

PRODUCT GUIDE

국내 자체 제작 기술 보유

# KAM



# About Us

## 주식회사 마틴프라우트

Matinprout Co., Ltd.

(주)마틴프라우트(Matınprout Co., Ltd)는 랙피니언, 고정밀 감속기 국내 자체 생산 기술을 보유한 회사입니다.

2019년 06월 설립 이래 제조, 유통, 판매뿐만 아니라, 산업자동화 분야에 진보된 공학적 해법을 제시하고 있습니다.

(주)마틴프라우트는 혁신적인 서보 동력전달체계 및 서보 시스템 개발을 위하여 열정을 다하고 있으며,

우수한 산업제품의 제조, 판매는 물론, 회전 기계에 대한 첨단 미래 기술을 선보이고 있습니다.

Matinprout has progressed and expanded its business to keep pace with engineering innovations in advanced transmission technology. Matinprout contributes to high quality and optimized solution to customer, who need more sophisticate, higher accuracy in industry.

From our tireless efforts in research and through extensive participation in automation and precision machinery exhibitions at home and abroad, Matinprout is not only manufacturing and marketing superior industrial products, but also taking a fresh approach rotatable innovation by feeling the future today.



# Advanced Solution

## ■ 청정 설치 가능 (Clean installation)

무윤활 구동 가능  
(필요시 표면보호피막 정도의 양으로 충분)  
No rack lubrication  
(Only surface coating amount  
if it is necessary)

## ■ 고 생산성 (High Productivity)

저관성, 고강성, 고추력  
Low inertia, High rigidity, High thrust

## ■ 저소음 구동 (Extremely Slient)

불규칙한 운동 최소화  
Minimize irregular motion

## ■ 최적화된 압력각 (Optimized Pressure Angle)

고효율 응력집중 완화  
High efficiency Low stress concentration

## ■ 유지보수최소화 (Trouble free)

고강성, 높은 내충격성  
High rigidity, High shock resistance

## ■ 고 효율 (High Efficiency)

미끄럼 마찰 최소화 및 온전한 구름 접촉  
Minimize Slippage & Full rolling contact

## ■ 다양한 선정 (Various Selection)

다양한 용량 및 적용길이 무제한  
Diverse size & Unlimited length

## ■ 높은 위치 정밀도 (Unsurpassed accuracy)

백래쉬 및 진동 최소화, 예압 적용 가능  
Minimize backlash & Vibration  
Preloadable

## ■ 손쉬운 사용 (Easy to use)

사용자 준비품 최소화, 부동소수 이동 배제  
Minimize user preparation  
No floating feed

## ■ 고객원가절감 (Customer cost down)

간단한 구조의 장비 설계  
Simple structure of machine

## KAM Ordering Information

**Rack** KAM □□□□ - R - S - □□□□ - □□□□  
 ① ② ③ ④

**Pinion** KAM □□□□ - P - S □□□□  
 ① ② ④

- ① **Model Name** : KAM
- ② **Model Number** : Pitch & Number of Pin
- ③ **Rack Length**
- ④ **Indication** : Special code

## KAM ratings at a glance

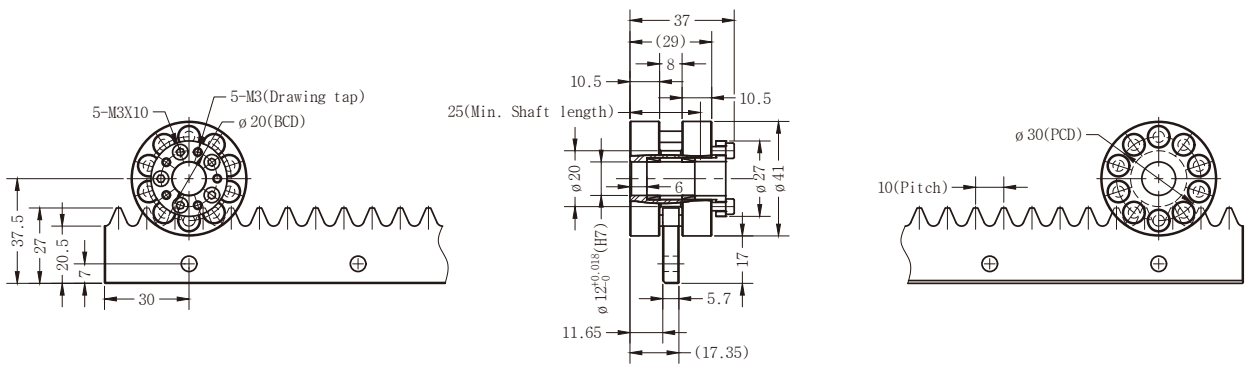
Rack Specifications	Unit	KAM1010	KAM1210	KAM1610	KAM2010	KAM2510	KAM3212	KAM4012	KAM4014
<b>Tangential speed vs. Pinion rpm</b>	720rpm	1.2	1.44	1.92	2.4	3	4.608	5.76	6.72
	600rpm	1	0.23	1.6	2	2.5	3.84	4.8	5.6
	480rpm	0.8	0.96	1.28	1.6	2	3.072	3.84	4.48
	360rpm	0.6	0.72	0.96	1.2	1.5	2.304	2.88	3.36
	240rpm	0.4	0.48	0.64	0.8	1	1.536	1.92	2.24
	120rpm	0.2	0.24	0.32	0.4	0.5	0.768	0.96	1.12
<b>Dynamic rated load</b>	N	250	500	1000	1500	2200	3600	6000	14000
<b>Static rated load</b>	N	380	750	2000	3000	4400	7200	12000	21000
<b>Pitch</b>	mm	10	12	16	20	25	32	40	40
<b>Unit mass</b>	kg/m	0.6	0.6	2.2	4.2	5.4	8.4	13.8	17
<b>Standard length</b>	mm	480	480	512 992	500 1000	500 1000	512 992	520 1000	520 1000
<b>Standard length no. of teeth</b>	teeth	48	40	32 62	25 50	20 40	16 31	13 25	13 25
<b>Mass</b>	kg	0.6	0.6	1.1 2.2	2.1 4.2	2.1 5.4	4.2 8.4	6.9 13.8	8.8 17
<b>Rack width</b>	mm	5.7	5.7	11.5	15.5	18.5	24.5	31.5	42
<b>Addendum (Rack) height</b>	mm	27	27	30.5	42	48	57	73	72
<b>Dedendum height</b>	mm	20.5	19.5	20.25	29	31.5	37	46	45
<b>Pinion installation height</b>	mm	37.5	40	48	64	75	102	129	140

