	10	15.0	9	33.3	933.4	7.7	11.0
SHFH041510	4	1506.67	13.8	13.3333	113	39	39	35.0	62.50	125	12	12	10	15.0	9	33.3	1440.1	7.7	16.1
SHFH042010	4	2000	13.8	13.3333	150	39	39	35.0	62.50	125	16	12	10	15.0	9	33.3	1933.4	7.7	22.0
SHFH050509	5	500	17.4	16.6666	30	49	39	34.0	62.50	125	4	12	14	20.0	13	37.5	425.0	11.7	6.5
SHFH051009	5	1000	17.4	16.6666	60	49	39	34.0	62.50	125	8	12	14	20.0	13	37.5	925.0	11.7	13.0
SHFH051509	5	1500	17.4	16.6666	90	49	39	34.0	62.50	125	12	12	14	20.0	13	37.5	1425.0	11.7	19.5
SHFH052009	5	2000	17.4	16.6666	120	49	39	34.0	62.50	125	16	12	14	20.0	13	37.5	1925.0	11.7	26.0
SHFH060510	6	500	20.9	20.0000	25	59	49	43.0	62.50	125	4	16	18	26.0	17	37.5	425.0	15.7	9.5
SHFH061010	6	1000	20.9	20.0000	50	59	49	43.0	62.50	125	8	16	18	26.0	17	37.5	925.0	15.7	19.2
SHFH061510	6	1500	20.9	20.0000	75	59	49	43.0	62.50	125	12	16	18	26.0	17	37.5	1425.0	15.7	28.7
SHFH062010	6	2000	20.9	20.0000	100	59	49	43.0	62.50	125	16	16	18	26.0	17	37.5	1925.0	15.7	38.5
SHFH080510	8	480	28	26.6667	18	79	79	71.0	60.00	120	4	25	22	33.0	21	120.0	240.0	19.7	20.0
SHFH081010	8	960	28	26.6667	36	79	79	71.0	60.00	120	8	25	22	33.0	21	120.0	720.0	19.7	40.2
SHFH081510	8	1440	28	26.6667	54	79	79	71.0	60.00	120	12	25	22	33.0	21	120.0	1200.0	19.7	59.6
SHFH082010	8	1920	28	26.6667	72	79	79	71.0	60.00	120	16	25	22	33.0	21	120.0	1680.0	19.7	80.8
SHFH100510	10	500	35.11	33.3333	15	99	99	89.0	62.50	125	4	32	33	48.0	32	125.0	250.0	19.7	35.0
SHFH101010	10	1000	35.11	33.3333	30	99	99	89.0	62.50	125	8	32	33	48.0	32	125.0	750.0	19.7	68.7

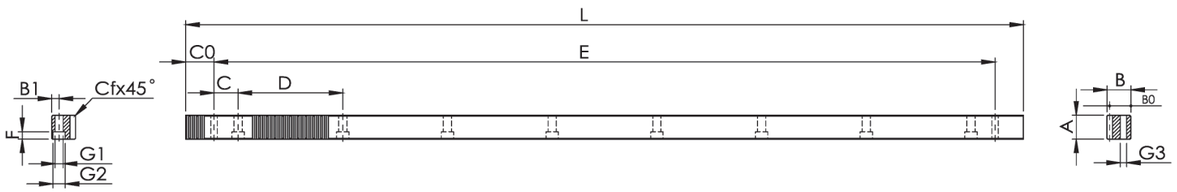
Notes: Available Material on rack- Carbon Steel/42CrMo4/Stainless/Aluminum alloy.

KAI HE MACHINERY CO., LTD
STRAIGHT RACK SERIES - SSGH

Q5 - C45

Specifications

Quality	Din5	Heat - Treatment	Teeth Induction Hardened
Material	C45 (Carbon Steel)	Hardness	HRC 50-55
Pressure Angle	20°	Surface	Ground Surfaces and Ground Teeth



Dimensions (M: Module • Pt: Tooth Pitch • Z: Number of Teeth)

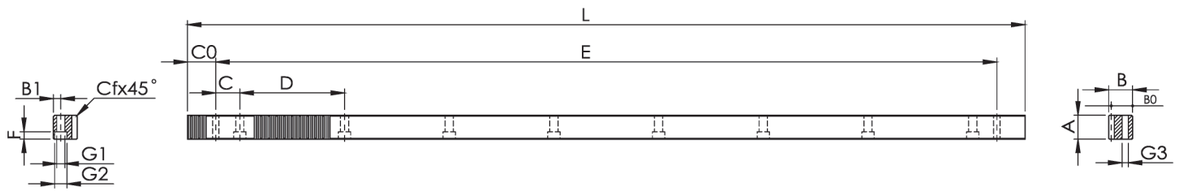
Item Code	M	L	Pt	Z	A	B	B0	C	D	N° of Holes	B1	G1	G2	F	C0	E	G3	KG
SSGH1.50505	1.5	499.51	4.7124	106	17	17	15.5	62.44	124.88	4	8	6	9.5	7	29.0	441.50	5.7	1.3
SSGH1.51005	1.5	999.03	4.7124	212	17	17	15.5	62.44	124.88	8	8	6	9.5	7	29.0	941.00	5.7	2.6
SSGH020505	2	502.64	6.2832	80	24	24	22.0	62.83	125.66	4	8	7	11.0	7	31.3	440.10	5.7	2.1
SSGH021005	2	1005.28	6.2832	160	24	24	22.0	62.83	125.66	8	8	7	11.0	7	31.3	942.70	5.7	4.1
SSGH021505	2	1507.97	6.2832	240	24	24	22.0	62.83	125.66	12	8	7	11.0	7	31.3	1445.40	5.7	6.1
SSGH022005	2	2010.62	6.2832	320	24	24	22.0	62.83	125.66	16	8	7	11.0	7	31.3	1948.00	5.7	8.2
SSGH030505	3	508.95	9.4248	54	29	29	26.0	63.62	127.23	4	9	10	15.0	9	34.4	440.10	7.7	2.9
SSGH031005	3	1017.90	9.4248	108	29	29	26.0	63.62	127.23	8	9	10	15.0	9	34.4	949.10	7.7	5.8
SSGH031505	3	1526.82	9.4248	162	29	29	26.0	63.62	127.23	12	9	10	15.0	9	34.4	1458.00	7.7	8.7
SSGH032005	3	2035.75	9.4248	216	29	29	26.0	63.62	127.23	16	9	10	15.0	9	34.4	1967.00	7.7	11.6
SSGH040505	4	502.64	12.5664	40	39	39	35.0	62.83	125.66	4	12	10	15.0	9	37.5	427.70	7.7	5.3
SSGH041005	4	1005.28	12.5664	80	39	39	35.0	62.83	125.66	8	12	10	15.0	9	37.5	930.30	7.7	10.5
SSGH041505	4	1507.90	12.5664	120	39	39	35.0	62.83	125.66	12	12	10	15.0	9	37.5	1432.90	7.7	15.7
SSGH042005	4	2010.62	12.5664	160	39	39	35.0	62.83	125.66	16	12	10	15.0	9	37.5	1935.60	7.7	20.9
SSGH050505	5	502.65	15.708	32	49	39	34.0	62.83	125.66	4	12	14	20.0	13	30.1	442.40	11.7	6.2
SSGH051005	5	1005.31	15.708	64	49	39	34.0	62.83	125.66	8	12	14	20.0	13	30.1	945.00	11.7	12.4
SSGH060505	6	508.95	18.8496	27	59	49	43.0	63.62	127.23	4	16	18	26.0	17	31.4	446.10	15.7	9.3
SSGH061005	6	1017.90	18.8496	54	59	49	43.0	63.62	127.23	8	16	18	26.0	17	31.4	955.00	15.7	18.7
SSGH080505	8	502.64	25.1328	20	79	79	71.0	62.83	125.66	4	25	22	33.0	21	26.6	449.50	19.7	21.3
SSGH081005	8	1005.28	25.1328	40	79	79	71.0	62.83	125.66	8	25	22	33.0	21	26.6	952.00	19.7	42.5
SSGH100505	10	502.65	31.4159	16	99	99	89.0	62.83	125.66	12	32	33	48.0	32	125.66	253.96	19.7	35.0
SSGH101005	10	1005.31	31.4159	32	99	99	89.0	62.83	125.66	16	32	33	48.0	32	125.66	753.96	19.7	68.7

Notes: Available Material on rack- Carbon Steel/42CrMo4/Stainless/Aluminum alloy.

