

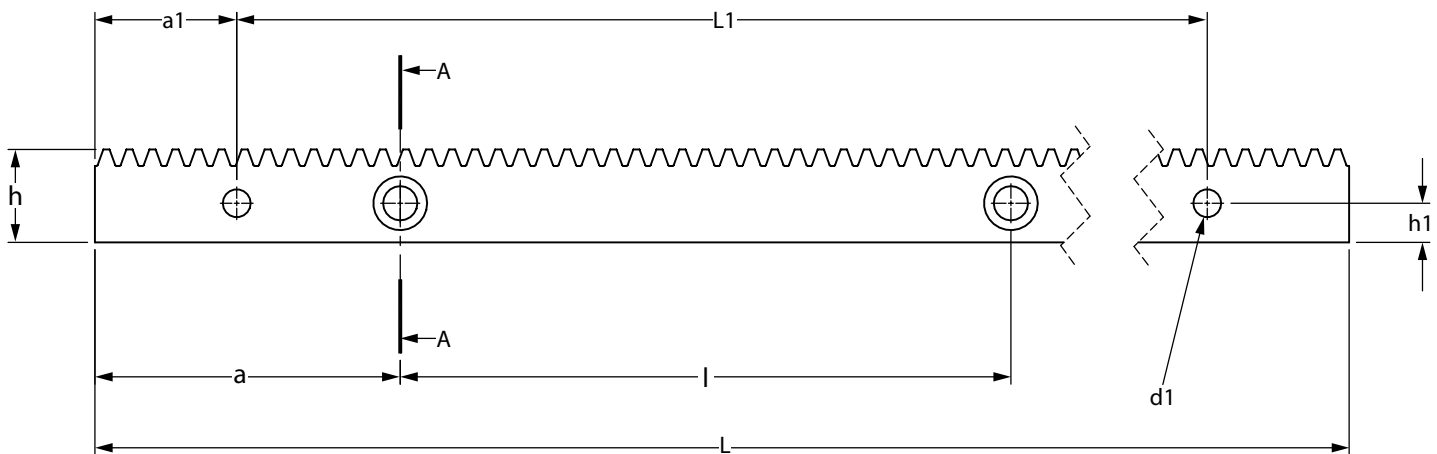
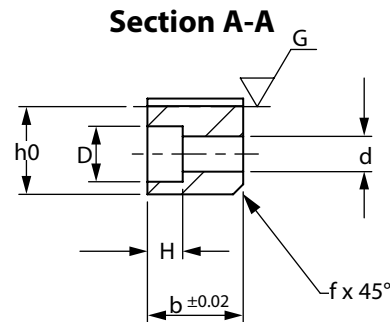
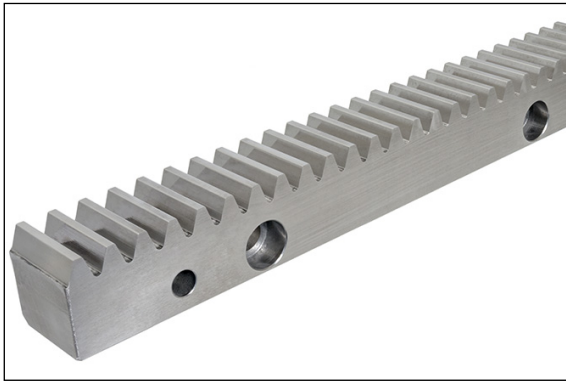
UPSGR
1.5-8.0m_n

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PRECISION GROUND GEARS

1.5 to 8.0 Module Ground Spur Gear Rack α 20° PA

Quality Grade 6h23 DIN 3962/3963/3967 : Drilled Mounting Holes



Part Number	Module m_n	No. of Teeth z	Length L	Normal Pitch	Circum. Pitch Error	b	h	h_0	$f^{+0.5}$	a	l
UPSGR1.5-500	1.5	106	499.51	4.712	0.029	19	19	17.5	2	62.44	124.88
UPSGR1.5-1000	1.5	212	999.03	4.712	0.043	19	19	17.5	2	62.44	124.88
UPSGR2.0-500	2.0	80	502.65	6.283	0.025	24	24	22.0	2	62.83	125.66
UPSGR2.0-1000	2.0	160	1,005.31	6.283	0.036	24	24	22.0	2	62.83	125.66
UPSGR2.5-500	2.5	64	502.65	7.854	0.027	24	24	21.5	2	62.83	125.66
UPSGR2.5-1000	2.5	128	1,005.31	7.854	0.036	24	24	21.5	2	62.83	125.66
UPSGR3.0-500	3.0	54	508.94	9.425	0.029	29	29	26.0	2	63.62	127.23
UPSGR3.0-1000	3.0	108	1,017.88	9.425	0.037	29	29	26.0	2	63.62	127.23
UPSGR4.0-500	4.0	40	502.65	12.566	0.030	39	39	35.0	2	62.83	125.66
UPSGR4.0-1000	4.0	80	1,005.31	12.566	0.037	39	39	35.0	2	62.83	125.66
UPSGR5.0-500	5.0	32	502.65	15.708	0.028	49	39	34.0	3	62.83	125.66
UPSGR5.0-1000	5.0	64	1,005.31	15.708	0.034	49	39	34.0	3	62.83	125.66
UPSGR6.0-500	6.0	27	508.94	18.850	0.031	59	49	43.0	3	63.62	127.23
UPSGR6.0-1000	6.0	54	1,017.88	18.850	0.036	59	49	43.0	3	63.62	127.23
UPSGR8.0-500	8.0	20	502.65	25.133	0.029	79	79	71.0	3	62.83	125.66
UPSGR8.0-1000	8.0	40	1,005.31	25.133	0.033	79	79	71.0	3	62.83	125.66

Material: C45E Steel.

Quality: 6h23 DIN 3962/3963/3967

Pressure Angle: 20°.

Surface: All faces ground.

Heat Treatment: Induction hardened teeth 55-58 HRC.

Cut and tolerated for continuous mounting.



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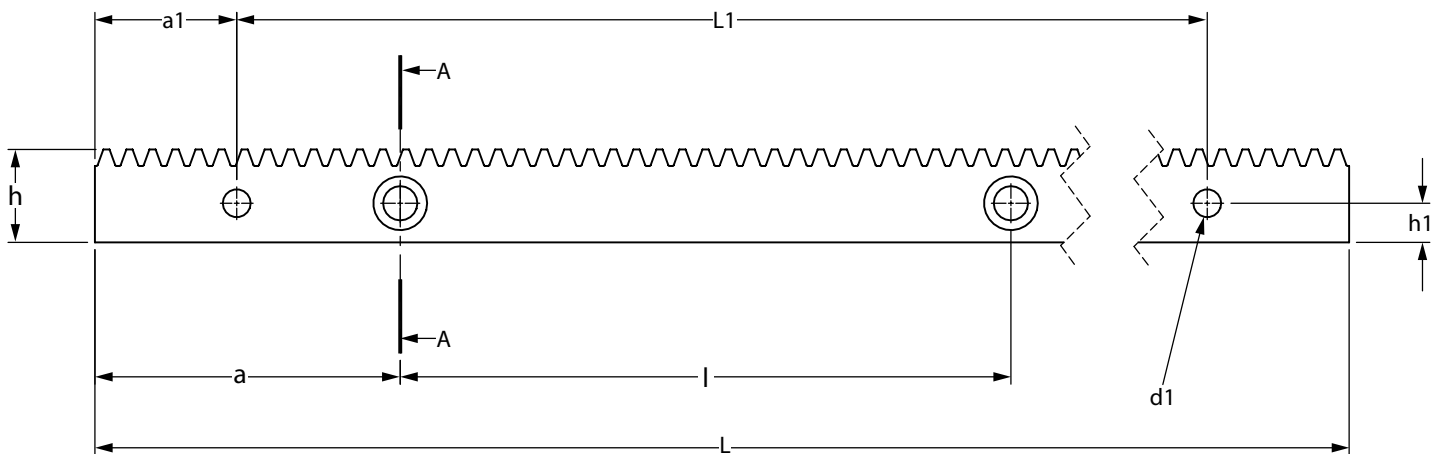
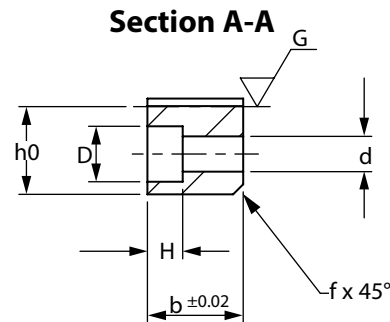
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PRECISION GROUND GEARS