Pinion Specifications	Unit	KAM1010	KAM1210	KAM1610	KAM2010	KAM2510	KAM3212	KAM4012	KAM4014
<b>Dynamic rated torque</b>	Nm	4.0	9.5	25.5	47.7	87.5	220	458.4	1247.8
<b>Static rated torque</b>	Nm	6.0	14.3	50.9	95.5	175.1	440	916.7	1871.6
<b>Feeding rate per revolution</b>	mm/rev	100	120	160	200	250	384	480	560
<b>Pitch circle diameter <sup>1)</sup></b>	mm	31.831	38.197	50.9	63.7	79.6	122.2	152.8	178.3
<b>Inertia <sup>2)</sup></b>	x 10 <sup>-4</sup> kg·m <sup>2</sup>	0.41	0.96	3.93	10.5	25.5	169	594	1180
<b>Mass <sup>2)</sup></b>	kg	0.20	0.31	0.71	1.3	2.1	6.4	12.4	20.9
<b>Positioning accuracy</b>	µm	±30	±30	±30	±30	±25	±25	±25	±25
<b>No. of roller</b>	rollers	10	10	10	10	10	12	12	14
<b>Module</b>	mm	3	3.6	4.75	6	7.5	9.5	12	12
<b>Max. pressure angle</b>	deg	31	30.7	30.7	30.1	30.7	30.1	30	30
<b>Arc distance between roller</b>	mm	10	12	16	20	25	32	40	40

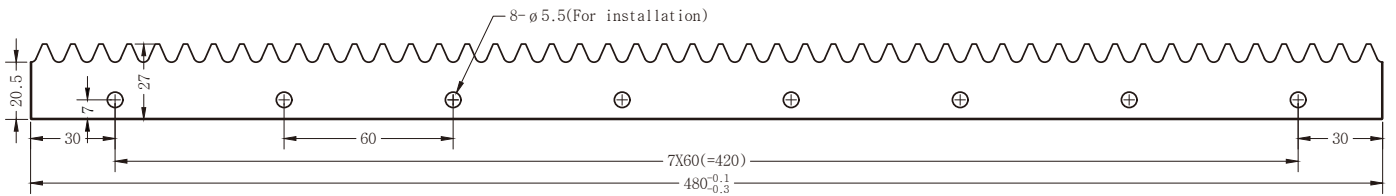
1) Theoretical value.  
 2) Reference value for standard pinion

Dynamic rate load : Allowable load for life span at fixed speed.  
 Static rated load : Maximum load for KAM rack. (Instantaneous overload or external impact should not over this value.)  
 Rate life span : 60,000,000 times of revolution. (KAM pinion at 100rpm, serving lifetime results in 10,000 hours)

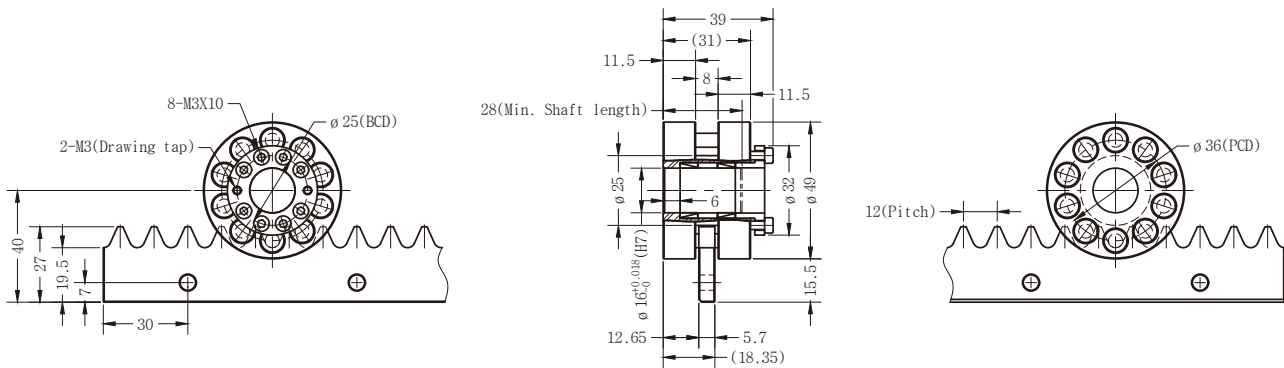
### KAM1010 External Dimensions



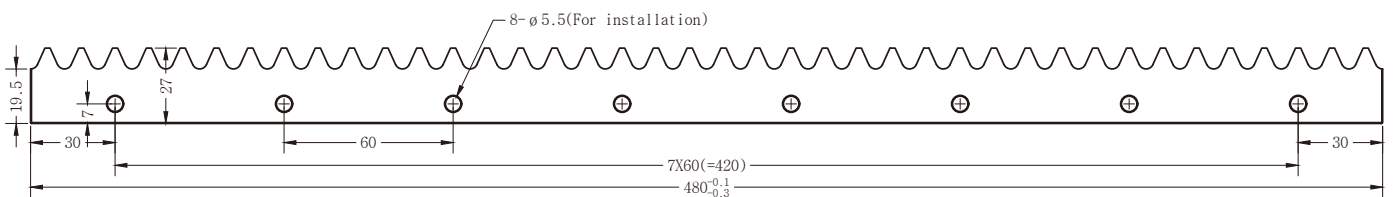
**Model : KAM1010-R-S-480**  
**Scale : 1/1**



