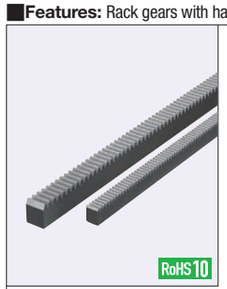
Induction Hardened Rack Gears - Ground

Pressure Angle 20°, Module 1.0, 1.5, 2.0, 2.5, 3.0

Features: Rack gears with hardened teeth which provide excellent strength, abrasion resistance and high precision.

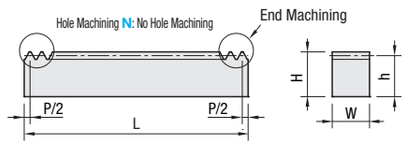


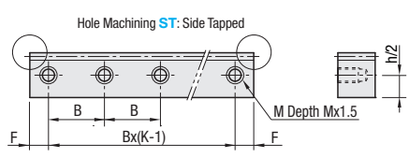
Type	Material	Surface Treatment	Hardness
RGEAH	S45C Equivalent	Black Oxide	Tooth Induction Hardened 45~55HRC

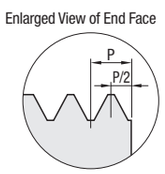
Teeth and Hole Machined surfaces have no surface treatment.

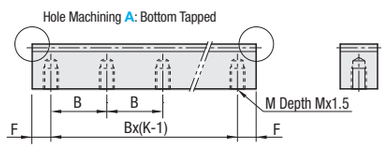
Accuracy: Accumulated Pitch Error (μm)

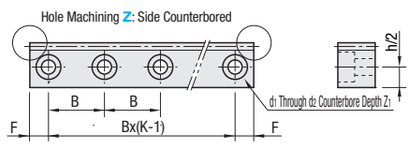
Module	Nominal	
	300	500
1.0~1.5	32	35
2.0~3.0	-	39











Module	P Tolerance
1.0~2.0	-0.1 -0.3
2.5·3.0	-0.1 -0.4

$$F=\frac{L-Bx(K-1)}{2}$$

Part Number Type	Module	Nominal	Hole Machining	Number of Effective Teeth	L	P (Pitch)	W	H	h	B (Hole Pitch)	M (Coarse)	d1	d2	Z1	K (Number of Holes)
RGEAH	1.0	300	N (No Hole Machining)	95	298.45	3.142	10	12	11	180	M3	3.5	6.5	3.5	2
		500		159	499.51										3
	1.5	300	A (Bottom Tapped)	63	296.85	4.712	15	20	18.5	180	M4	4.5	8	4.5	2
		500	ST (Side Tapped)	106	499.51										3
	2.0	500		79	496.37	6.283	20	25	23	180	M5	5.5	9.5	5.5	3
	2.5	500	Z (Side Counterbored)	63	494.8	7.854	25	30	27.5	180	M5	5.5	9.5	5.5	3
	3.0	500		53	499.51	9.424	30	35	32	180	M5	5.5	9.5	5.5	3

Ordering Example

Part Number	-	Nominal	-	Hole Machining
RGEAH1.0	-	500	-	A

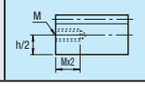
Part Number Type	Module	Nominal	Unit Price 1 ~ 4 pc(s). Hole Machining N	Hole Machining A	Hole Machining ST	Hole Machining Z
RGEAH	1.0	300				
		500				
	1.5	300				
		500				
	2.0	500				
	2.5	500				
	3.0	500				

For orders larger than indicated quantity, please request a quotation.

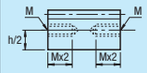
Alterations

Part Number	-	Nominal	-	Hole Machining	-	(MC, WMC)
RGEAH1.0	-	500	-	A	-	MC4

Alterations	One End Tapped	Both Ends Tapped
Code	MC	WMC
Spec.	Ordering Code MC5	Ordering Code WMC5



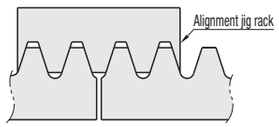
Module	M Selection
1.0	3 4
1.5~3.0	4 5 6



Module	M Selection
1.0	3 4
1.5~3.0	4 5 6

How to Connect Rack Gears

MISUMI Induction Hardened Rack Gears are end machined with negative pitch tolerance in length. When connecting the racks, use a piece of rack (rack gear in the same module) as a spacer jig as shown in the right side figure to properly adjust the pitch.