1.5 to 8.0 Module Ground Spur Gear Rack α 20° PA

Quality Grade 6h23 DIN 3962/3963/3967 : Drilled Mounting Holes



Part Number	Module m_n	No. of Teeth z	Length L	h_1	d	D	H	a_1	L_1	d_1	Mass kg
UPSGR1.5-500	1.5	106	499.51	8	7	11	7	29.0	441.5	5.7	1.3
UPSGR1.5-1000	1.5	212	999.03	8	7	11	7	29.0	941.0	5.7	2.6
UPSGR2.0-500	2.0	80	502.65	8	7	11	7	31.3	440.1	5.7	2.1
UPSGR2.0-1000	2.0	160	1,005.31	8	7	11	7	31.3	942.7	5.7	4.2
UPSGR2.5-500	2.5	64	502.65	9	7	11	7	31.3	440.1	5.7	2.0
UPSGR2.5-1000	2.5	128	1,005.31	9	7	11	7	31.3	942.7	5.7	4.1
UPSGR3.0-500	3.0	54	508.94	9	10	15	9	34.4	440.1	7.7	3.0
UPSGR3.0-1000	3.0	108	1,017.88	9	10	15	9	34.4	949.1	7.7	6.0
UPSGR4.0-500	4.0	40	502.65	12	10	15	9	37.5	427.7	7.7	5.4
UPSGR4.0-1000	4.0	80	1,005.31	12	10	15	9	37.5	930.3	7.7	10.8
UPSGR5.0-500	5.0	32	502.65	12	14	20	13	30.2	442.3	11.7	6.6
UPSGR5.0-1000	5.0	64	1,005.31	12	14	20	13	30.2	944.9	11.7	13.1
UPSGR6.0-500	6.0	27	508.94	16	18	26	17	31.4	446.1	15.7	10.1
UPSGR6.0-1000	6.0	54	1,017.88	16	18	26	17	31.4	955.0	15.7	20.3
UPSGR8.0-500	8.0	20	502.65	25	22	33	21	26.7	449.3	19.7	22.1
UPSGR8.0-1000	8.0	40	1,005.31	25	22	33	21	26.7	952.0	19.7	44.3

Material: C45E Steel.

Quality: 6h23 DIN 3962/3963/3967

Pressure Angle: 20°.

Surface: All faces ground.

Heat Treatment: Induction hardened teeth 55-58 HRC.

Cut and tolerated for continuous mounting.



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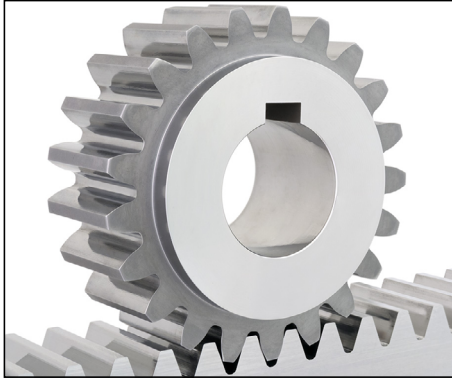
RUPSG
1.5 - 2.0mn

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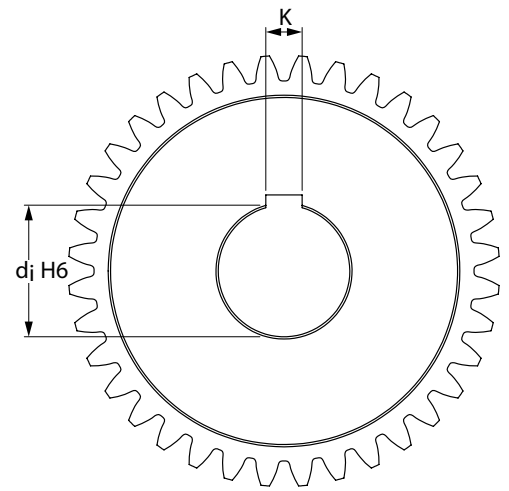
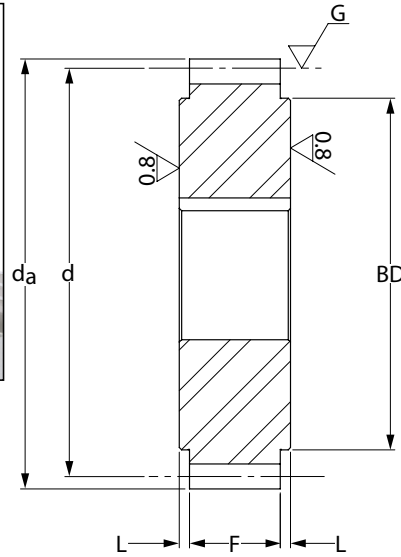
PRECISION GROUND GEARS

1.5 & 2.0 Module Ground Rack Spur Pinion α 20° PA

Quality Grade 4f24 DIN 3961/3967



To suit UPSGR series ground racks.