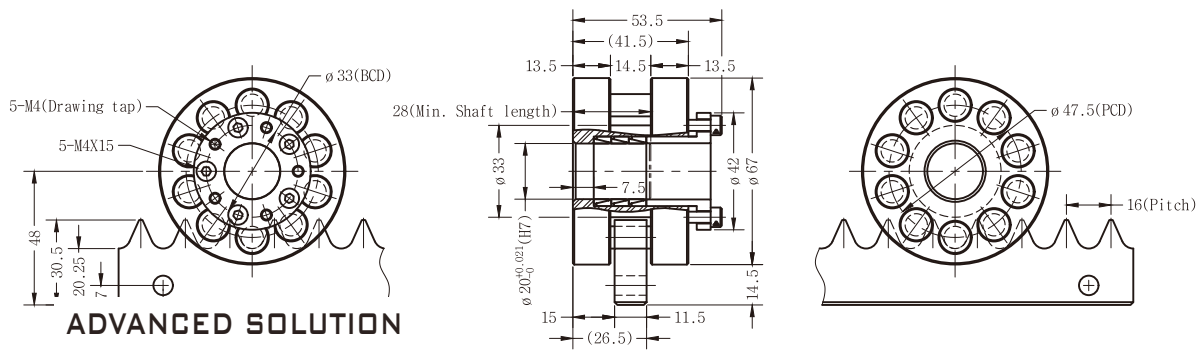
### KAM1210 External Dimensions



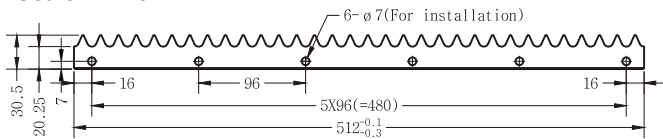
**Model : KAM1210-R-S-480**  
**Scale : 1/1**



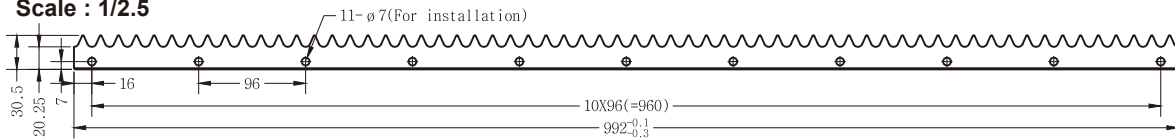
### KAM1610 External Dimensions



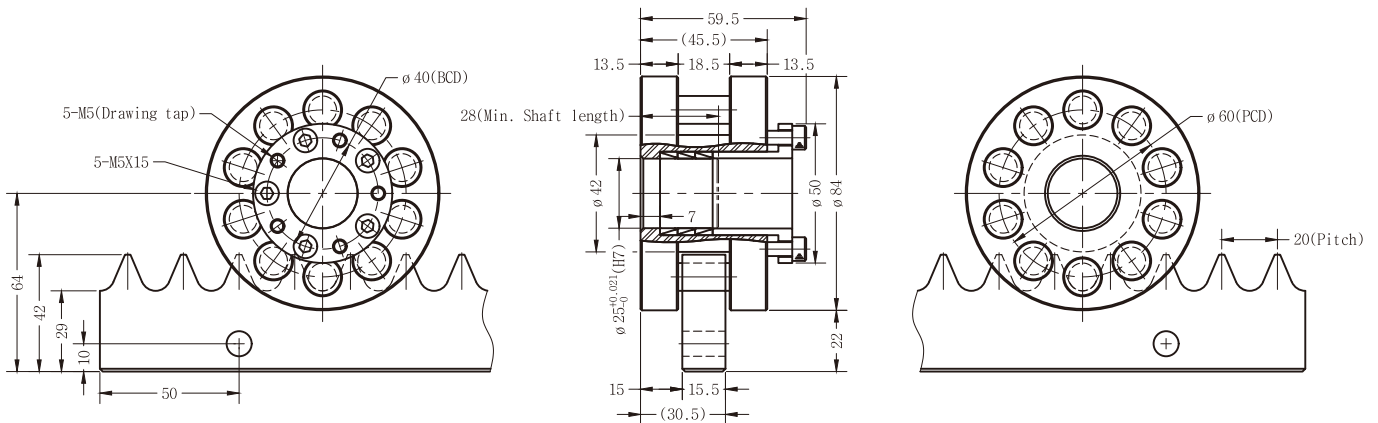
**Model : KAM1610-R-S-512**  
**Scale : 1/2.5**



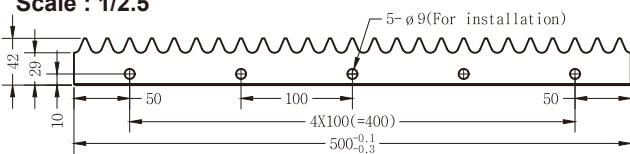
**Model : KAM1610-R-S-992**  
**Scale : 1/2.5**