Q6 - C45

Specifications

Quality	Din6	Heat - Treatment	Teeth Induction Hardened
Material	C45 (Carbon Steel)	Hardness	HRC 50-55
Pressure Angle	20°	Surface	Ground Surfaces and Ground Teeth



Dimensions (M: Module • Pt: Tooth Pitch • Z: Number of Teeth)

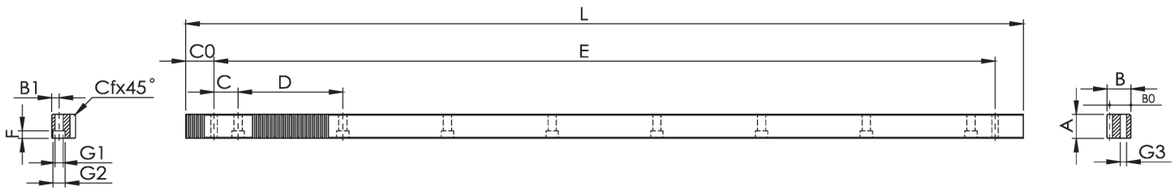
Item Code	M	L	Pt	Z	A	B	B0	C	D	N° of Holes	B1	G1	G2	F	C0	E	G3	KG
SSGH1.50506	1.5	499.51	4.7124	106	17	17	15.5	62.44	124.88	4	8	6	9.5	7	29.0	441.50	5.7	1.3
SSGH1.51006	1.5	999.03	4.7124	212	17	17	15.5	62.44	124.88	8	8	6	9.5	7	29.0	941.00	5.7	2.6
SSGH1.51506	1.5	1498.53	4.7124	318	17	17	15.5	62.44	124.88	12	8	6	9.5	7	29.0	1441.00	5.7	3.9
SSGH1.52006	1.5	1998.05	4.7124	424	17	17	15.5	62.44	124.88	16	8	6	9.5	7	29.0	1941.00	5.7	5.4
SSGH020506	2	502.64	6.2832	80	24	24	22.0	62.83	125.66	4	8	7	11.0	7	31.3	440.10	5.7	2.1
SSGH021006	2	1005.28	6.2832	160	24	24	22.0	62.83	125.66	8	8	7	11.0	7	31.3	942.70	5.7	4.1
SSGH021506	2	1507.97	6.2832	240	24	24	22.0	62.83	125.66	12	8	7	11.0	7	31.3	1445.40	5.7	6.1
SSGH022006	2	2010.62	6.2832	320	24	24	22.0	62.83	125.66	16	8	7	11.0	7	31.3	1948.00	5.7	8.2
SSGH030506	3	508.95	9.4248	54	29	29	26.0	63.62	127.23	4	9	10	15.0	9	34.4	440.10	7.7	2.9
SSGH031006	3	1017.90	9.4248	108	29	29	26.0	63.62	127.23	8	9	10	15.0	9	34.4	949.10	7.7	5.8
SSGH031506	3	1526.82	9.4248	162	29	29	26.0	63.62	127.23	12	9	10	15.0	9	34.4	1458.00	7.7	8.7
SSGH032006	3	2035.75	9.4248	216	29	29	26.0	63.62	127.23	16	9	10	15.0	9	34.4	1967.00	7.7	11.6
SSGH040506	4	502.64	12.5664	40	39	39	35.0	62.83	125.66	4	12	10	15.0	9	37.5	427.70	7.7	5.4
SSGH041006	4	1005.28	12.5664	80	39	39	35.0	62.83	125.66	8	12	10	15.0	9	37.5	930.30	7.7	10.5
SSGH041506	4	1507.90	12.5664	120	39	39	35.0	62.83	125.66	12	12	10	15.0	9	37.5	1432.90	7.7	15.7
SSGH042006	4	2010.62	12.5664	160	39	39	35.0	62.83	125.66	16	12	10	15.0	9	37.5	1935.60	7.7	20.9
SSGH050506	5	502.65	15.708	32	49	39	34.0	62.83	125.66	4	12	14	20.0	13	30.1	442.40	11.7	6.2
SSGH051006	5	1005.31	15.708	64	49	39	34.0	62.83	125.66	8	12	14	20.0	13	30.1	945.00	11.7	12.4
SSGH051506	5	1502.65	15.708	96	49	39	34.0	62.83	125.66	12	12	14	20.0	13	30.1	1447.70	11.7	18.6
SSGH052006	5	2005.31	15.708	128	49	39	34.0	62.83	125.66	16	12	14	20.0	13	30.1	1950.40	11.7	24.8
SSGH060506	6	508.95	18.8496	27	59	49	43.0	63.62	127.23	4	16	18	26.0	17	31.4	446.10	15.7	9.3
SSGH061006	6	1017.90	18.8496	54	59	49	43.0	63.62	127.23	8	16	18	26.0	17	31.4	955.00	15.7	18.7
SSGH061506	6	1508.95	18.8496	81	59	49	43.0	63.62	127.23	12	16	18	26.0	17	31.4	1464.00	15.7	28.2
SSGH062006	6	2017.90	18.8496	108	59	49	43.0	63.62	127.23	16	16	18	26.0	17	31.4	1973.00	15.7	37.6
SSGH080506	8	502.64	25.1328	20	79	79	71.0	62.83	125.66	4	25	22	33.0	21	26.6	449.50	19.7	21.3
SSGH081006	8	1005.28	25.1328	40	79	79	71.0	62.83	125.66	8	25	22	33.0	21	26.6	952.00	19.7	42.5
SSGH081506	8	1502.64	25.1328	60	79	79	71.0	62.83	125.66	12	25	22	33.0	21	26.6	1452.00	19.7	63.6
SSGH082006	8	2005.28	25.1328	80	79	79	71.0	62.83	125.66	16	25	22	33.0	21	26.6	1957.30	19.7	83.6
SSGH100506	10	502.65	31.4159	16	99	99	89.0	62.83	125.66	12	32	33	48.0	32	125.66	253.96	19.7	35.0
SSGH101006	10	1005.31	31.4159	32	99	99	89.0	62.83	125.66	16	32	33	48.0	32	125.66	753.96	19.7	68.7

Notes: Available Material on rack- Carbon Steel/42CrMo4/Stainless/Aluminum alloy.