Induction Hardened Rack Gears - Ground, Hole Position Configurable

Pressure Angle 20°, Module 1.0, 1.5, 2.0, 2.5, 3.0

Features: Rack gears with hardened teeth which provide excellent strength, abrasion resistance and high precision.

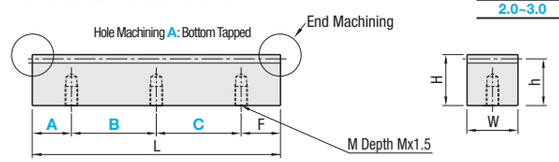
Type	Material	Surface Treatment	Hardness
RGEAHL	S45C Equivalent	Black Oxide	Tooth Induction Hardened 45~55HRC

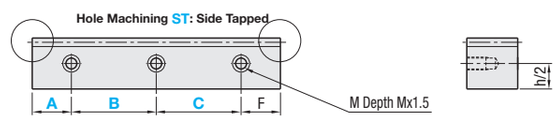
Teeth and Hole Machined surfaces have no surface treatment.

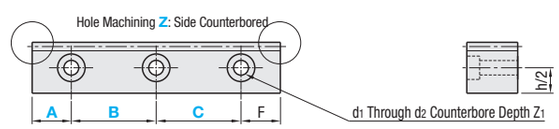
Accuracy: Accumulated Pitch Error (μm)

Module	Nominal	
	300	500
1.0~1.5	32	35
2.0~3.0	-	39

Module	P Tolerance
1.0~2.0	-0.1 -0.3
2.5, 3.0	-0.1 -0.4







A+B+C≤L-5

F=L-A-B-C

Part Number Type	Module	Nominal	Hole Machining	Hole Position ABC 1mm Increment	Number of Effective Teeth	Overall Length L	P (Pitch)	W	H	h	M (Coarse)	d1	d2	Z1
RGEAHL	1.0	300	A (Bottom Tapped)	5~293	95	298.45	3.142	10	12	11	M3	3.5	6.5	3.5
		500		5~494	159	499.51								
	1.5	300	ST (Side Tapped)	5~291	63	296.88	4.712	15	20	18.5	M4	4.5	8	4.5
		500		5~493	106	499.51								
	2.0	500	Z (Side Counterbored)	6~490	79	496.37	6.283	20	25	23	M5	5.5	9.5	5.5
	2.5	500		6~488	63	494.8	7.854	25	30	27.5	M5	5.5	9.5	5.5
	3.0	500		6~492	53	499.51	9.424	30	35	32	M5	5.5	9.5	5.5

Ordering Example

Part Number	-	Nominal	-	Hole Machining	-	Hole Position (First)	-	Hole Position (Second)	-	Hole Position (Third)
RGEAHL1.0	-	500	-	ST	-	A50	-	B100	-	C200
RGEAHL2.0	-	500	-	Z	-	A200				

Part Number Type	Module	Nominal	Body Price 1 ~ 4 pc(s).	Hole Machining Charge (+ Body Price) Tapped Hole (A, ST)	Counterbored Hole (Z)
RGEAHL	1.0	300			
		500			
	1.5	300			
		500			
	2.0	500			
	2.5	500			
	3.0	500			

For orders larger than indicated quantity, please request a quotation.

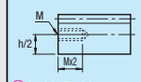
Unit Price = Body Price + Hole Machining Charge
(Calculation Example)
RGEAHL1.0-500-ST-A50-B100-C200

Body Price + Hole Machining Charge (Hole Machining Unit Price × Number of Holes) = Unit Price

Alterations

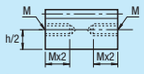
Part Number	-	Nominal	-	Hole Machining	-	Hole Position (First)	-	Hole Position (Second)	-	Hole Position (Third)	-	(MC, WMC)
RGEAHL1.0	-	500	-	ST	-	A50	-	B100	-	C200	-	WMC3

Alterations	One End Tapped	Both Ends Tapped
Code	MC	WMC
Spec.	Ordering Code MC5	Ordering Code WMC5



Module	M Selection
1.0	3 4
1.5~3.0	4 5 6

A≥30, F≥30



Module	M Selection
1.0	3 4
1.5~3.0	4 5 6

A≥30, F=L-A-B-C≥30