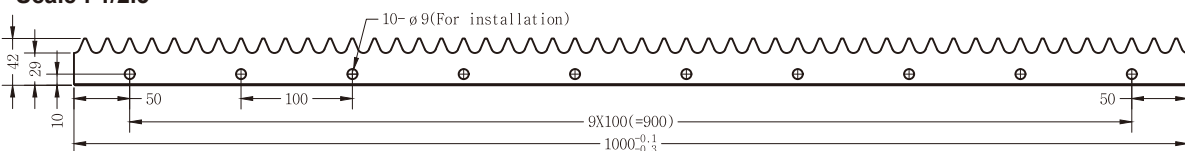
### KAM2010 External Dimensions



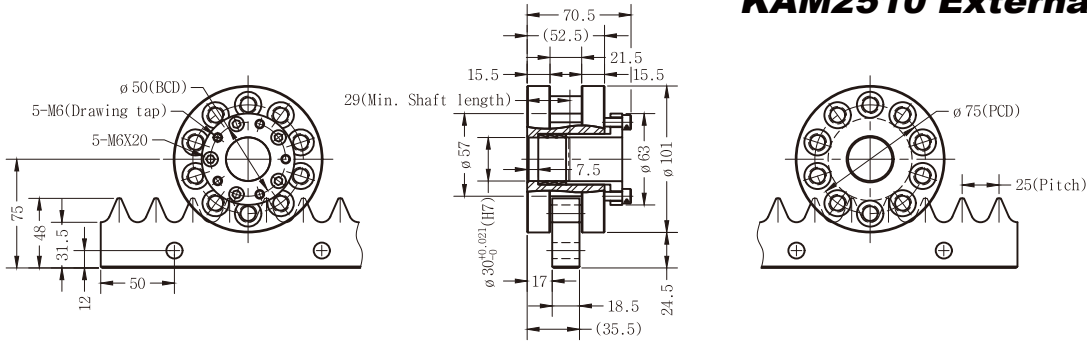
**Model : KAM2010-R-S-500**  
**Scale : 1/2.5**