Part Number Case Hardened 805M20	Part Number Stainless Steel 17-4PH	Module m_n	No. of Teeth z	Ref. Dia. d	Tip Dia. d_a	Bore H6 d_j	Keyway DIN 6885-1 $K Js9$	Max. Bore H6 d_j	Face Width F	Hub Length L	Hub Dia. BD
RUPSG1.5-30H-K	RUPSG1.5-30PH-K	1.5	30	45.0	48.0	10	3 x 3	20	19	5	30
RUPSG1.5-32H-K	RUPSG1.5-32PH-K	1.5	32	48.0	51.0	10	3 x 3	22	19	5	35
RUPSG1.5-35H-K	RUPSG1.5-35PH-K	1.5	35	52.5	55.5	10	3 x 3	24	19	5	40
RUPSG1.5-38H-K	RUPSG1.5-38PH-K	1.5	38	57.0	60.0	10	3 x 3	24	19	5	40
RUPSG1.5-40H-K	RUPSG1.5-40PH-K	1.5	40	60.0	63.0	12	4 x 4	28	19	5	45
RUPSG1.5-45H-K	RUPSG1.5-45PH-K	1.5	45	67.5	70.5	14	5 x 5	30	19	5	50
RUPSG1.5-50H-K	RUPSG1.5-50PH-K	1.5	50	75.0	78.0	14	5 x 5	36	19	5	60
RUPSG1.5-55H-K	RUPSG1.5-55PH-K	1.5	55	82.5	85.5	14	5 x 5	42	19	5	70
RUPSG1.5-60H-K	RUPSG1.5-60PH-K	1.5	60	90.0	93.0	14	5 x 5	45	19	5	75
RUPSG1.5-65H-K	RUPSG1.5-65PH-K	1.5	65	97.5	100.5	14	5 x 5	48	19	5	80
RUPSG1.5-70H-K	RUPSG1.5-70PH-K	1.5	70	105.0	108.0	14	5 x 5	55	19	5	90
RUPSG1.5-75H-K	RUPSG1.5-75PH-K	1.5	75	112.5	115.5	16	5 x 5	60	19	5	100
RUPSG1.5-80H-K	RUPSG1.5-80PH-K	1.5	80	120.0	123.0	20	6 x 6	65	19	5	105
RUPSG2.0-25H-K	RUPSG2.0-25PH-K	2.0	25	50.0	54.0	10	3 x 3	20	24	5	35
RUPSG2.0-28H-K	RUPSG2.0-28PH-K	2.0	28	56.0	60.0	10	3 x 3	24	24	5	40
RUPSG2.0-30H-K	RUPSG2.0-30PH-K	2.0	30	60.0	64.0	12	4 x 4	28	24	5	45
RUPSG2.0-35H-K	RUPSG2.0-35PH-K	2.0	35	70.0	74.0	12	4 x 4	32	24	5	55
RUPSG2.0-40H-K	RUPSG2.0-40PH-K	2.0	40	80.0	84.0	14	5 x 5	40	24	5	65
RUPSG2.0-45H-K	RUPSG2.0-45PH-K	2.0	45	90.0	94.0	14	5 x 5	45	24	5	75
RUPSG2.0-50H-K	RUPSG2.0-50PH-K	2.0	50	100.0	104.0	14	5 x 5	50	24	5	85
RUPSG2.0-55H-K	RUPSG2.0-55PH-K	2.0	55	110.0	114.0	14	5 x 5	55	24	5	95
RUPSG2.0-60H-K	RUPSG2.0-60PH-K	2.0	60	120.0	124.0	16	5 x 5	60	24	5	105
RUPSG2.0-65H-K	RUPSG2.0-65PH-K	2.0	65	130.0	134.0	24	8 x 7	70	24	5	115
RUPSG2.0-70H-K	RUPSG2.0-70PH-K	2.0	70	140.0	144.0	28	8 x 7	75	24	5	125
RUPSG2.0-75H-K	RUPSG2.0-75PH-K	2.0	75	150.0	154.0	30	8 x 7	80	24	5	135
RUPSG2.0-80H-K	RUPSG2.0-80PH-K	2.0	80	160.0	164.0	32	10 x 8	85	24	5	145



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RUPSG
1.5 - 2.0m_n

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PRECISION GROUND GEARS

1.5 & 2.0 Module Ground Rack Spur Pinion α 20° PA

Quality Grade 4f24 DIN 3961/3967

Standard Part **RUPSG 1.5 40 H** **K**

Modified Part **RUPSG 2.0 40 PH 20 K**

RUPSG - Precision Form Ground Rack Spur Gear to suit UPSGR Ground Racks
Quality Grade 4f24 DIN 3961/3967
Other Quality Grades available
See Technical

m_n Module - Cut with DIN 867 1.25/0.20/1.0
Ref. Tooth Profile Topping WD = 2.25 x m_n
Ground flanks and root

Number of Teeth **z**

K- Keyway supplied to
DIN 6885 - Js9 tolerance
See Technical

To specify different bore enter size required
Example: 20 = 20mm H6 etc
See Technical

Material H
805M20 Case Hardened 58-62HRc
Material PH
17-4PH Condition H1025, 38-40HRc

Stated keyway size relates to minimum bore.

Other numbers of teeth and tooth tolerances available on request.

Lead crowning (barrelling), profile crowning and other modifications available on request.

Part Number Case Hardened 805M20	Backlash (mm)		Inertia kgm ²	Mass kg	Part Number Stainless Steel 17-4PH	Backlash (mm)		Inertia kgm ²	Mass kg
	j _{t,e} (max)	j _{t,i} (min)				j _{t,e} (max)	j _{t,i} (min)		
RUPSG1.5-30H-K	0.072	-0.014	6.61 x 10 ⁻⁵	0.272	RUPSG1.5-30PH-K	0.072	-0.014	6.55 x 10 ⁻⁵	0.270
RUPSG1.5-32H-K	0.072	-0.014	8.89 x 10 ⁻⁵	0.325	RUPSG1.5-32PH-K	0.072	-0.014	8.81 x 10 ⁻⁵	0.322
RUPSG1.5-35H-K	0.082	-0.019	1.30 x 10 ⁻⁴	0.400	RUPSG1.5-35PH-K	0.082	-0.019	1.29 x 10 ⁻⁴	0.397
RUPSG1.5-38H-K	0.082	-0.019	1.73 x 10 ⁻⁴	0.458	RUPSG1.5-38PH-K	0.082	-0.019	1.72 x 10 ⁻⁴	0.454
RUPSG1.5-40H-K	0.082	-0.019	2.20 x 10 ⁻⁴	0.517	RUPSG1.5-40PH-K	0.082	-0.019	2.18 x 10 ⁻⁴	0.512
RUPSG1.5-45H-K	0.086	-0.019	3.41 x 10 ⁻⁴	0.567	RUPSG1.5-45PH-K	0.086	-0.019	3.37 x 10 ⁻⁴	0.562
RUPSG1.5-50H-K	0.086	-0.019	5.59 x 10 ⁻⁴	0.841	RUPSG1.5-50PH-K	0.086	-0.019	5.54 x 10 ⁻⁴	0.833
RUPSG1.5-55H-K	0.086	-0.019	8.57 x 10 ⁻⁴	1.058	RUPSG1.5-55PH-K	0.086	-0.019	8.49 x 10 ⁻⁴	1.049
RUPSG1.5-60H-K	0.086	-0.019	1.20 x 10 ⁻³	1.254	RUPSG1.5-60PH-K	0.086	-0.019	1.19 x 10 ⁻³	1.243
RUPSG1.5-65H-K	0.086	-0.019	1.63 x 10 ⁻³	1.466	RUPSG1.5-65PH-K	0.086	-0.019	1.61 x 10 ⁻³	1.453
RUPSG1.5-70H-K	0.086	-0.019	2.27 x 10 ⁻³	1.748	RUPSG1.5-70PH-K	0.086	-0.019	2.25 x 10 ⁻³	1.732
RUPSG1.5-75H-K	0.086	-0.019	3.10 x 10 ⁻³	2.045	RUPSG1.5-75PH-K	0.086	-0.019	3.07 x 10 ⁻³	2.027
RUPSG1.5-80H-K	0.086	-0.019	3.95 x 10 ⁻³	2.286	RUPSG1.5-80PH-K	0.086	-0.019	3.91 x 10 ⁻³	2.265
RUPSG2.0-25H-K	0.072	-0.014	1.28 x 10 ⁻⁴	0.420	RUPSG2.0-25PH-K	0.072	-0.014	1.27 x 10 ⁻⁴	0.416
RUPSG2.0-28H-K	0.082	-0.019	2.02 x 10 ⁻⁴	0.536	RUPSG2.0-28PH-K	0.082	-0.019	2.00 x 10 ⁻⁴	0.532
RUPSG2.0-30H-K	0.086	-0.019	2.71 x 10 ⁻⁴	0.622	RUPSG2.0-30PH-K	0.086	-0.019	2.68 x 10 ⁻⁴	0.616
RUPSG2.0-35H-K	0.086	-0.019	5.12 x 10 ⁻⁴	0.874	RUPSG2.0-35PH-K	0.086	-0.019	5.08 x 10 ⁻⁴	0.866
RUPSG2.0-40H-K	0.086	-0.019	8.90 x 10 ⁻⁴	1.158	RUPSG2.0-40PH-K	0.086	-0.019	8.82 x 10 ⁻⁴	1.147
RUPSG2.0-45H-K	0.086	-0.019	1.45 x 10 ⁻³	1.494	RUPSG2.0-45PH-K	0.086	-0.019	1.43 x 10 ⁻³	1.481
RUPSG2.0-50H-K	0.086	-0.019	2.24 x 10 ⁻³	1.872	RUPSG2.0-50PH-K	0.086	-0.019	2.22 x 10 ⁻³	1.856
RUPSG2.0-55H-K	0.086	-0.019	3.31 x 10 ⁻³	2.293	RUPSG2.0-55PH-K	0.086	-0.019	3.28 x 10 ⁻³	2.272
RUPSG2.0-60H-K	0.086	-0.019	4.74 x 10 ⁻³	2.742	RUPSG2.0-60PH-K	0.086	-0.019	4.70 x 10 ⁻³	2.718
RUPSG2.0-65H-K	0.101	-0.026	6.58 x 10 ⁻³	3.179	RUPSG2.0-65PH-K	0.101	-0.026	6.52 x 10 ⁻³	3.151
RUPSG2.0-70H-K	0.101	-0.026	8.91 x 10 ⁻³	3.682	RUPSG2.0-70PH-K	0.101	-0.026	8.83 x 10 ⁻³	3.649
RUPSG2.0-75H-K	0.101	-0.026	1.18 x 10 ⁻²	4.245	RUPSG2.0-75PH-K	0.101	-0.026	1.17 x 10 ⁻²	4.207
RUPSG2.0-80H-K	0.101	-0.026	1.54 x 10 ⁻²	4.849	RUPSG2.0-80PH-K	0.101	-0.026	1.53 x 10 ⁻²	4.806