Q7 - C45

Specifications

Quality	Din7	Heat - Treatment	Teeth Induction Hardened
Material	C45 (Carbon Steel)	Hardness	HRC 50-55
Pressure Angle	20°	Surface	Ground Surfaces and Ground Teeth



Dimensions (M: Module • Pt: Tooth Pitch • Z: Number of Teeth)

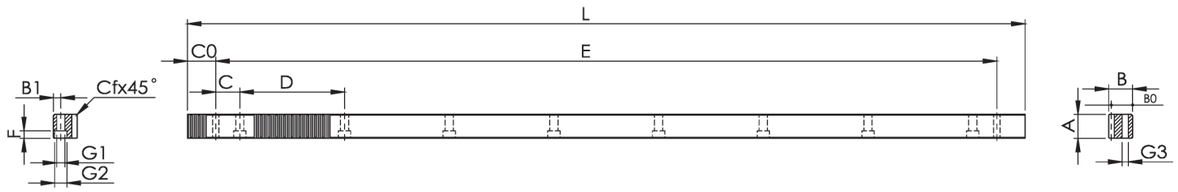
Item Code	M	L	Pt	Z	A	B	B0	C	D	N° of Holes	B1	G1	G2	F	C0	E	G3	KG
SSGH1.50507	1.5	499.51	4.7124	106	17	17	15.5	62.44	124.88	4	8	6	9.5	7	29.0	441.50	5.7	1.3
SSGH1.51007	1.5	999.03	4.7124	212	17	17	15.5	62.44	124.88	8	8	6	9.5	7	29.0	941.00	5.7	2.6
SSGH1.51507	1.5	1498.53	4.7124	318	17	17	15.5	62.44	124.88	12	8	6	9.5	7	29.0	1441.00	5.7	3.9
SSGH1.52007	1.5	1998.05	4.7124	424	17	17	15.5	62.44	124.88	16	8	6	9.5	7	29.0	1941.00	5.7	5.4
SSGH020507	2	502.64	6.2832	80	24	24	22.0	62.83	125.66	4	8	7	11.0	7	31.3	440.10	5.7	2.1
SSGH021007	2	1005.28	6.2832	160	24	24	22.0	62.83	125.66	8	8	7	11.0	7	31.3	942.70	5.7	4.1
SSGH021507	2	1507.97	6.2832	240	24	24	22.0	62.83	125.66	12	8	7	11.0	7	31.3	1445.40	5.7	6.1
SSGH022007	2	2010.62	6.2832	320	24	24	22.0	62.83	125.66	16	8	7	11.0	7	31.3	1948.00	5.7	8.2
SSGH030507	3	508.95	9.4248	54	29	29	26.0	63.62	127.23	4	9	10	15.0	9	34.4	440.10	7.7	2.9
SSGH031007	3	1017.90	9.4248	108	29	29	26.0	63.62	127.23	8	9	10	15.0	9	34.4	949.10	7.7	5.9
SSGH031507	3	1526.82	9.4248	162	29	29	26.0	63.62	127.23	12	9	10	15.0	9	34.4	1458.00	7.7	8.7
SSGH032007	3	2035.75	9.4248	216	29	29	26.0	63.62	127.23	16	9	10	15.0	9	34.4	1967.00	7.7	11.6
SSGH040507	4	502.64	12.5664	40	39	39	35.0	62.83	125.66	4	12	10	15.0	9	37.5	427.70	7.7	5.4
SSGH041007	4	1005.28	12.5664	80	39	39	35.0	62.83	125.66	8	12	10	15.0	9	37.5	930.30	7.7	10.5
SSGH041507	4	1507.90	12.5664	120	39	39	35.0	62.83	125.66	12	12	10	15.0	9	37.5	1432.90	7.7	15.7
SSGH042007	4	2010.62	12.5664	160	39	39	35.0	62.83	125.66	16	12	10	15.0	9	37.5	1935.60	7.7	20.9
SSGH050507	5	502.65	15.708	32	49	39	34.0	62.83	125.66	4	12	14	20.0	13	30.1	442.40	11.7	6.2
SSGH051007	5	1005.31	15.708	64	49	39	34.0	62.83	125.66	8	12	14	20.0	13	30.1	945.00	11.7	12.4
SSGH051507	5	1502.65	15.708	96	49	39	34.0	62.83	125.66	12	12	14	20.0	13	30.1	1447.70	11.7	18.6
SSGH052007	5	2005.31	15.708	128	49	39	34.0	62.83	125.66	16	12	14	20.0	13	30.1	1950.40	11.7	24.8
SSGH060507	6	508.95	18.8496	27	59	49	43.0	63.62	127.23	4	16	18	26.0	17	31.4	446.10	15.7	9.3
SSGH061007	6	1017.90	18.8496	54	59	49	43.0	63.62	127.23	8	16	18	26.0	17	31.4	955.00	15.7	18.7
SSGH061507	6	1508.95	18.8496	81	59	49	43.0	63.62	127.23	12	16	18	26.0	17	31.4	1464.00	15.7	28.2
SSGH062007	6	2017.90	18.8496	108	59	49	43.0	63.62	127.23	16	16	18	26.0	17	31.4	1973.00	15.7	37.6
SSGH080507	8	502.64	25.1328	20	79	79	71.0	62.83	125.66	4	25	22	33.0	21	26.6	449.50	19.7	21.3
SSGH081007	8	1005.28	25.1328	40	79	79	71.0	62.83	125.66	8	25	22	33.0	21	26.6	952.00	19.7	42.5
SSGH081507	8	1502.64	25.1328	60	79	79	71.0	62.83	125.66	12	25	22	33.0	21	26.6	1452.00	19.7	63.6
SSGH082007	8	2005.28	25.1328	80	79	79	71.0	62.83	125.66	16	25	22	33.0	21	26.6	1957.30	19.7	83.6
SSGH100507	10	502.65	31.4159	16	99	99	89.0	62.83	125.66	12	32	33	48.0	32	125.66	253.96	19.7	35.0
SSGH101007	10	1005.31	31.4159	32	99	99	89.0	62.83	125.66	16	32	33	48.0	32	125.66	753.96	19.7	68.7

Notes: Available Material on rack- Carbon Steel/42CrMo4/Stainless/Aluminum alloy.

Q8 - C45

Specifications

Quality	Din8	Heat - Treatment	Material Quenched
Material	C45 (Carbon Steel)	Hardness	HRC 15-20
Pressure Angle	20°	Surface	Milled Surfaces and Milled Teeth



Dimensions (M: Module • Pt: Tooth Pitch • Z: Number of Teeth)