**Model : KAM2010-R-S-1000**  
**Scale : 1/2.5**

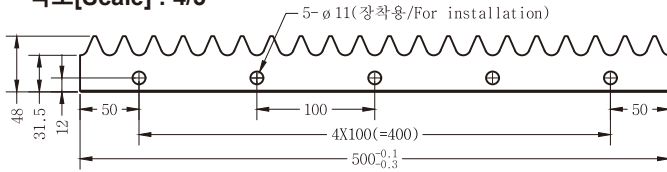


### KAM2510 External Dimensions



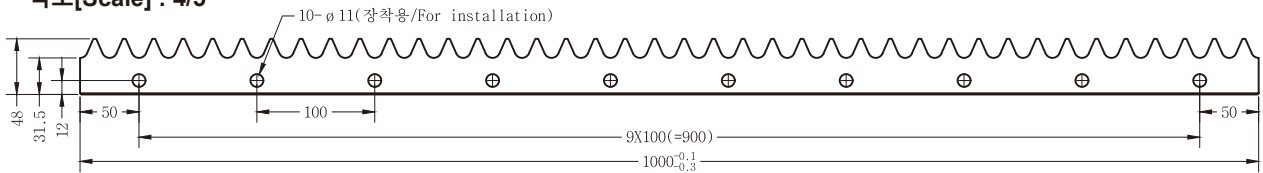
형번[Model] : KAM2510-R-S-500

척도[Scale] : 4/5

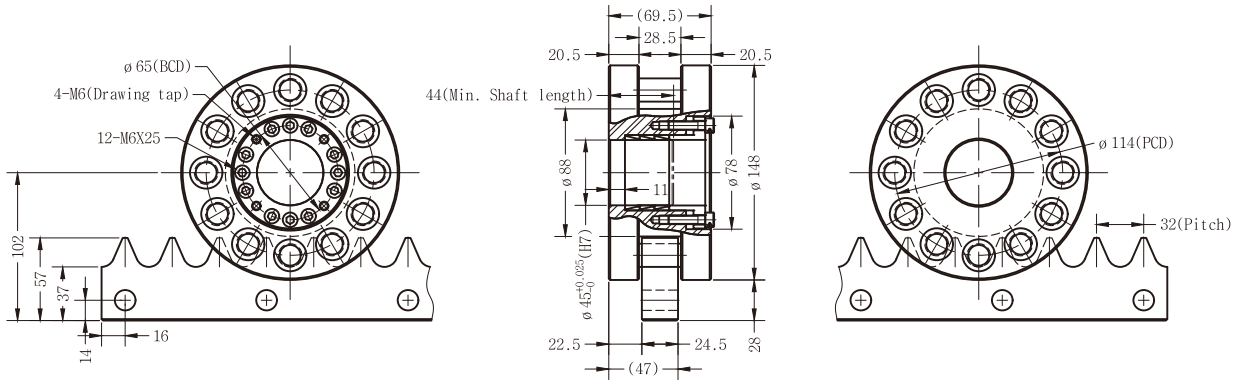


형번[Model] : KAM2510-R-S-1000

척도[Scale] : 4/5

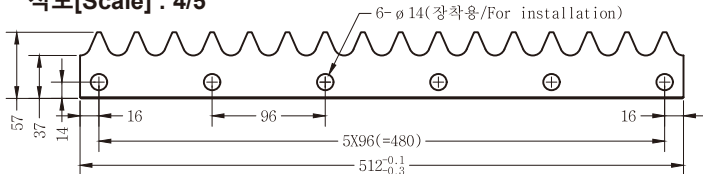


### KAM3212 External Dimensions



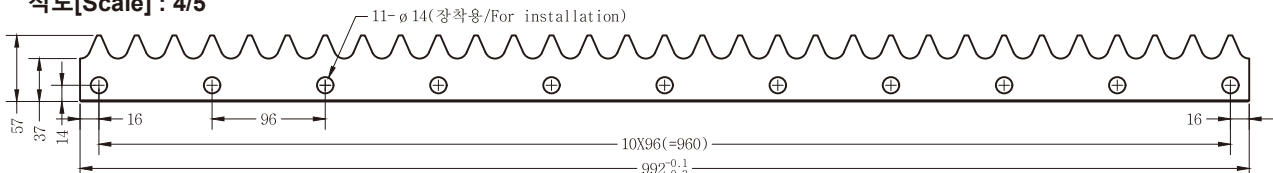
형번[Model] : KAM3212-R-S-512

척도[Scale] : 4/5

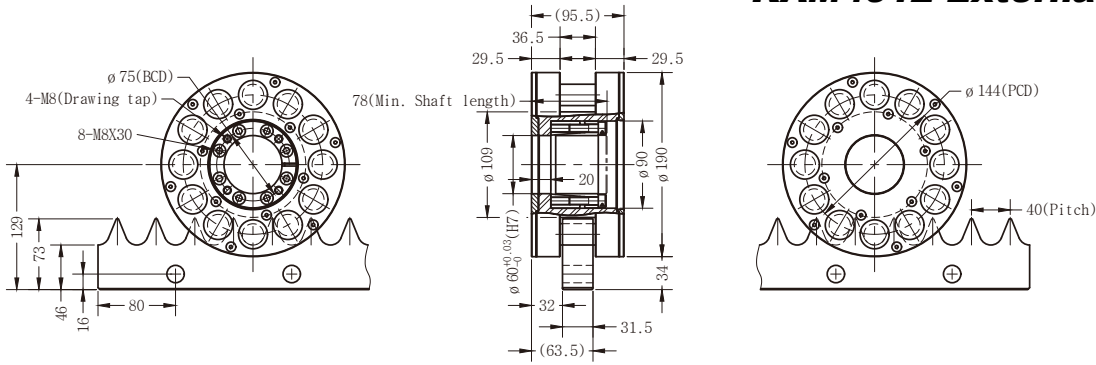


형번[Model] : KAM3212-R-S-992

척도[Scale] : 4/5

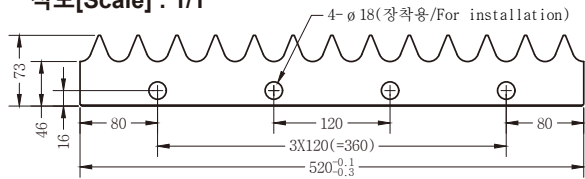


### KAM4012 External Dimensions



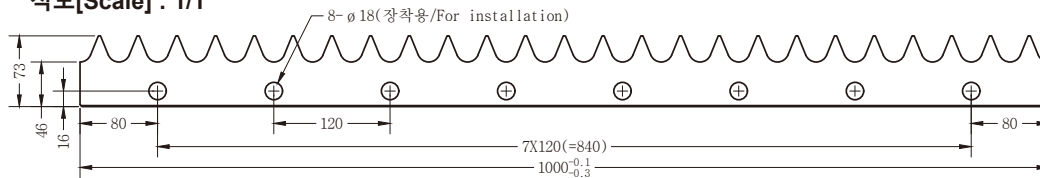
형번[Model] : KAM4012-R-S-520

척도[Scale] : 1/1

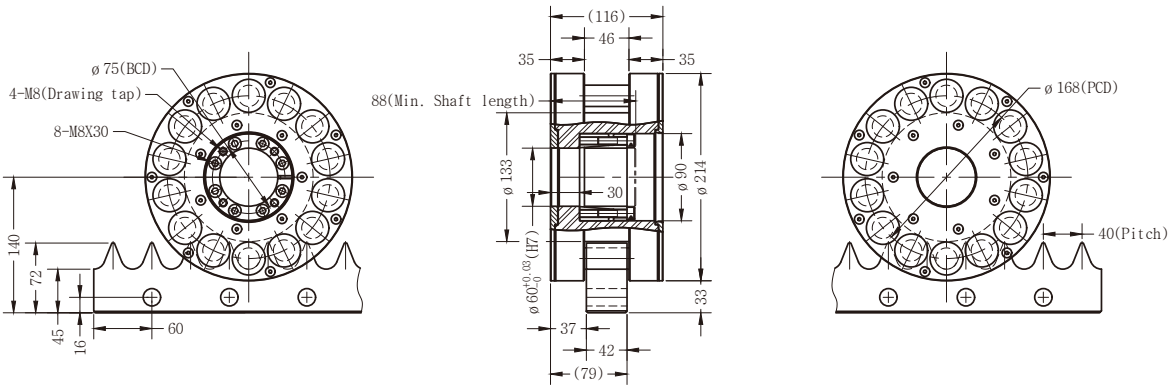


형번[Model] : KAM4012-R-S-1000

척도[Scale] : 1/1

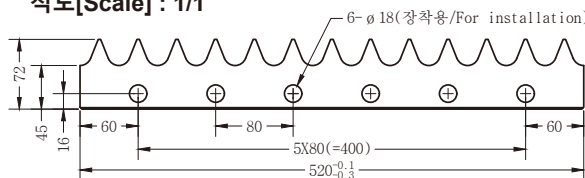


### KAM4014 External Dimensions



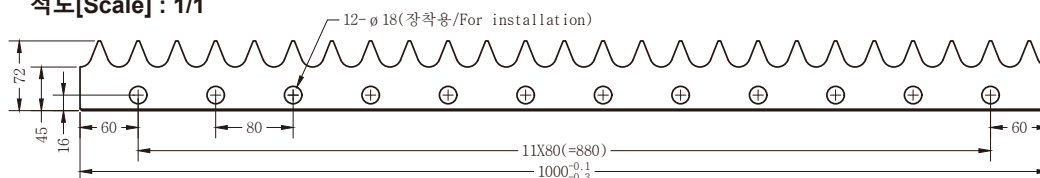
형번[Model] : KAM4014-R-S-520

척도[Scale] : 1/1



형번[Model] : KAM4014-R-S-1000

척도[Scale] : 1/1





# KGE Ordering Information

**External Ring Gear**

KGE □□□□ - S - i□□ - □□□□  
 ①                      ②                      ③                      ④