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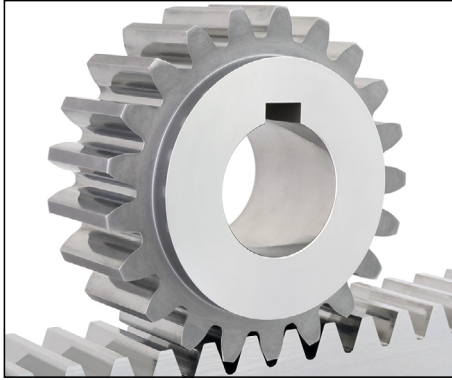
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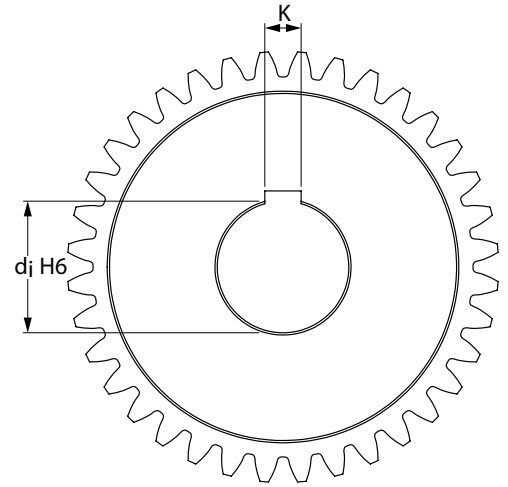
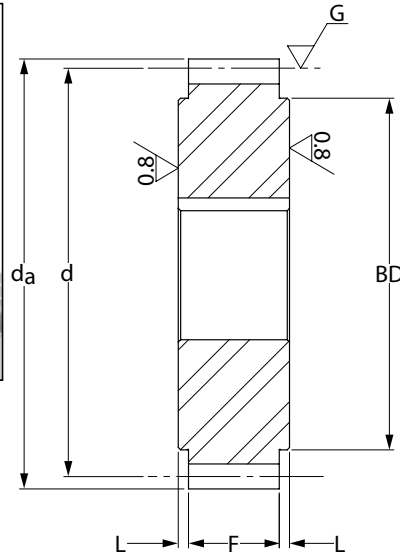
PRECISION GROUND GEARS

2.5 & 3.0 Module Ground Rack Spur Pinion α 20° PA

Quality Grade 4f24 DIN 3961/3967



To suit UPSGR series ground racks.



Part Number Case Hardened 805M20	Part Number Stainless Steel 17-4PH	Module m_n	No. of Teeth z	Ref. Dia. d	Tip Dia. d_a	Bore H6 d_j	Keyway DIN 6885-1 K Js9	Max. Bore H6 d_j	Face Width F	Hub Length L	Hub Dia. BD
RUPSG2.5-20H-K	RUPSG2.5-20PH-K	2.5	20	50.0	55.0	14	5 x 5	20	24	5	35
RUPSG2.5-25H-K	RUPSG2.5-25PH-K	2.5	25	62.5	67.5	14	5 x 5	30	24	5	45
RUPSG2.5-30H-K	RUPSG2.5-30PH-K	2.5	30	75.0	80.0	14	5 x 5	40	24	5	60
RUPSG2.5-35H-K	RUPSG2.5-35PH-K	2.5	35	87.5	92.5	14	5 x 5	50	24	5	70
RUPSG2.5-40H-K	RUPSG2.5-40PH-K	2.5	40	100.0	105.0	16	5 x 5	50	24	5	85
RUPSG2.5-45H-K	RUPSG2.5-45PH-K	2.5	45	112.5	117.5	16	5 x 5	55	24	5	95
RUPSG2.5-50H-K	RUPSG2.5-50PH-K	2.5	50	125.0	130.0	20	6 x 6	65	24	5	110
RUPSG2.5-55H-K	RUPSG2.5-55PH-K	2.5	55	137.5	142.5	24	8 x 7	80	24	5	120
RUPSG2.5-60H-K	RUPSG2.5-60PH-K	2.5	60	150.0	155.0	28	8 x 7	85	24	5	130
RUPSG2.5-65H-K	RUPSG2.5-65PH-K	2.5	65	162.5	167.5	30	8 x 7	85	24	5	145
RUPSG2.5-70H-K	RUPSG2.5-70PH-K	2.5	70	175.0	180.0	32	10 x 8	90	24	5	155
RUPSG2.5-75H-K	RUPSG2.5-75PH-K	2.5	75	187.5	192.5	36	10 x 8	100	24	5	170
RUPSG2.5-80H-K	RUPSG2.5-80PH-K	2.5	80	200.0	205.0	40	12 x 8	110	24	5	180
RUPSG3.0-20H-K	RUPSG3.0-20PH-K	3.0	20	60.0	66.0	14	5 x 5	28	29	5	45
RUPSG3.0-25H-K	RUPSG3.0-25PH-K	3.0	25	75.0	81.0	14	5 x 5	32	29	5	55
RUPSG3.0-30H-K	RUPSG3.0-30PH-K	3.0	30	90.0	96.0	14	5 x 5	50	29	5	70
RUPSG3.0-35H-K	RUPSG3.0-35PH-K	3.0	35	105.0	111.0	16	5 x 5	50	29	5	85
RUPSG3.0-40H-K	RUPSG3.0-40PH-K	3.0	40	120.0	126.0	20	6 x 6	68	29	5	100
RUPSG3.0-45H-K	RUPSG3.0-45PH-K	3.0	45	135.0	141.0	24	8 x 7	70	29	5	115
RUPSG3.0-50H-K	RUPSG3.0-50PH-K	3.0	50	150.0	156.0	28	8 x 7	85	29	5	130
RUPSG3.0-55H-K	RUPSG3.0-55PH-K	3.0	55	165.0	171.0	30	8 x 7	85	29	5	145
RUPSG3.0-60H-K	RUPSG3.0-60PH-K	3.0	60	180.0	186.0	36	10 x 8	95	29	5	160
RUPSG3.0-65H-K	RUPSG3.0-65PH-K	3.0	65	195.0	201.0	42	12 x 8	115	29	5	175
RUPSG3.0-70H-K	RUPSG3.0-70PH-K	3.0	70	210.0	216.0	42	12 x 8	115	29	5	190
RUPSG3.0-75H-K	RUPSG3.0-75PH-K	3.0	75	225.0	231.0	48	14 x 9	125	29	5	205
RUPSG3.0-80H-K	RUPSG3.0-80PH-K	3.0	80	240.0	246.0	50	14 x 9	140	29	5	225