Item Code	M	L	Pt	Z	A	B	B0	C	D	N° of Holes	B1	G1	G2	F	C0	E	G3	KG
SSFQ1.50508	1.5	499.51	4.7124	106	17	17	15.5	62.44	124.88	4	8	6	9.5	7	29.0	441.50	5.7	1.3
SSFQ1.51008	1.5	999.03	4.7124	212	17	17	15.5	62.44	124.88	8	8	6	9.5	7	29.0	941.00	5.7	2.6
SSFQ1.51508	1.5	1498.53	4.7124	318	17	17	15.5	62.44	124.88	12	8	6	9.5	7	29.0	1441.00	5.7	3.9
SSFQ1.52008	1.5	1998.05	4.7124	424	17	17	15.5	62.44	124.88	16	8	6	9.5	7	29.0	1941.00	5.7	5.4
SSFQ020508	2	502.64	6.2832	80	25	24	22.0	62.83	125.66	4	8	7	11.0	7	31.3	440.10	5.7	2.1
SSFQ021008	2	1005.28	6.2832	160	25	24	22.0	62.83	125.66	8	8	7	11.0	7	31.3	942.70	5.7	4.1
SSFQ021508	2	1507.97	6.2832	240	25	24	22.0	62.83	125.66	12	8	7	11.0	7	31.3	1445.40	5.7	6.1
SSFQ022008	2	2010.62	6.2832	320	25	24	22.0	62.83	125.66	16	8	7	11.0	7	31.3	1948.00	5.7	8.2
SSFQ030508	3	508.95	9.4248	54	30	29	26.0	63.62	127.23	4	9	10	15.0	9	34.4	440.10	7.7	2.9
SSFQ031008	3	1017.90	9.4248	108	30	29	26.0	63.62	127.23	8	9	10	15.0	9	34.4	949.10	7.7	5.9
SSFQ031508	3	1526.82	9.4248	162	30	29	26.0	63.62	127.23	12	9	10	15.0	9	34.4	1458.00	7.7	8.7
SSFQ032008	3	2035.75	9.4248	216	30	29	26.0	63.62	127.23	16	9	10	15.0	9	34.4	1967.00	7.7	11.6
SSFQ040508	4	502.64	12.5664	40	40	39	35.0	62.83	125.66	4	12	10	15.0	9	37.5	427.70	7.7	5.4
SSFQ041008	4	1005.28	12.5664	80	40	39	35.0	62.83	125.66	8	12	10	15.0	9	37.5	930.30	7.7	10.5
SSFQ041508	4	1507.90	12.5664	120	40	39	35.0	62.83	125.66	12	12	10	15.0	9	37.5	1432.90	7.7	15.7
SSFQ042008	4	2010.62	12.5664	160	40	39	35.0	62.83	125.66	16	12	10	15.0	9	37.5	1935.60	7.7	20.9
SSFQ050508	5	502.65	15.708	32	50	39	34.0	62.83	125.66	4	12	14	20.0	13	30.1	442.40	11.7	6.2
SSFQ051008	5	1005.31	15.708	64	50	39	34.0	62.83	125.66	8	12	14	20.0	13	30.1	945.00	11.7	12.4
SSFQ051508	5	1502.65	15.708	96	50	39	34.0	62.83	125.66	12	12	14	20.0	13	30.1	1447.70	11.7	18.6
SSFQ052008	5	2005.31	15.708	128	50	39	34.0	62.83	125.66	16	12	14	20.0	13	30.1	1950.40	11.7	24.8
SSFQ060508	6	508.95	18.8496	27	59	49	43.0	63.62	127.23	4	16	18	26.0	17	31.4	446.10	15.7	9.3
SSFQ061008	6	1017.90	18.8496	54	59	49	43.0	63.62	127.23	8	16	18	26.0	17	31.4	955.00	15.7	18.7
SSFQ061508	6	1508.95	18.8496	81	59	49	43.0	63.62	127.23	12	16	18	26.0	17	31.4	1464.00	15.7	28.2
SSFQ062008	6	2017.90	18.8496	108	59	49	43.0	63.62	127.23	16	16	18	26.0	17	31.4	1973.00	15.7	37.6
SSFQ080508	8	502.64	25.1328	20	79	79	71.0	62.83	125.66	4	25	22	33.0	21	26.6	449.50	19.7	21.3
SSFQ081008	8	1005.28	25.1328	40	79	79	71.0	62.83	125.66	8	25	22	33.0	21	26.6	952.00	19.7	42.5
SSFQ081508	8	1502.64	25.1328	60	79	79	71.0	62.83	125.66	12	25	22	33.0	21	26.6	1452.00	19.7	63.6
SSFQ082008	8	2005.28	25.1328	80	79	79	71.0	62.83	125.66	16	25	22	33.0	21	26.6	1957.30	19.7	83.6
SSFQ100508	10	502.65	31.4159	16	99	99	89.0	62.83	125.66	12	32	33	48.0	32	125.66	253.96	19.7	35.0
SSFQ101008	10	1005.31	31.4159	32	99	99	89.0	62.83	125.66	16	32	33	48.0	32	125.66	753.96	19.7	68.7

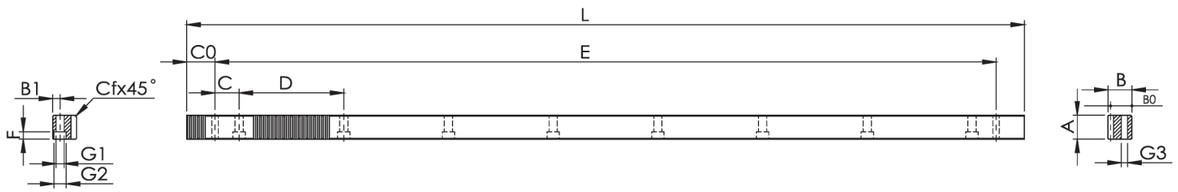
Notes: Available Material on rack- Carbon Steel/42CrMo4/Stainless/Aluminum alloy.

KAI HE MACHINERY CO., LTD
STRAIGHT RACK SERIES - SSF

Q9 - C45

Specifications

Quality	Din9	Heat - Treatment	Soft
Material	C45 (Carbon Steel)	Hardness	HRC 8-12
Pressure Angle	20°	Surface	Milled Surfaces and Milled Teeth



Dimensions (M: Module • Pt: Tooth Pitch • Z: Number of Teeth)

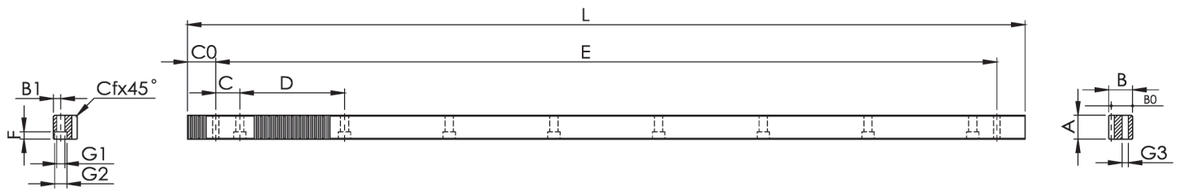
Item Code	M	L	Pt	Z	A	B	B0	C	D	N° of Holes	B1	G1	G2	F	C0	E	G3	KG
SSF1.50509	1.5	499.51	4.7124	106	17	17	15.5	62.44	124.88	4	8	6	9.5	7	29.0	441.50	5.7	1.4
SSF1.51009	1.5	999.03	4.7124	212	17	17	15.5	62.44	124.88	8	8	6	9.5	7	29.0	941.00	5.7	2.7
SSF1.51509	1.5	1498.53	4.7124	318	17	17	15.5	62.44	124.88	12	8	6	9.5	7	29.0	1441.00	5.7	4.1
SSF1.52009	1.5	1998.05	4.7124	424	17	17	15.5	62.44	124.88	16	8	6	9.5	7	29.0	1941.00	5.7	5.4
SSF020509	2	502.64	6.2832	80	24	24	22.0	62.83	125.66	4	8	7	11.0	7	31.3	440.10	5.7	2.2
SSF021009	2	1005.28	6.2832	160	24	24	22.0	62.83	125.66	8	8	7	11.0	7	31.3	942.70	5.7	4.4
SSF021509	2	1507.97	6.2832	240	24	24	22.0	62.83	125.66	12	8	7	11.0	7	31.3	1445.40	5.7	6.4
SSF022009	2	2010.62	6.2832	320	24	24	22.0	62.83	125.66	16	8	7	11.0	7	31.3	1948.00	5.7	8.5
SSF030509	3	508.95	9.4248	54	29	29	26.0	63.62	127.23	4	9	10	15.0	9	34.4	440.10	7.7	3.0
SSF031009	3	1017.90	9.4248	108	29	29	26.0	63.62	127.23	8	9	10	15.0	9	34.4	949.10	7.7	6.0
SSF031509	3	1526.82	9.4248	162	29	29	26.0	63.62	127.23	12	9	10	15.0	9	34.4	1458.00	7.7	9.0
SSF032009	3	2035.75	9.4248	216	29	29	26.0	63.62	127.23	16	9	10	15.0	9	34.4	1967.00	7.7	12.0
SSF040509	4	502.64	12.5664	40	39	39	35.0	62.83	125.66	4	12	10	15.0	9	37.5	427.70	7.7	5.5
SSF041009	4	1005.28	12.5664	80	39	39	35.0	62.83	125.66	8	12	10	15.0	9	37.5	930.30	7.7	10.7
SSF041509	4	1507.90	12.5664	120	39	39	35.0	62.83	125.66	12	12	10	15.0	9	37.5	1432.90	7.7	16.7
SSF042009	4	2010.62	12.5664	160	39	39	35.0	62.83	125.66	16	12	10	15.0	9	37.5	1935.60	7.7	22.1
SSF050509	5	502.65	15.708	32	49	39	34.0	62.83	125.66	4	12	14	20.0	13	30.1	442.40	11.7	6.5
SSF051009	5	1005.31	15.708	64	49	39	34.0	62.83	125.66	8	12	14	20.0	13	30.1	945.00	11.7	12.6
SSF051509	5	1502.65	15.708	96	49	39	34.0	62.83	125.66	12	12	14	20.0	13	30.1	1447.70	11.7	19.0
SSF052009	5	2005.31	15.708	128	49	39	34.0	62.83	125.66	16	12	14	20.0	13	30.1	1950.40	11.7	25.3
SSF060509	6	508.95	18.8496	27	59	49	43.0	63.62	127.23	4	16	18	26.0	17	31.4	446.10	15.7	9.5
SSF061009	6	1017.90	18.8496	54	59	49	43.0	63.62	127.23	8	16	18	26.0	17	31.4	955.00	15.7	19.1
SSF061509	6	1508.95	18.8496	81	59	49	43.0	63.62	127.23	12	16	18	26.0	17	31.4	1464.00	15.7	28.6
SSF062009	6	2017.90	18.8496	108	59	49	43.0	63.62	127.23	16	16	18	26.0	17	31.4	1973.00	15.7	38.2
SSF080509	8	502.64	25.1328	20	79	79	71.0	62.83	125.66	4	25	22	33.0	21	26.6	449.50	19.7	21.3
SSF081009	8	1005.28	25.1328	40	79	79	71.0	62.83	125.66	8	25	22	33.0	21	26.6	952.00	19.7	42.5
SSF081509	8	1502.64	25.1328	60	79	79	71.0	62.83	125.66	12	25	22	33.0	21	26.6	1452.00	19.7	63.6
SSF082009	8	2005.28	25.1328	80	79	79	71.0	62.83	125.66	16	25	22	33.0	21	26.6	1957.30	19.7	83.6
SSF100509	10	502.65	31.4159	16	99	99	89.0	62.83	125.66	12	32	33	48.0	32	125.66	253.96	19.7	35.0
SSF101009	10	1005.31	31.4159	32	99	99	89.0	62.83	125.66	16	32	33	48.0	32	125.66	753.96	19.7	68.7