**Pinion**

KAM □□□□ - P - S □□□□  
 ①                      ②                      ④

① **Model Name** : Kam Gearing External / KAM

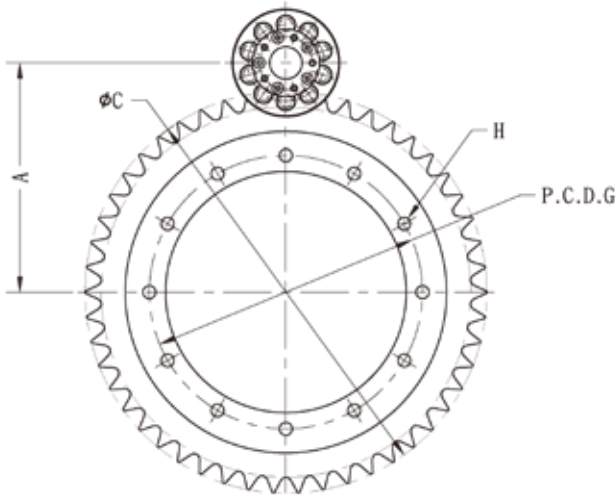
② **Model Number** : Pitch & Number of Pin

③ **External Ring Gear : Ratio**

④ **Indication : Special code**

External Ring Gear : Center distance between pinion and external ring gear

## KGE Ratings at a glance & External Dimensions



Model	No. of teeth	Reduction ratio	Diameter of pitch circle	
			KGE	PINION
KGE1010	30	3	93.00	31.00
	50	5	155.00	31.00
	70	7	217.00	31.00
	80	8	248.89	31.11
KGE1210	100	10	310.91	31.09
	30	3	111.00	37.00
	50	5	186.67	37.33
	70	7	260.75	37.25
KGE1610	80	8	298.67	37.33
	100	10	372.73	37.27
	30	3	147.00	49.00
	40	4	195.20	48.80
KGE2510	50	5	243.33	48.67
	60	6	291.43	48.57
	70	7	338.64	48.38
	80	8	391.11	48.89
KGE3212	100	10	487.27	48.73
	30	3	231.00	77.00
	40	4	308.80	77.20
	50	5	383.33	76.67
KGE4012	60	6	459.43	76.57
	70	7	539.00	77.00
	36	3	352.50	117.50
KGE4014	48	4	467.20	116.80
	60	5	585.00	117.00
KGE4012	36	3	445.50	148.50
	48	4	590.40	147.60
KGE4014	28	2	346.67	173.33
	42	3	519.00	173.00

Model	No. of teeth	A	B	C	D	E	F	G	H	Allowable dynamic rated torque	Maximum working torque	Allowable static rated load	Inertia moment	Mass
										N·m	N·m	N·m	x10 <sup>4</sup> kg·m <sup>2</sup>	Kg
KGE1010	30	62	50	103	6	11	83	65	6-Φ 5.5Thru	11	11	16	3.67	0.25
	50	93	100	165	6	11	114	120	8-Φ 5.5Thru	19	19	28	24.3	0.55
	70	124	160	227	6	11	145	175	8-Φ 5.5Thru	27	27	40	78.2	0.84
	80	140	190	259	6	11	161	205	12-Φ 5.5Thru	31	31	46	126	1
	100	171	230	321	6	11	192	245	12-Φ 5.5Thru	38	38	57	320	1.7
KGE1210	30	74	65	122	6	12	99	80	6-Φ 5.5Thru	27	27	40	7.07	0.32
	50	112	120	198	6	12	137	135	8-Φ 5.5Thru	46	46	69	50.7	0.8
	70	149	190	272	6	12	174	205	12-Φ 5.5Thru	65	65	97	164	1.2
	80	168	230	310	6	12	193	245	12-Φ 5.5Thru	74	74	111	255	1.4
KGE1610	100	205	280	384	6	12	230	295	12-Φ 5.5Thru	93	93	139	639	2.3
	30	98	70	161	11.5	15	64	90	6-Φ 7Thru	73	120	146	41.7	1.2
	40	122	120	209	11.5	15	74	145	8-Φ 7Thru	97	165	194	115	1.7
	50	146	160	257	11.5	15	84	180	12-Φ 7Thru	120	200	240	261	2.4
	60	170	190	305	11.5	15	94	220	12-Φ 9Thru	145	245	290	538	3.5
	70	193.5	260	352	11.5	15	104	285	12-Φ 9Thru	165	285	330	780	3.4
KGE2510	80	220	280	405	11.5	15	114	305	12-Φ 9Thru	195	330	390	1564	5.4
	100	268	360	501	11.5	15	134	390	12-Φ 9Thru	240	410	480	3568	7.7
	30	154	120	254	18.5	17	81	145	6-Φ 9Thru Φ 14Counterbore, Depth 8.5	250	360	500	407	4.6
	40	193	190	331	18.5	17	91	220	12-Φ 9Thru Φ 14Counterbore, Depth 8.5	335	485	670	1182	7
	50	230	260	404	18.5	17	101	285	12-Φ 9Thru Φ 14Counterbore, Depth 8.5	420	600	840	2543	9.3
KGE3212	60	268	330	480	18.5	17	111	360	16-Φ 11Thru Φ 18Counterbore, Depth 10.5	505	720	1010	4852	12.0
	70	308	400	560	18.5	17	121	430	16-Φ 11Thru Φ 18Counterbore, Depth 10.5	590	845	1180	8709	15.3
	36	235	220	380	24.5	23	309	250	12-Φ 11Thru Φ 18Counterbore, Depth 10.5	630	1160	1260	2628	11.9
	48	292	330	493	24.5	23	366	360	16-Φ 11Thru Φ 18Counterbore, Depth 10.5	840	1540	1680	7054	17
KGE4012	60	351	400	610	24.5	23	425	430	16-Φ 11Thru Φ 18Counterbore, Depth 10.5	1050	1930	2100	17821	28
	36	297	320	480	31.5	32	392	360	8-Φ 18Thru Φ 26Counterbore, Depth 17.5	1330	1330	2660	7267	19
KGE4014	48	369	390	622	31.5	32	464	430	12-Φ 18Thru Φ 26Counterbore, Depth 17.5	1770	1770	3540	24220	38.3
	28	260	220	381	42	37	367	260	8-Φ 18Thru Φ 26Counterbore, Depth 17.5	2420	2420	3630	4120	19
KGE4014	42	346	390	551	42	37	453	430	12-Φ 18Thru Φ 26Counterbore, Depth 17.5	3620	3620	5430	16550	31

