MOTION & CONTROL
NSK

구름베어링

CAT. NO. 1101b

韓國NSK株式會社는, 외국환 및 외국무역관리법, 그외의 수출관련법규에 의해, 규제되고 있는 제품 · 기술에 대하여는, 법령에 위반하여 수출하지 않는 것을 기본방침으로 하고 있습니다.

이 종합 Catalogue에 기재되어 있는 제품중에, 고정도(JIS 5급이상)의 베어링을 단품상태로 수출하는 경우에는, 韓國NSK株式會社로 문의하여 주시기 바랍니다.

NSK 구름베어링종합 Catalogue(CAT. No. 1101b)의 발행에 즈음하여

평소 NSK제품을 각별히 아껴주신데 대하여 깊이 감사드립니다.

구름베어링을 사용하는 각종기계 · 장치에 대한 시장의 요구는 점점 고도화, 다양화되고 있습니다. 따라서 중요한 기계요소인 구름베어링에 대해서도 고신뢰도, 메인터넌스 프리, 소형 · 경량화, 고속화, 특수환경에의 대응 등 다방면에 걸친 성능의 향상이 계속 요구되고 있습니다.

이러한 시기에 JIS 및 ISO 규격의 개정에 맞추어 구름베어링의 새로운 종합 Catalogue를 제작하였습니다. 여러분께서 충분히 이용하실 수 있도록 새로운 Catalogue를 보내드리고 있습니다. 이 Catalogue에는 여러 요구에 부응하기 위하여 최근의 실험과 연구에 바탕을 둔 기술내용과 많은 형식과 종류의 구름베어링을 기재하였습니다.

Catalogue 전편에는 베어링 전반에 걸친 공통적이고 다양한 기술사항과 베어링의 선정방법을 중심으로 기술하였으며 각 형식별 베어링 치수표의 그 형식 고유의 기술적인 내용을 보충 설명하여 놓았습니다. 베어링치수표에는 동일형식 베어링을 내경이 작은순서로 기재하였고, 또 설계상 참고되는 베어링의 정격 하중 허용회전수, 설치관계치수, 질량등을 각 베어링 호칭번호별로 기재하고 있습니다. 이들 단위에 관하여는 국제단위계(SI)를 기준으로 하였으며 공학단위계(중력단위계)도 함께 기재되어 있습니다.

또한 베어링의 주요치수, 정도에 관한 JIS의 개정에 따라 면취치수에 관해서는 최소치로 되어 있습니다.

새로운 Catalogue에 기재된 풍부한 NSK베어링의 형식 · 종류중에서 여러분의 용도에 적합한 베어링을 선정하시는 데에 많은 도움이 되시기를 바랍니다.

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제품소개

부 표

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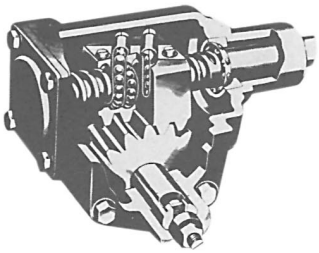

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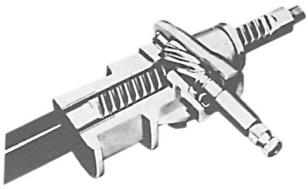

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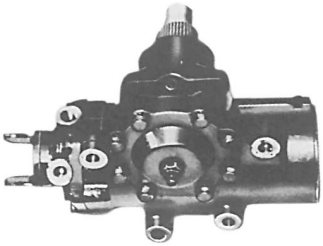

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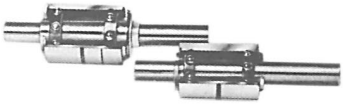

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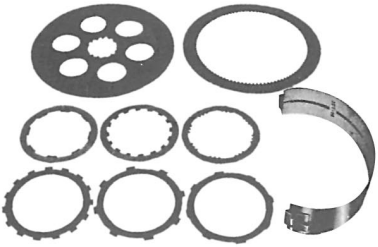

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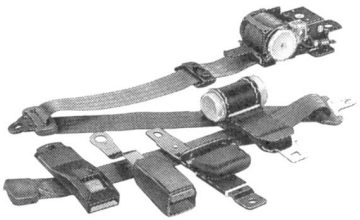

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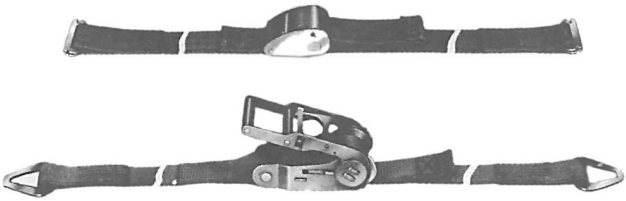