Notes: Available Material on rack- Carbon Steel/42CrMo4/Stainless/Aluminum alloy.

Q10 - C45

Specifications

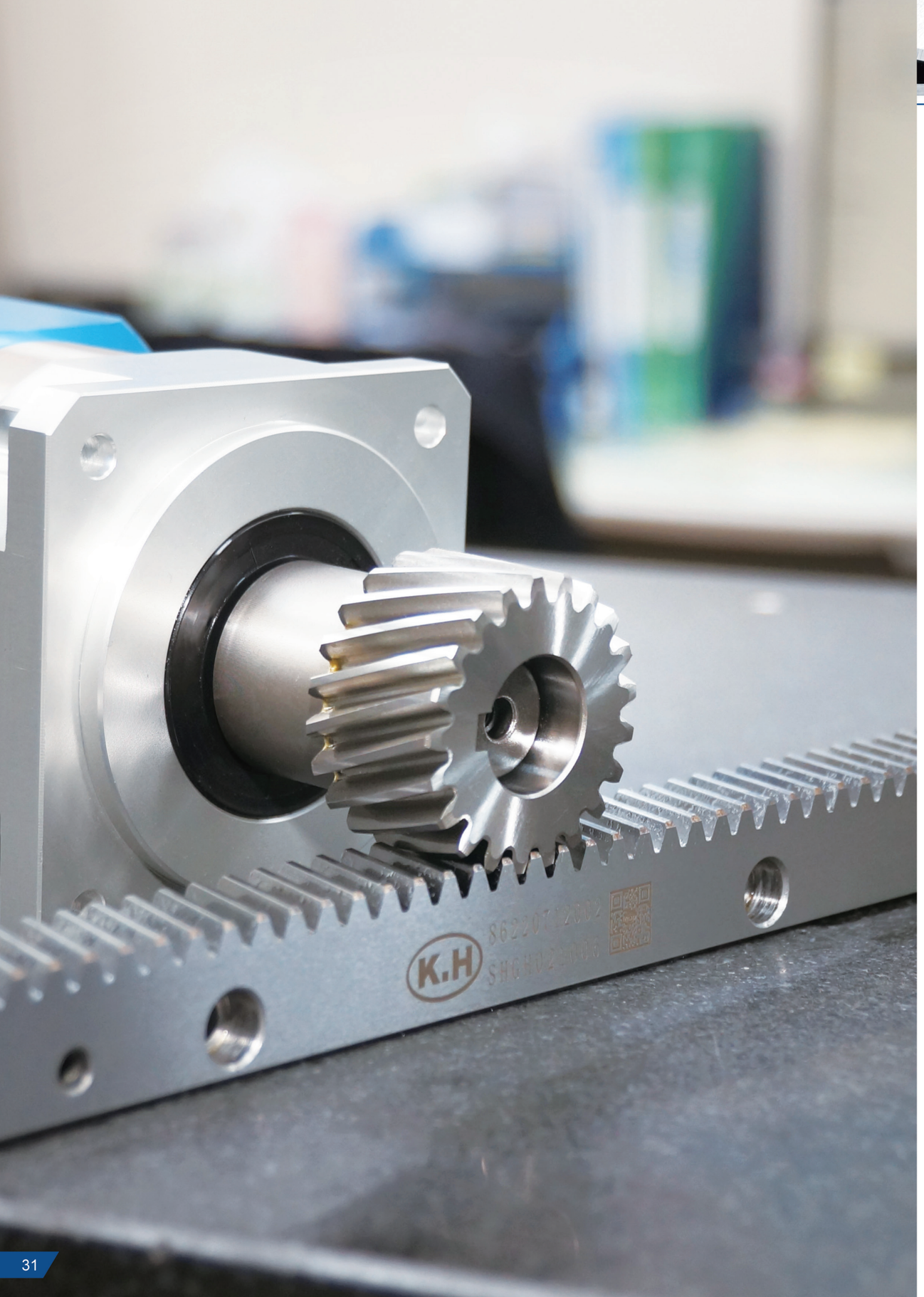
Quality	Din10	Heat - Treatment	Teeth Induction Hardened
Material	C45 (Carbon Steel)	Hardness	HRC 50-55
Pressure Angle	20°	Surface	Milled Surfaces and Milled Teeth
		Finishing	Options



Dimensions (M: Module • Pt: Tooth Pitch • Z: Number of Teeth)