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RUPSG
2.5 - 3.0mn

CAD
Drawings
Available
On Request

PRECISION GROUND GEARS

2.5 & 3.0 Module Ground Rack Spur Pinion α 20° PA

Quality Grade 4f24 DIN 3961/3967

Standard Part **RUPSG** **2.5** **40** **H** **K**

Modified Part **RUPSG** **3.0** **40** **PH** **20** **K**

RUPSG - Precision Form Ground Rack Spur Gear to suit UPSGR Ground Racks
Quality Grade 4f24 DIN 3961/3967
Other Quality Grades available
See Technical

m_n Module - Cut with DIN 867 1.25/0.20/1.0
Ref. Tooth Profile Topping $WD = 2.25 \times m_n$
Ground flanks and root

Number of Teeth **z**

K- Keyway supplied to
DIN 6885 - Js9 tolerance
See Technical

To specify different bore enter size required
Example: 20 = 20mm H6 etc
See Technical

Material H
805M20 Case Hardened 58-62HRc
Material PH
17-4PH Condition H1025, 38-40HRc

Stated keyway size relates to minimum bore.

Other numbers of teeth and tooth tolerances available on request.

Lead crowning (barrelling), profile crowning and other modifications available on request.

Part Number Case Hardened 805M20	Backlash (mm) $j_{t,e} (max) j_{t,i} (min)$	Inertia kgm^2	Mass kg	Part Number Stainless Steel 17-4PH	Backlash (mm) $j_{t,e} (max) j_{t,i} (min)$	Inertia kgm^2	Mass kg
RUPSG2.5-20H-K	0.072 - 0.014	1.29×10^{-4}	0.400	RUPSG2.5-20PH-K	0.072 - 0.014	1.28×10^{-4}	0.396
RUPSG2.5-25H-K	0.086 - 0.019	3.15×10^{-4}	0.655	RUPSG2.5-25PH-K	0.086 - 0.019	3.12×10^{-4}	0.649
RUPSG2.5-30H-K	0.086 - 0.019	6.84×10^{-4}	1.004	RUPSG2.5-30PH-K	0.086 - 0.019	6.78×10^{-4}	0.995
RUPSG2.5-35H-K	0.086 - 0.019	1.26×10^{-3}	1.382	RUPSG2.5-35PH-K	0.086 - 0.019	1.25×10^{-3}	1.370
RUPSG2.5-40H-K	0.086 - 0.019	2.24×10^{-3}	1.858	RUPSG2.5-40PH-K	0.086 - 0.019	2.22×10^{-3}	1.841
RUPSG2.5-45H-K	0.086 - 0.019	3.57×10^{-3}	2.359	RUPSG2.5-45PH-K	0.086 - 0.019	3.54×10^{-3}	2.338
RUPSG2.5-50H-K	0.089 - 0.019	5.60×10^{-3}	2.956	RUPSG2.5-50PH-K	0.089 - 0.019	5.55×10^{-3}	2.929
RUPSG2.5-55H-K	0.101 - 0.026	8.15×10^{-3}	3.544	RUPSG2.5-55PH-K	0.101 - 0.026	8.07×10^{-3}	3.512
RUPSG2.5-60H-K	0.101 - 0.026	1.15×10^{-2}	4.184	RUPSG2.5-60PH-K	0.101 - 0.026	1.14×10^{-2}	4.147
RUPSG2.5-65H-K	0.101 - 0.026	1.62×10^{-2}	4.990	RUPSG2.5-65PH-K	0.101 - 0.026	1.60×10^{-2}	4.945
RUPSG2.5-70H-K	0.101 - 0.026	2.16×10^{-2}	5.771	RUPSG2.5-70PH-K	0.101 - 0.026	2.14×10^{-2}	5.719
RUPSG2.5-75H-K	0.101 - 0.026	2.91×10^{-2}	6.682	RUPSG2.5-75PH-K	0.101 - 0.026	2.88×10^{-2}	6.623
RUPSG2.5-80H-K	0.105 - 0.026	3.74×10^{-2}	7.549	RUPSG2.5-80PH-K	0.105 - 0.026	3.71×10^{-2}	7.481
RUPSG3.0-20H-K	0.091 - 0.019	3.27×10^{-4}	0.714	RUPSG3.0-20PH-K	0.091 - 0.019	3.24×10^{-4}	0.707
RUPSG3.0-25H-K	0.091 - 0.019	7.82×10^{-4}	1.133	RUPSG3.0-25PH-K	0.091 - 0.019	7.75×10^{-4}	1.123
RUPSG3.0-30H-K	0.091 - 0.019	1.65×10^{-3}	1.687	RUPSG3.0-30PH-K	0.091 - 0.019	1.64×10^{-3}	1.672
RUPSG3.0-35H-K	0.091 - 0.019	3.11×10^{-3}	2.335	RUPSG3.0-35PH-K	0.091 - 0.019	3.08×10^{-3}	2.314
RUPSG3.0-40H-K	0.094 - 0.019	5.37×10^{-3}	3.071	RUPSG3.0-40PH-K	0.094 - 0.019	5.32×10^{-3}	3.044
RUPSG3.0-45H-K	0.106 - 0.026	8.71×10^{-3}	3.907	RUPSG3.0-45PH-K	0.106 - 0.026	8.63×10^{-3}	3.873
RUPSG3.0-50H-K	0.106 - 0.026	1.34×10^{-2}	4.844	RUPSG3.0-50PH-K	0.106 - 0.026	1.33×10^{-2}	4.801
RUPSG3.0-55H-K	0.106 - 0.026	1.98×10^{-2}	5.912	RUPSG3.0-55PH-K	0.106 - 0.026	1.96×10^{-2}	5.859
RUPSG3.0-60H-K	0.106 - 0.026	2.83×10^{-2}	7.020	RUPSG3.0-60PH-K	0.106 - 0.026	2.80×10^{-2}	6.957
RUPSG3.0-65H-K	0.110 - 0.026	3.92×10^{-2}	8.219	RUPSG3.0-65PH-K	0.110 - 0.026	3.88×10^{-2}	8.145
RUPSG3.0-70H-K	0.110 - 0.026	5.31×10^{-2}	9.638	RUPSG3.0-70PH-K	0.110 - 0.026	5.26×10^{-2}	9.552
RUPSG3.0-75H-K	0.110 - 0.026	7.03×10^{-2}	11.036	RUPSG3.0-75PH-K	0.110 - 0.026	6.97×10^{-2}	10.938
RUPSG3.0-80H-K	0.110 - 0.026	9.31×10^{-2}	12.763	RUPSG3.0-80PH-K	0.110 - 0.026	9.23×10^{-2}	12.649



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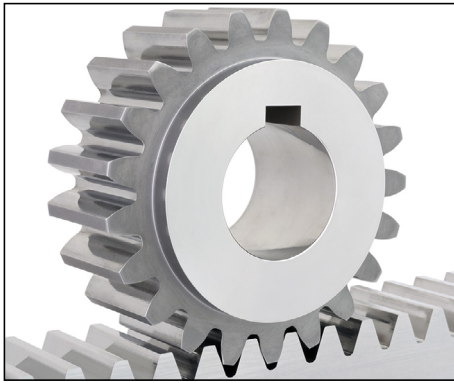
RUPSG
4.0 - 5.0mn