표준품 이외의 사이즈는 마틴프라우트에 문의해 주시길 바랍니다. (If none of standard products meet your needs, Please contact us freely)

## KGI Ordering Information

**Internal Ring Gear**

KGI □□□□ - S - i□□ - □□□□

①                      ②                      ③                      ④

**Pinion**

KAM □□□□ - P - S                      □□□□

①                      ②                      ④

① **Model Name** : Kam Gearing Internal / KAM

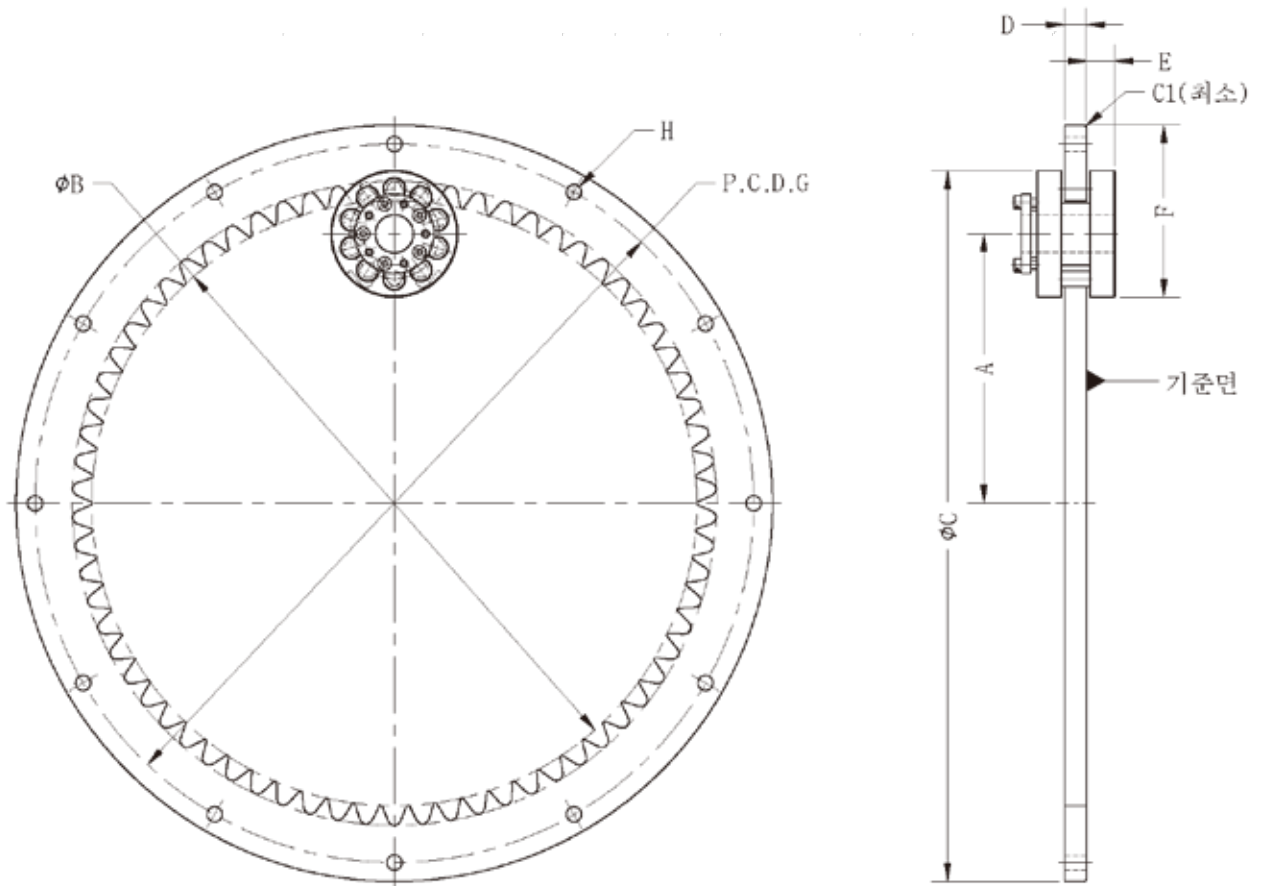
② **Model Number** : Pitch & Number of Pin