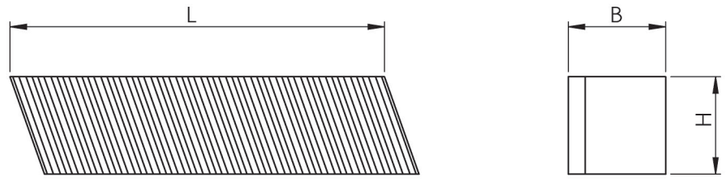
Item Code	M	L	Pt	Z	A	B	B0	C	D	N° of Holes	B1	G1	G2	F	C0	E	G3	KG
SSF1.50510	1.5	499.51	4.7124	106	17	17	15.5	62.44	124.88	4	8	6	9.5	7	29.0	441.50	5.7	1.5
SSF1.51010	1.5	999.03	4.7124	212	17	17	15.5	62.44	124.88	8	8	6	9.5	7	29.0	941.00	5.7	2.9
SSF1.51510	1.5	1498.53	4.7124	318	17	17	15.5	62.44	124.88	12	8	6	9.5	7	29.0	1441.00	5.7	4.3
SSF1.52010	1.5	1998.05	4.7124	424	17	17	15.5	62.44	124.88	16	8	6	9.5	7	29.0	1941.00	5.7	5.4
SSF020510	2	502.64	6.2832	80	24	24	22.0	62.83	125.66	4	8	7	11.0	7	31.3	440.10	5.7	2.2
SSF021010	2	1005.28	6.2832	160	24	24	22.0	62.83	125.66	8	8	7	11.0	7	31.3	942.70	5.7	4.5
SSF021510	2	1507.97	6.2832	240	24	24	22.0	62.83	125.66	12	8	7	11.0	7	31.3	1445.40	5.7	6.7
SSF022010	2	2010.62	6.2832	320	24	24	22.0	62.83	125.66	16	8	7	11.0	7	31.3	1948.00	5.7	8.9
SSF030510	3	508.95	9.4248	54	29	29	26.0	63.62	127.23	4	9	10	15.0	9	34.4	440.10	7.7	3.1
SSF031010	3	1017.90	9.4248	108	29	29	26.0	63.62	127.23	8	9	10	15.0	9	34.4	949.10	7.7	6.2
SSF031510	3	1526.82	9.4248	162	29	29	26.0	63.62	127.23	12	9	10	15.0	9	34.4	1458.00	7.7	9.4
SSF032010	3	2035.75	9.4248	216	29	29	26.0	63.62	127.23	16	9	10	15.0	9	34.4	1967.00	7.7	12.5
SSF040510	4	502.64	12.5664	40	39	39	35.0	62.83	125.66	4	12	10	15.0	9	37.5	427.70	7.7	5.5
SSF041010	4	1005.28	12.5664	80	39	39	35.0	62.83	125.66	8	12	10	15.0	9	37.5	930.30	7.7	11.1
SSF041510	4	1507.90	12.5664	120	39	39	35.0	62.83	125.66	12	12	10	15.0	9	37.5	1432.90	7.7	16.7
SSF042010	4	2010.62	12.5664	160	39	39	35.0	62.83	125.66	16	12	10	15.0	9	37.5	1935.60	7.7	22.1
SSF050510	5	502.65	15.708	32	49	39	34.0	62.83	125.66	4	12	14	20.0	13	30.1	442.40	11.7	6.5
SSF051010	5	1005.31	15.708	64	49	39	34.0	62.83	125.66	8	12	14	20.0	13	30.1	945.00	11.7	13.4
SSF051510	5	1502.65	15.708	96	49	39	34.0	62.83	125.66	12	12	14	20.0	13	30.1	1447.70	11.7	19.6
SSF052010	5	2005.31	15.708	128	49	39	34.0	62.83	125.66	16	12	14	20.0	13	30.1	1950.40	11.7	26.1
SSF060510	6	508.95	18.8496	27	59	49	43.0	63.62	127.23	4	16	18	26.0	17	31.4	446.10	15.7	9.7
SSF061010	6	1017.90	18.8496	54	59	49	43.0	63.62	127.23	8	16	18	26.0	17	31.4	955.00	15.7	19.5
SSF061510	6	1508.95	18.8496	81	59	49	43.0	63.62	127.23	12	16	18	26.0	17	31.4	1464.00	15.7	29.4
SSF062010	6	2017.90	18.8496	108	59	49	43.0	63.62	127.23	16	16	18	26.0	17	31.4	1973.00	15.7	39.2
SSF080510	8	502.64	25.1328	20	79	79	71.0	62.83	125.66	4	25	22	33.0	21	26.6	449.50	19.7	21.3
SSF081010	8	1005.28	25.1328	40	79	79	71.0	62.83	125.66	8	25	22	33.0	21	26.6	952.00	19.7	42.5
SSF081510	8	1502.64	25.1328	60	79	79	71.0	62.83	125.66	12	25	22	33.0	21	26.6	1452.00	19.7	63.6
SSF082010	8	2005.28	25.1328	80	79	79	71.0	62.83	125.66	16	25	22	33.0	21	26.6	1957.30	19.7	83.6
SSF100510	10	502.65	31.4159	16	99	99	89.0	62.83	125.66	12	32	33	48.0	32	125.66	253.96	19.7	35.0
SSF101010	10	1005.31	31.4159	32	99	99	89.0	62.83	125.66	16	32	33	48.0	32	125.66	753.96	19.7	68.7

Notes: Available Material on rack- Carbon Steel/42CrMo4/Stainless/Aluminum alloy.



	Opposite Tooth Gauge
Material	C45
Surface	Ground Teeth

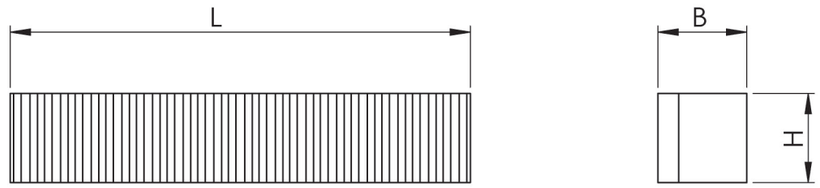
Helical Tooth Gauge



Dimensions (Helical Tooth System: 19° 31´ 42” Left Hand)

Item Code	Module	L	H	B	Z	fp	FP
SHG02-GAUGE	2	150	24	24	22	0.004	0.015
SHG03-GAUGE	3	150	29	29	15	0.004	0.015
SHG04-GAUGE	4	150	39	39	11	0.003	0.010
SHG05-GAUGE	5	150	49	39	9	0.003	0.010
SHG06-GAUGE	6	150	59	49	7	0.003	0.010

Straight Tooth Gauge



Dimensions

Item Code	Module	L	H	B	Z	fp	FP
SSG02-GAUGE	2	150	24	24	22	0.004	0.015
SSG03-GAUGE	3	150	29	29	15	0.004	0.015
SSG04-GAUGE	4	150	39	39	11	0.003	0.010
SSG05-GAUGE	5	150	49	39	9	0.003	0.010
SSG06-GAUGE	6	150	59	49	7	0.003	0.010

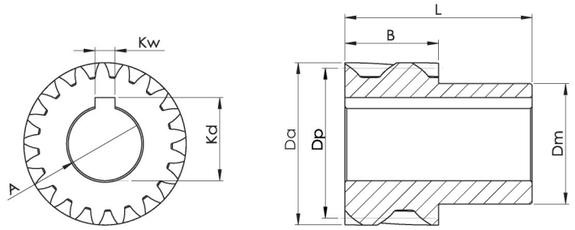
Notes: Available Material on pinion gear- Carbon Steel/16CrMn4/42CrMo4/Stainless/Aluminum alloy.
Any pinion gears are customizable.

Q5 - 16CrMo4

Ground Pinion

Specifications

Quality	5e24	Heat - Treatment	Case Hardening
Material	16CrMo4	Hardness	HRC 55-60
Helical Tooth	19° 31´ 42" Left Hand	Surface	Ground