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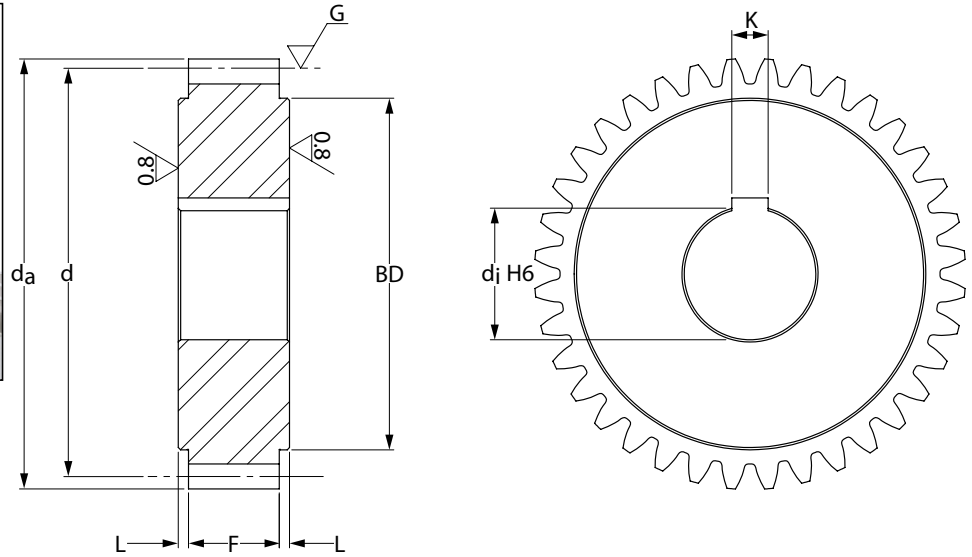
PRECISION GROUND GEARS

4.0 & 5.0 Module Ground Rack Spur Pinion α 20° PA

Quality Grade 4f24 DIN 3961/3967



To suit UPSGR series ground racks.



Part Number Case Hardened 805M20	Part Number Stainless Steel 17-4PH	Module m_n	No. of Teeth z	Ref. Dia. d	Tip Dia. d_a	Bore H6 d_j	Keyway DIN 6885-1 $K Js9$	Max. Bore H6 d_j	Face Width F	Hub Length L	Hub Dia. BD
RUPSG4.0-20H-K	RUPSG4.0-20PH-K	4.0	20	80	88	14	5 x 5	40	39	5	60
RUPSG4.0-22H-K	RUPSG4.0-22PH-K	4.0	22	88	96	14	5 x 5	45	39	5	70
RUPSG4.0-24H-K	RUPSG4.0-24PH-K	4.0	24	96	104	14	5 x 5	50	39	5	75
RUPSG4.0-25H-K	RUPSG4.0-25PH-K	4.0	25	100	108	14	5 x 5	55	39	5	80
RUPSG4.0-30H-K	RUPSG4.0-30PH-K	4.0	30	120	128	20	6 x 6	65	39	5	100
RUPSG4.0-32H-K	RUPSG4.0-32PH-K	4.0	32	128	136	20	6 x 6	65	39	5	110
RUPSG4.0-35H-K	RUPSG4.0-35PH-K	4.0	35	140	148	24	8 x 7	78	39	5	120
RUPSG4.0-36H-K	RUPSG4.0-36PH-K	4.0	36	144	152	28	8 x 7	80	39	5	125
RUPSG4.0-38H-K	RUPSG4.0-38PH-K	4.0	38	152	160	28	8 x 7	85	39	5	130
RUPSG4.0-40H-K	RUPSG4.0-40PH-K	4.0	40	160	168	30	8 x 7	85	39	5	140
RUPSG4.0-42H-K	RUPSG4.0-42PH-K	4.0	42	168	176	36	10 x 8	95	39	5	150
RUPSG4.0-45H-K	RUPSG4.0-45PH-K	4.0	45	180	188	36	10 x 8	95	39	5	160
RUPSG4.0-46H-K	RUPSG4.0-46PH-K	4.0	46	184	192	40	12 x 8	100	39	5	165
RUPSG5.0-20H-K	RUPSG5.0-20PH-K	5.0	20	100	110	16	5 x 5	48	49	5	80
RUPSG5.0-22H-K	RUPSG5.0-22PH-K	5.0	22	110	120	22	6 x 6	55	49	5	90
RUPSG5.0-24H-K	RUPSG5.0-24PH-K	5.0	24	120	130	24	8 x 7	60	49	5	100
RUPSG5.0-25H-K	RUPSG5.0-25PH-K	5.0	25	125	135	24	8 x 7	60	49	5	100
RUPSG5.0-30H-K	RUPSG5.0-30PH-K	5.0	30	150	160	30	8 x 7	75	49	5	125
RUPSG5.0-32H-K	RUPSG5.0-32PH-K	5.0	32	160	170	30	8 x 7	80	49	5	135
RUPSG5.0-35H-K	RUPSG5.0-35PH-K	5.0	35	175	185	36	10 x 8	90	49	5	150
RUPSG5.0-36H-K	RUPSG5.0-36PH-K	5.0	36	180	190	36	10 x 8	90	49	5	155
RUPSG5.0-38H-K	RUPSG5.0-38PH-K	5.0	38	190	200	40	12 x 8	100	49	5	165
RUPSG5.0-40H-K	RUPSG5.0-40PH-K	5.0	40	200	210	40	12 x 8	105	49	5	175
RUPSG5.0-42H-K	RUPSG5.0-42PH-K	5.0	42	210	220	40	12 x 8	110	49	5	185
RUPSG5.0-45H-K	RUPSG5.0-45PH-K	5.0	45	225	235	48	14 x 9	120	49	5	200
RUPSG5.0-46H-K	RUPSG5.0-46PH-K	5.0	46	230	240	50	14 x 9	125	49	5	205



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RUPSG
4.0 - 5.0mn

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Drawings
Available
On Request

PRECISION GROUND GEARS

4.0 & 5.0 Module Ground Rack Spur Pinion α 20° PA

Quality Grade 4f24 DIN 3961/3967

Standard Part **RUPSG** **4.0** **40** **H** **K**

Modified Part **RUPSG** **5.0** **40** **PH** **20** **K**

RUPSG - Precision Form Ground Rack Spur Gear to suit UPSGR Ground Racks
Quality Grade 4f24 DIN 3961/3967
Other Quality Grades available
See Technical

m_n Module - Cut with DIN 867 1.25/0.20/1.0
Ref. Tooth Profile Topping WD = 2.25 x m_n
Ground flanks and root

Number of Teeth **z**

K- Keyway supplied to
DIN 6885 - Js9 tolerance
See Technical

To specify different bore enter size required
Example: 20 = 20mm H6 etc
See Technical

Material H
805M20 Case Hardened 58-62HRc
Material PH
17-4PH Condition H1025, 38-40HRc

Stated keyway size relates to minimum bore.

Other numbers of teeth and tooth tolerances available on request.

Lead crowning (barrelling), profile crowning and other modifications available on request.