③ **Internal Ring Gear : Ratio**

④ **Indication : Special code**

Internal Ring Gear : Center distance between pinion and internal ring gear

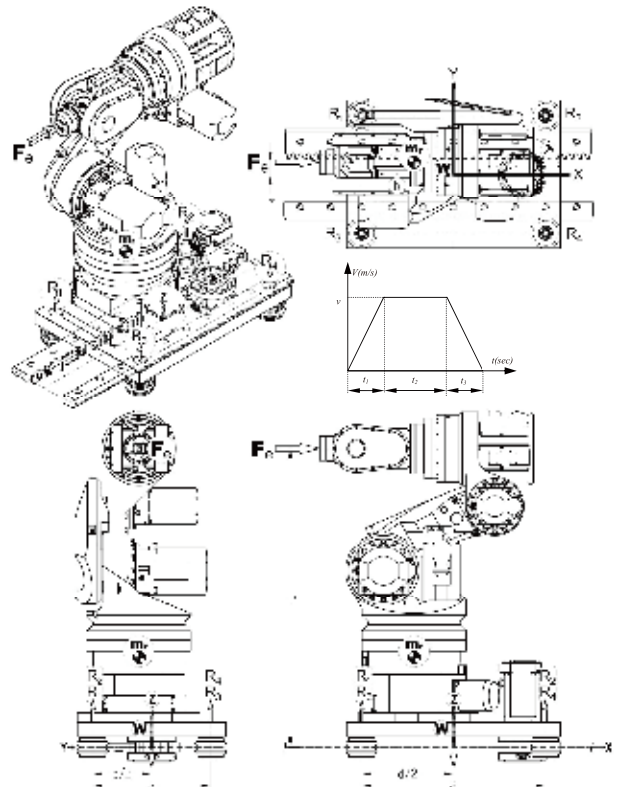
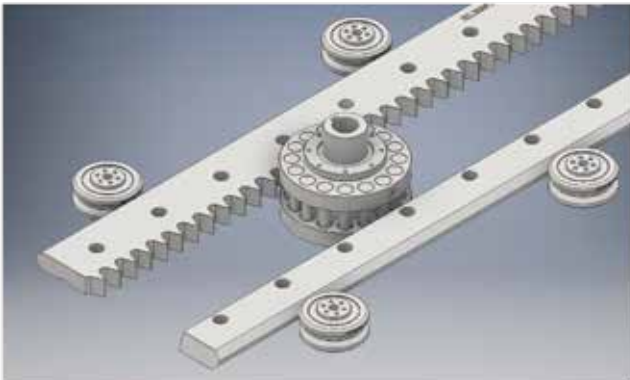
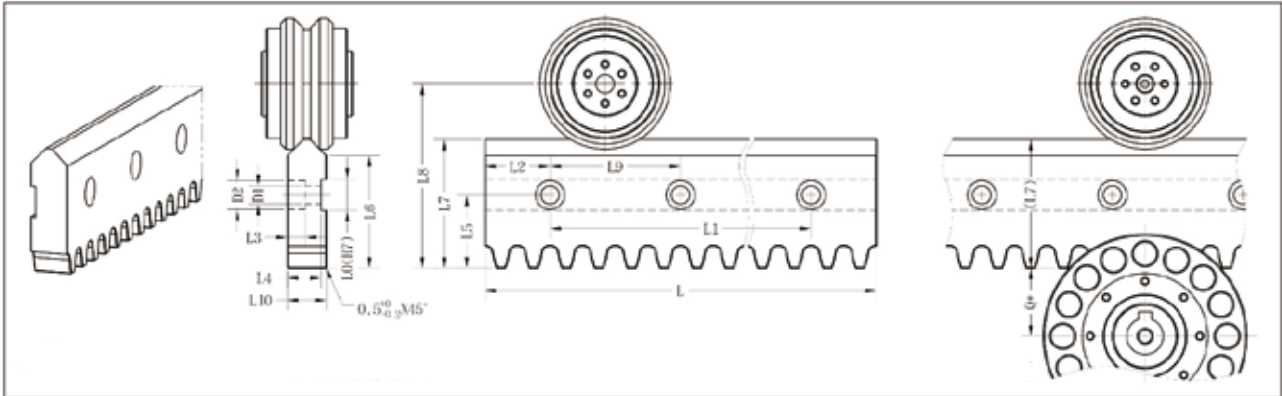
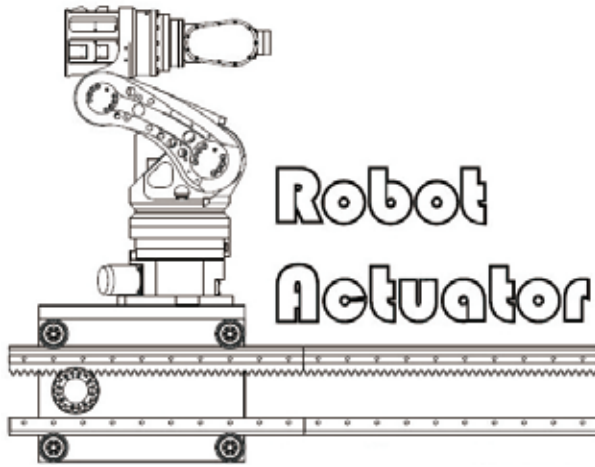
## KGI ratings at a glance & External Dimensions



Model	No. of teeth	Diameter of pitch circle		A	B	C	D	E	F	G	H	Allowable dynamic rated torque N·m	Allowable static rated torque N·m	Inertia moment x 10 <sup>-4</sup> kg·m <sup>2</sup>	Mass Kg
		KGI	PINION												
KGI1610	60	295.20	49.2	123	282	390	11.5	14	105.5	360	12-φ9Thru	147	294	41.7	5.1
	80	395.43	49.43	173	382	490	11.5	14	105.5	460	16-φ9Thru	197	394	115	6.1
KGI2510	60	463.20	77.2	193	4541	590	18.5	16	152.5	560	16-φ11Thru	509	1018	407	17.4

표준품 이외의 사이즈는 마틴프라우트에 문의해 주시길 바랍니다. (If none of standard products meet your needs, Please contact us freely)

# Certificate of trademark registration





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