Dimensions

Item Code	M	Z	Da	Dp	Kw	Kd	A(H6)	B	L	Kd
HGK1.51610B65L	1.5	16	28.46	25.46	4	11.5	10	28	65	20
HGK1.51815B65L	1.5	18	31.64	28.64	5	17.3	15	28	65	22
HGK1.52015B65L	1.5	20	34.83	31.83	5	17.3	15	28	65	25
HGK1.52420B65L	1.5	24	41.19	38.19	6	22.8	20	28	65	32
HGK1.54040B65L	1.5	40	66.66	63.66	12	43.3	40	28	65	58
HGK021615B65L	2	16	37.95	33.95	5	17.3	15	28	65	25
HGK021815B65L	2	18	42.20	38.20	5	17.3	15	28	65	30
HGK022122B56L	2	21	48.56	44.56	6	24.8	22	26	56	36
HGK022225B65L	2	22	50.69	46.69	8	28.3	25	28	65	36
HGK022425B65L	2	24	54.93	50.93	8	28.3	25	28	65	36
HGK023025B65L	2	30	67.66	63.66	8	28.3	25	28	65	36
HGK024040B65L	2	40	88.88	84.88	12	43.3	40	28	65	62
HGK032020B65L	3	20	69.66	63.66	6	22.8	20	28	65	30
HGK032225B65L	3	22	76.03	70.03	8	28.3	25	28	65	36
HGK032425B65L	3	24	82.39	76.39	8	28.3	25	28	65	36
HGK034040B65L	3	40	133.32	127.32	12	43.3	40	28	65	62
HGK042035B75L	4	20	92.88	84.88	10	38.3	35	40	75	55
HGK042535B75L	4	25	114.10	106.10	10	38.3	35	40	75	55
HGK043035B75L	4	30	135.32	127.32	10	38.3	35	40	75	55
HGK043235B75L	4	32	143.81	135.81	10	38.3	35	40	75	55
HGK052045B75L	5	20	116.10	106.10	14	48.8	45	50	75	68
HGK052445B75L	5	24	137.32	127.32	14	48.8	45	50	75	68
HGK052545B75L	5	25	142.63	132.63	14	48.8	45	50	75	68
HGK053045B75L	5	30	169.15	159.15	14	48.8	45	50	75	68
HGK062055B120L	6	20	139.32	127.32	16	59.3	55	60	120	80
HGK062155B120L	6	21	145.69	133.69	16	59.3	55	60	120	80
HGK062455B120L	6	24	164.79	152.79	16	59.3	55	60	120	80
HGK062555B120L	6	25	171.15	159.15	16	59.3	55	60	120	80
HGK063055B120L	6	30	202.99	190.99	16	59.3	55	60	120	80
HGK082075B145L	8	20	185.77	169.77	20	79.9	75	80	145	110
HGK102085B165L	10	20	232.21	212.21	22	90.4	85	100	165	125

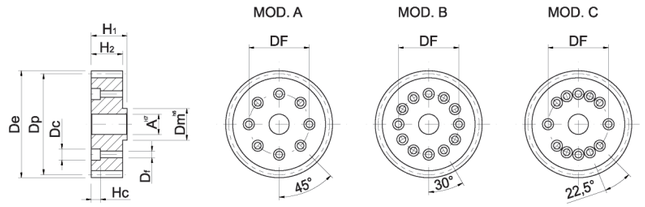
Notes: Available Material on pinion gear- Carbon Steel/16CrMn4/42CrMo4/Stainless/Aluminum alloy.
Any pinion gears are customizable.

Q5 - 16CrMo4

Flanged Pinion

Specifications

Quality	5e24	Heat - Treatment	Case Hardening
Material	16CrMo4	Hardness	HRC 55-60
Helical Tooth	19° 31´ 42” Left Hand	Surface	Ground
Pressure Angle	20°		



Dimensions

Item Code	Model	M	Z	X	De	Dp	Dm(h6)	A	H1	H2	DF	Df	DC	HC
HGFA022615B29L	A	2	26	0.4065	60.60	56.80	20.0	15.0	29.0	26	31.5	5.5	10	12
HGFA022715B33.5L	A	2	27	0.0000	61.29	57.30	20.0	15.0	33.5	30	31.5	5.5	10	11
HGFA022915B29L	A	2	29	0.4150	67.00	63.20	20.0	15.0	29.0	26	31.5	5.5	10	12
HGFA023320B30L	A	2	33	0.3928	75.30	71.60	31.5	20.0	30.0	26	50.0	6.6	11	14
HGFA023515B29L	A	2	35	0.3819	79.60	75.80	20.0	15.0	29.0	26	31.5	5.5	10	12
HGFA023620B34L	A	2	36	0.0000	80.39	76.40	31.5	20.0	34.0	30	50.0	6.6	11	8
HGFA023720B30L	A	2	37	0.4209	84.00	80.20	31.5	20.0	30.0	26	50.0	6.6	11	14
HGFB023720B30L	B	2	37	0.4209	84.00	80.20	31.5	20.0	30.0	26	50.0	6.6	11	14
HGFC024031.5B30L	C	2	40	0.3792	90.20	86.40	40.0	31.5	30.0	26	63.0	6.6	11	14
HGFC024531.5B30L	C	2	45	0.3267	100.60	96.80	40.0	31.5	30.0	26	63.0	6.6	11	14
HGFA033120B35.5L	A	3	31	0.3540	106.60	100.80	31.5	20.0	35.5	31	50.0	6.6	11	9
HGFB033540B35L	B	3	35	0.3652	119.40	113.60	50.0	40.0	35.0	31	80.0	9.0	15	11
HGFB034040B35L	B	3	40	0.3792	135.40	129.60	50.0	40.0	35.0	31	80.0	9.0	15	11
HGFC033020B39L	C	3	30	0.0000	101.49	95.49	40.0	20.0	39.0	35	63.0	6.6	11	10
HGFB043040B49L	B	4	30	0.0000	135.32	127.32	50.0	40.0	49.0	45	80.0	9.0	15	11
HGFB053660B61L	B	5	36	0.0000	200.98	190.99	80.0	60.0	61.0	55	125.0	11.0	18	13

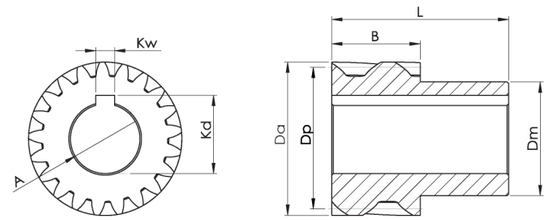
Notes: Available Material on pinion gear- Carbon Steel/16CrMn4/42CrMo4/Stainless/Aluminum alloy.
Any pinion gears are customizable.

Q10 - C45

Milled Pinion

Specifications

Quality	10e25	Heat - Treatment	Induction Hardening
Material	C45	Hardness	HRC 50-55
Helical Tooth	19° 31´ 42” Left Hand	Surface	Milled Teeth, Black Oxide



Dimensions

Item Code	M	Z	Da	Dp	Kw	Kd	A(H7)	B	L	Kd
HMK1.51610B65L	1.5	16	28.46	25.46	4	11.5	10	28	65	20
HMK1.51815B65L	1.5	18	31.64	28.64	5	17.3	15	28	65	22
HMK1.52015B65L	1.5	20	34.83	31.83	5	17.3	15	28	65	25
HMK1.52420B65L	1.5	24	41.19	38.19	6	22.8	20	28	65	32
HMK1.54040B65L	1.5	30	50.74	47.74	8	28.3	25	28	65	40
HMK021615B65L	1.5	40	66.66	63.66	12	43.3	40	28	65	58
HMK021815B65L	2	16	37.95	33.95	5	17.3	15	28	65	25
HMK022122B56L	2	18	42.20	38.20	5	17.3	15	28	65	30
HMK022225B65L	2	20	46.44	42.44	6	22.8	20	28	65	30
HMK022425B65L	2	22	50.69	46.69	8	28.3	25	28	65	36
HMK023025B65L	2	24	54.93	50.93	8	28.3	25	28	65	36
HMK024040B65L	2	30	67.66	63.66	8	28.3	25	28	65	36
HMK032020B65L	2	40	88.88	84.88	12	43.3	40	28	65	62
HMK032225B65L	3	20	69.66	63.66	6	22.8	20	28	65	30
HMK032425B65L	3	22	76.03	70.03	8	28.3	25	28	65	36
HMK034040B65L	3	24	82.39	76.39	8	28.3	25	28	65	36
HMK042035B75L	3	40	133.32	127.32	12	43.3	40	28	65	62
HMK042535B75L	4	20	92.88	84.88	10	38.3	35	40	75	55
HMK043035B75L	4	25	114.10	106.10	10	38.3	35	40	75	55
HMK043235B75L	4	30	135.32	127.32	10	38.3	35	40	75	55
HMK052045B75L	4	32	143.81	135.81	10	38.3	35	40	75	55
HMK052445B75L	5	20	116.10	106.10	14	48.8	45	50	75	68
HMK052545B75L	5	24	137.32	127.32	14	48.8	45	50	75	68
HMK053045B75L	5	25	142.63	132.63	14	48.8	45	50	75	68
HMK062055B120L	5	30	169.15	159.15	14	48.8	45	50	75	68
HMK062155B120L	6	20	139.32	127.32	16	59.3	55	60	120	80
HMK062455B120L	6	21	145.69	133.69	16	59.3	55	60	120	80
HMK062555B120L	6	24	164.79	152.79	16	59.3	55	60	120	80
HMK063055B120L	6	25	171.15	159.15	16	59.3	55	60	120	80
HMK082075B145L	6	30	202.99	190.99	16	59.3	55	60	120	80
HMK102085B165L	8	20	185.77	169.77	20	79.9	75	80	145	110
	10	20	232.21	212.21	22	90.4	85	100	165	125

Notes: Available Material on pinion gear- Carbon Steel/16CrMn4/42CrMo4/Stainless/Aluminum alloy.
Any pinion gears are customizable.