Part Number Case Hardened 805M20	Backlash (mm)		Inertia kgm ²	Mass kg	Part Number Stainless Steel 17-4PH	Backlash (mm)		Inertia kgm ²	Mass kg
	<i>jt.e (max)</i>	<i>jt.i (min)</i>				<i>jt.e (max)</i>	<i>jt.i (min)</i>		
RUPSG4.0-20H-K	0.091	- 0.019	1.36 x 10 ⁻³	1.683	RUPSG4.0-20PH-K	0.091	- 0.019	1.35 x 10 ⁻³	1.668
RUPSG4.0-22H-K	0.091	- 0.019	2.02 x 10 ⁻³	2.082	RUPSG4.0-22PH-K	0.091	- 0.019	2.00 x 10 ⁻³	2.064
RUPSG4.0-24H-K	0.094	- 0.019	2.82 x 10 ⁻³	2.477	RUPSG4.0-24PH-K	0.094	- 0.019	2.80 x 10 ⁻³	2.455
RUPSG4.0-25H-K	0.094	- 0.019	3.34 x 10 ⁻³	2.711	RUPSG4.0-25PH-K	0.094	- 0.019	3.31 x 10 ⁻³	2.687
RUPSG4.0-30H-K	0.094	- 0.019	7.00 x 10 ⁻³	3.920	RUPSG4.0-30PH-K	0.094	- 0.019	6.94 x 10 ⁻³	3.885
RUPSG4.0-32H-K	0.106	- 0.026	9.18 x 10 ⁻³	4.523	RUPSG4.0-32PH-K	0.106	- 0.026	9.10 x 10 ⁻³	4.483
RUPSG4.0-35H-K	0.106	- 0.026	1.31 x 10 ⁻²	5.379	RUPSG4.0-35PH-K	0.106	- 0.026	1.30 x 10 ⁻²	5.331
RUPSG4.0-36H-K	0.106	- 0.026	1.47 x 10 ⁻²	5.663	RUPSG4.0-36PH-K	0.106	- 0.026	1.46 x 10 ⁻²	5.612
RUPSG4.0-38H-K	0.106	- 0.026	1.81 x 10 ⁻²	6.307	RUPSG4.0-38PH-K	0.106	- 0.026	1.80 x 10 ⁻²	6.251
RUPSG4.0-40H-K	0.106	- 0.026	2.25 x 10 ⁻²	7.035	RUPSG4.0-40PH-K	0.106	- 0.026	2.23 x 10 ⁻²	6.972
RUPSG4.0-42H-K	0.106	- 0.026	2.76 x 10 ⁻²	7.721	RUPSG4.0-42PH-K	0.106	- 0.026	2.74 x 10 ⁻²	7.652
RUPSG4.0-45H-K	0.110	- 0.026	3.63 x 10 ⁻²	8.911	RUPSG4.0-45PH-K	0.110	- 0.026	3.60 x 10 ⁻²	8.831
RUPSG4.0-46H-K	0.110	- 0.026	3.98 x 10 ⁻²	9.267	RUPSG4.0-46PH-K	0.110	- 0.026	3.95 x 10 ⁻²	9.184
RUPSG5.0-20H-K	0.094	- 0.019	4.18 x 10 ⁻³	3.286	RUPSG5.0-20PH-K	0.094	- 0.019	4.15 x 10 ⁻³	3.256
RUPSG5.0-22H-K	0.094	- 0.019	6.12 x 10 ⁻³	3.934	RUPSG5.0-22PH-K	0.094	- 0.019	6.06 x 10 ⁻³	3.899
RUPSG5.0-24H-K	0.094	- 0.019	8.67 x 10 ⁻³	4.705	RUPSG5.0-24PH-K	0.094	- 0.019	8.59 x 10 ⁻³	4.663
RUPSG5.0-25H-K	0.094	- 0.019	1.01 x 10 ⁻²	5.072	RUPSG5.0-25PH-K	0.094	- 0.019	9.96 x 10 ⁻³	5.026
RUPSG5.0-30H-K	0.106	- 0.026	2.10 x 10 ⁻²	7.359	RUPSG5.0-30PH-K	0.106	- 0.026	2.08 x 10 ⁻²	7.293
RUPSG5.0-32H-K	0.106	- 0.026	2.72 x 10 ⁻²	8.448	RUPSG5.0-32PH-K	0.106	- 0.026	2.70 x 10 ⁻²	8.373
RUPSG5.0-35H-K	0.110	- 0.026	3.91 x 10 ⁻²	10.074	RUPSG5.0-35PH-K	0.110	- 0.026	3.88 x 10 ⁻²	9.984
RUPSG5.0-36H-K	0.110	- 0.026	4.38 x 10 ⁻²	10.701	RUPSG5.0-36PH-K	0.110	- 0.026	4.35 x 10 ⁻²	10.605
RUPSG5.0-38H-K	0.110	- 0.026	5.45 x 10 ⁻²	11.898	RUPSG5.0-38PH-K	0.110	- 0.026	5.41 x 10 ⁻²	11.792
RUPSG5.0-40H-K	0.110	- 0.026	6.72 x 10 ⁻²	13.278	RUPSG5.0-40PH-K	0.110	- 0.026	6.66 x 10 ⁻²	13.160
RUPSG5.0-42H-K	0.110	- 0.026	8.19 x 10 ⁻²	14.731	RUPSG5.0-42PH-K	0.110	- 0.026	8.11 x 10 ⁻²	14.600
RUPSG5.0-45H-K	0.110	- 0.026	1.08 x 10 ⁻¹	16.791	RUPSG5.0-45PH-K	0.110	- 0.026	1.07 x 10 ⁻¹	16.641
RUPSG5.0-46H-K	0.110	- 0.026	1.18 x 10 ⁻¹	17.528	RUPSG5.0-46PH-K	0.110	- 0.026	1.17 x 10 ⁻¹	17.372



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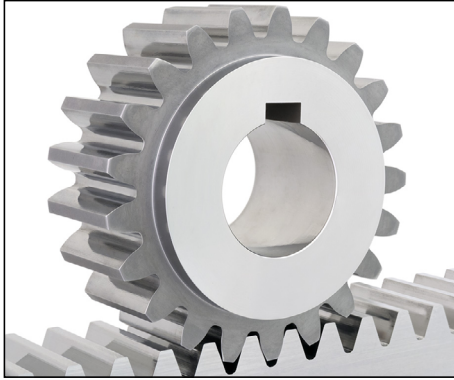
RUPSG
6.0 - 8.0mn

CAD
Drawings
Available
On Request

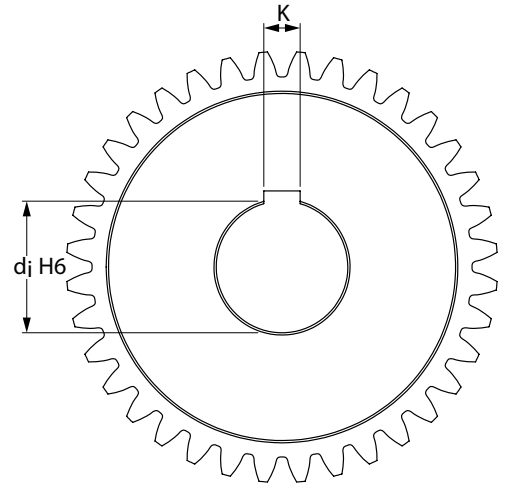
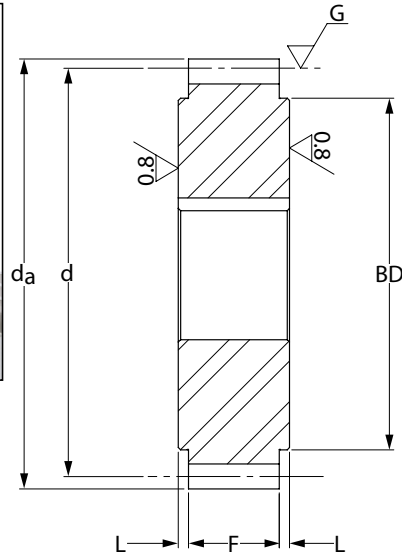
PRECISION GROUND GEARS

6.0 & 8.0 Module Ground Rack Spur Pinion $\alpha 20^\circ$ PA

Quality Grade 4f24 DIN 3961/3967



To suit UPSGR series ground racks.



Part Number Case Hardened 805M20	Part Number Stainless Steel 17-4PH	Module m_n	No. of Teeth z	Ref. Dia. d	Tip Dia. d_a	Bore H6 d_j	Keyway DIN 6885-1 $K Js9$	Max. Bore H6 d_j	Face Width F	Hub Length L	Hub Dia. BD
RUPSG6.0-20H-K	RUPSG6.0-20PH-K	6.0	20	120	132	22	6 x 6	55	59	5	95
RUPSG6.0-22H-K	RUPSG6.0-22PH-K	6.0	22	132	144	24	8 x 7	65	59	5	105
RUPSG6.0-24H-K	RUPSG6.0-24PH-K	6.0	24	144	156	28	8 x 7	72	59	5	120
RUPSG6.0-25H-K	RUPSG6.0-25PH-K	6.0	25	150	162	30	8 x 7	75	59	5	125
RUPSG6.0-30H-K	RUPSG6.0-30PH-K	6.0	30	180	192	36	10 x 8	90	59	5	155
RUPSG6.0-32H-K	RUPSG6.0-32PH-K	6.0	32	192	204	40	12 x 8	100	59	5	165
RUPSG6.0-35H-K	RUPSG6.0-35PH-K	6.0	35	210	222	40	12 x 8	110	59	5	185
RUPSG6.0-36H-K	RUPSG6.0-36PH-K	6.0	36	216	228	40	12 x 8	115	59	5	190
RUPSG6.0-38H-K	RUPSG6.0-38PH-K	6.0	38	228	240	50	14 x 9	125	59	5	205
RUPSG6.0-40H-K	RUPSG6.0-40PH-K	6.0	40	240	252	50	14 x 9	130	59	5	215
RUPSG6.0-42H-K	RUPSG6.0-42PH-K	6.0	42	252	264	55	16 x 10	135	59	5	225
RUPSG6.0-45H-K	RUPSG6.0-45PH-K	6.0	45	270	282	60	18 x 11	145	59	5	245
RUPSG8.0-20H-K	RUPSG8.0-20PH-K	8.0	20	160	176	30	8 x 7	80	79	5	130
RUPSG8.0-22H-K	RUPSG8.0-22PH-K	8.0	22	176	192	32	10 x 8	85	79	5	145
RUPSG8.0-24H-K	RUPSG8.0-24PH-K	8.0	24	192	208	36	10 x 8	95	79	5	160
RUPSG8.0-25H-K	RUPSG8.0-25PH-K	8.0	25	200	216	40	12 x 8	100	79	5	170
RUPSG8.0-26H-K	RUPSG8.0-26PH-K	8.0	26	208	224	42	12 x 8	110	79	5	180
RUPSG8.0-30H-K	RUPSG8.0-30PH-K	8.0	30	240	256	50	14 x 9	125	79	5	210
RUPSG8.0-32H-K	RUPSG8.0-32PH-K	8.0	32	256	272	55	16 x 10	135	79	5	225



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RUPSG
6.0 - 8.0mn

CAD
Drawings
Available
On Request

PRECISION GROUND GEARS

6.0 & 8.0 Module Ground Rack Spur Pinion α 20° PA

Quality Grade 4f24 DIN 3961/3967

Standard Part **RUPSG** **6.0** **40** **H** **K**

Modified Part **RUPSG** **8.0** **40** **PH** **60** **K**

RUPSG - Precision Form Ground Rack Spur Gear to suit UPSGR Ground Racks
Quality Grade 4f24 DIN 3961/3967
Other Quality Grades available
See Technical

m_n Module - Cut with DIN 867 1.25/0.20/1.0
Ref. Tooth Profile Topping WD = 2.25 x m_n
Ground flanks and root

Number of Teeth **z**

K- Keyway supplied to
DIN 6885 - Js9 tolerance
See Technical

To specify different bore enter size required
Example: 60 = 60mm H6 etc
See Technical

Material H
805M20 Case Hardened 58-62HRc
Material PH
17-4PH Condition H1025, 38-40HRc

Stated keyway size relates to minimum bore.

Other numbers of teeth and tooth tolerances available on request.

Lead crowning (barrelling), profile crowning and other modifications available on request.

Part Number Case Hardened 805M20	Backlash (mm) $j_{t,e} (max) j_{t,i} (min)$	Inertia kgm^2	Mass kg	Part Number Stainless Steel 17-4PH	Backlash (mm) $j_{t,e} (max) j_{t,i} (min)$	Inertia kgm^2	Mass kg
RUPSG6.0-20H-K	0.099 - 0.019	1.03×10^{-2}	5.525	RUPSG6.0-20PH-K	0.099 - 0.019	1.02×10^{-2}	5.476
RUPSG6.0-22H-K	0.111 - 0.026	1.50×10^{-2}	6.696	RUPSG6.0-22PH-K	0.111 - 0.026	1.48×10^{-2}	6.636
RUPSG6.0-24H-K	0.111 - 0.026	2.13×10^{-2}	8.007	RUPSG6.0-24PH-K	0.111 - 0.026	2.11×10^{-2}	7.936
RUPSG6.0-25H-K	0.111 - 0.026	2.50×10^{-2}	8.668	RUPSG6.0-25PH-K	0.111 - 0.026	2.48×10^{-2}	8.591
RUPSG6.0-30H-K	0.115 - 0.026	5.21×10^{-2}	12.586	RUPSG6.0-30PH-K	0.115 - 0.026	5.16×10^{-2}	12.474
RUPSG6.0-32H-K	0.115 - 0.026	6.73×10^{-2}	14.265	RUPSG6.0-32PH-K	0.115 - 0.026	6.67×10^{-2}	14.138
RUPSG6.0-35H-K	0.115 - 0.026	9.70×10^{-2}	17.309	RUPSG6.0-35PH-K	0.115 - 0.026	9.61×10^{-2}	17.155
RUPSG6.0-36H-K	0.115 - 0.026	1.08×10^{-1}	18.348	RUPSG6.0-36PH-K	0.115 - 0.026	1.07×10^{-1}	18.184
RUPSG6.0-38H-K	0.115 - 0.026	1.36×10^{-1}	20.255	RUPSG6.0-38PH-K	0.115 - 0.026	1.34×10^{-1}	20.075
RUPSG6.0-40H-K	0.115 - 0.026	1.66×10^{-1}	22.544	RUPSG6.0-40PH-K	0.115 - 0.026	1.65×10^{-1}	22.343
RUPSG6.0-42H-K	0.115 - 0.026	2.01×10^{-1}	24.727	RUPSG6.0-42PH-K	0.115 - 0.026	2.00×10^{-1}	24.506
RUPSG6.0-45H-K	0.115 - 0.026	2.67×10^{-1}	28.460	RUPSG6.0-45PH-K	0.115 - 0.026	2.65×10^{-1}	28.206
RUPSG8.0-20H-K	0.115 - 0.026	4.30×10^{-2}	12.865	RUPSG8.0-20PH-K	0.115 - 0.026	4.27×10^{-2}	12.750
RUPSG8.0-22H-K	0.115 - 0.026	6.27×10^{-2}	15.639	RUPSG8.0-22PH-K	0.115 - 0.026	6.22×10^{-2}	15.499
RUPSG8.0-24H-K	0.115 - 0.026	8.86×10^{-2}	18.608	RUPSG8.0-24PH-K	0.115 - 0.026	8.78×10^{-2}	18.442
RUPSG8.0-25H-K	0.115 - 0.026	1.04×10^{-1}	20.157	RUPSG8.0-25PH-K	0.115 - 0.026	1.04×10^{-1}	19.977
RUPSG8.0-26H-K	0.115 - 0.026	1.23×10^{-1}	21.857	RUPSG8.0-26PH-K	0.115 - 0.026	1.21×10^{-1}	21.662
RUPSG8.0-30H-K	0.119 - 0.026	2.17×10^{-1}	29.094	RUPSG8.0-30PH-K	0.119 - 0.026	2.15×10^{-1}	28.835
RUPSG8.0-32H-K	0.119 - 0.026	2.80×10^{-1}	33.043	RUPSG8.0-32PH-K	0.119 - 0.026	2.78×10^{-1}	32.748



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