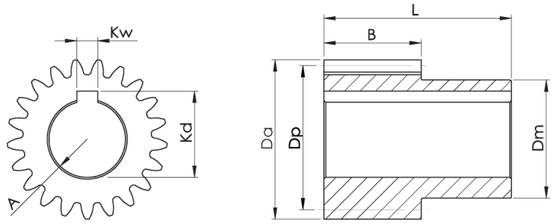
KAI HE MACHINERY CO., LTD
STRAIGHT TOOTH PINION SERIES

Q5 - 16CrMo4

Ground Pinion

Specifications

Quality	5e24	Heat - Treatment	Case Hardening
Material	16CrMo4	Hardness	HRC 55-60
Pressure Angle	20°	Surface	Ground Teeth



Dimensions

Item Code	M	Z	Da	Dp	Kw	Kd	A(H6)	B	L	Kd
SGK1.51610B65L	1.5	16	27	24	4	11.5	10	28	65	20
SGK1.51815B65L	1.5	18	30	27	5	17.3	15	28	65	22
SGK1.52015B65L	1.5	20	33	30	5	17.3	15	28	65	25
SGK1.52420B65L	1.5	24	39	36	6	22.8	20	28	65	32
SGK1.54040B65L	1.5	30	48	45	8	28.3	25	28	65	40
SGK021615B65L	1.5	40	63	60	12	43.3	40	28	65	58
SGK021815B65L	2	16	36	32	5	17.3	15	28	65	25
SGK022122B56L	2	18	40	36	5	17.3	15	28	65	30
SGK022225B65L	2	20	44	40	6	22.8	20	28	65	30
SGK022425B65L	2	22	48	44	8	28.3	25	28	65	36
SGK023025B65L	2	24	52	48	8	28.3	25	28	65	36
SGK024040B65L	2	30	64	60	8	28.3	25	28	65	36
SGK032020B65L	2	40	84	80	12	43.3	40	28	65	62
SGK032225B65L	3	20	66	60	6	22.8	20	28	65	30
SGK032425B65L	3	22	72	66	8	28.3	25	28	65	36
SGK034040B65L	3	24	78	72	8	28.3	25	28	65	36
SGK042035B75L	3	40	126	120	12	43.3	40	28	65	62
SGK042535B75L	4	20	88	80	10	38.3	35	40	75	55
SGK043035B75L	4	25	108	100	10	38.3	35	40	75	55
SGK043235B75L	4	30	128	120	10	38.3	35	40	75	55
SGK052045B75L	4	32	136	128	10	38.3	35	40	75	55
SGK052445B75L	5	20	110	100	14	48.8	45	50	75	68
SGK052545B75L	5	24	130	120	14	48.8	45	50	75	68
SGK053045B75L	5	25	135	125	14	48.8	45	50	75	68
SGK062055B120L	5	30	160	150	14	48.8	45	50	75	68
SGK062155B120L	6	20	132	120	16	59.3	55	60	120	80
SGK062455B120L	6	21	138	126	16	59.3	55	60	120	80
SGK062555B120L	6	24	156	144	16	59.3	55	60	120	80
SGK063055B120L	6	25	162	150	16	59.3	55	60	120	80
SGK082075B145L	6	30	192	180	16	59.3	55	60	120	80
SGK102085B165L	8	20	176	160	20	79.9	75	80	145	110
	10	20	220	200	22	90.4	85	100	165	125

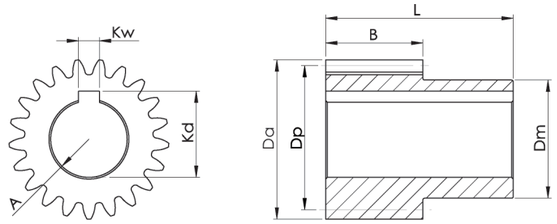
Notes: Available Material on pinion gear- Carbon Steel/16CrMn4/42CrMo4/Stainless/Aluminum alloy.
Any pinion gears are customizable.

Q10 - C45

Milled Pinion

Specifications

Quality	10e25	Heat - Treatment	Induction Hardening
Material	C45	Hardness	HRC 50-55
Pressure Angle	20°	Surface	Milled Teeth



Dimensions

Item Code	M	Z	Da	Dp	Kw	Kd	A(H6)	B	L	Kd
SMK1.51610B65L	1.5	16	27	24	4	11.5	10	28	65	20
SMK1.51815B65L	1.5	18	30	27	5	17.3	15	28	65	22
SMK1.52015B65L	1.5	20	33	30	5	17.3	15	28	65	25
SMK1.52420B65L	1.5	24	39	36	6	22.8	20	28	65	32
SMK1.54040B65L	1.5	30	48	45	8	28.3	25	28	65	40
SMK021615B65L	1.5	40	63	60	12	43.3	40	28	65	58
SMK021815B65L	2	16	36	32	5	17.3	15	28	65	25
SMK022122B56L	2	18	40	36	5	17.3	15	28	65	30
SMK022225B65L	2	20	44	40	6	22.8	20	28	65	30
SMK022425B65L	2	22	48	44	8	28.3	25	28	65	36
SMK023025B65L	2	24	52	48	8	28.3	25	28	65	36
SMK024040B65L	2	30	64	60	8	28.3	25	28	65	36
SMK032020B65L	2	40	84	80	12	43.3	40	28	65	62
SMK032225B65L	3	20	66	60	6	22.8	20	28	65	30
SMK032425B65L	3	22	72	66	8	28.3	25	28	65	36
SMK034040B65L	3	24	78	72	8	28.3	25	28	65	36
SMK042035B75L	3	40	126	120	12	43.3	40	28	65	62
SMK042535B75L	4	20	88	80	10	38.3	35	40	75	55
SMK043035B75L	4	25	108	100	10	38.3	35	40	75	55
SMK043235B75L	4	30	128	120	10	38.3	35	40	75	55
SMK052045B75L	4	32	136	128	10	38.3	35	40	75	55
SMK052445B75L	5	20	110	100	14	48.8	45	50	75	68
SMK052545B75L	5	24	130	120	14	48.8	45	50	75	68
SMK053045B75L	5	25	135	125	14	48.8	45	50	75	68
SMK062055B120L	5	30	160	150	14	48.8	45	50	75	68
SMK062155B120L	6	20	132	120	16	59.3	55	60	120	80
SMK062455B120L	6	21	138	126	16	59.3	55	60	120	80
SMK062555B120L	6	24	156	144	16	59.3	55	60	120	80
SMK063055B120L	6	25	162	150	16	59.3	55	60	120	80
SMK082075B145L	6	30	192	180	16	59.3	55	60	120	80
SMK102085B165L	8	20	176	160	20	79.9	75	80	145	110
	10	20	220	200	22	90.4	85	100	165	125

Notes: Available Material on pinion gear- Carbon Steel/16CrMn4/42CrMo4/Stainless/Aluminum alloy.
Any pinion gears are customizable.

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