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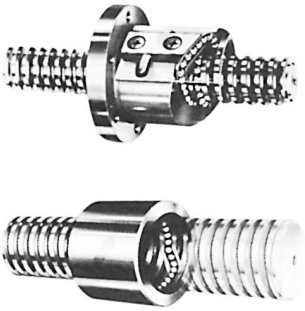

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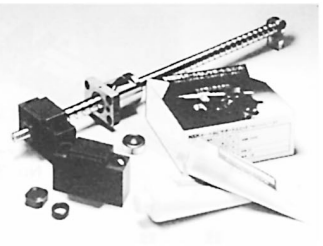

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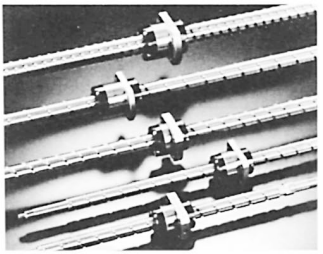

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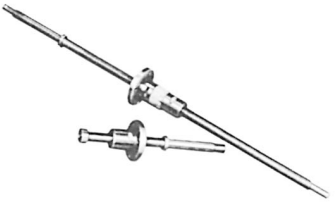

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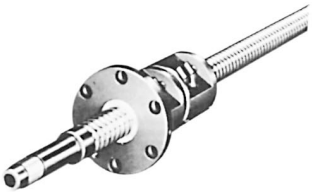

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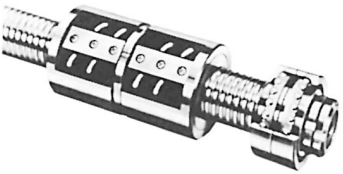

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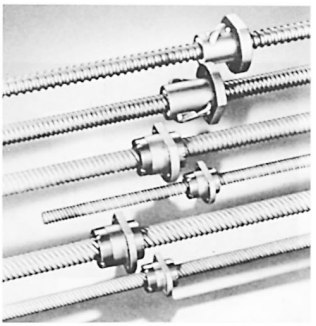

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PRECISION MACHINERY PARTS (CAT. No. E3151)

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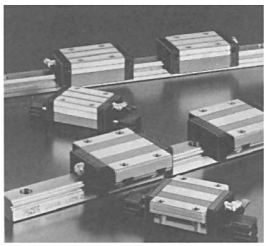

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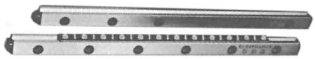

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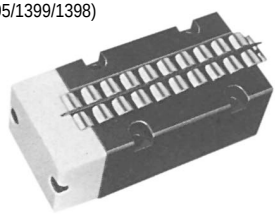

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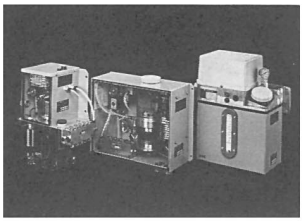

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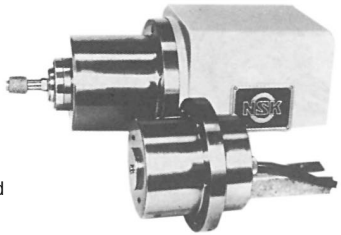

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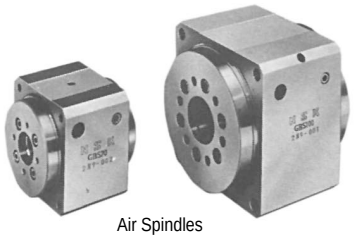

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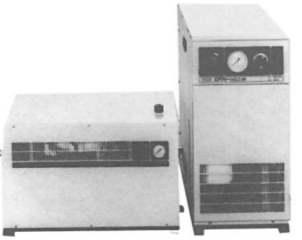

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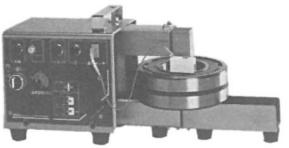

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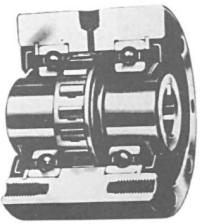

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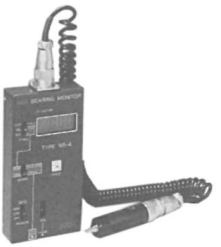

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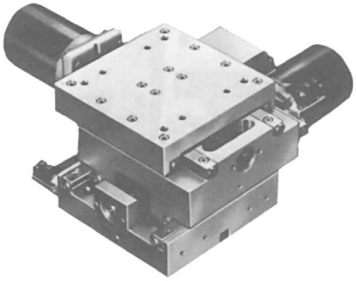

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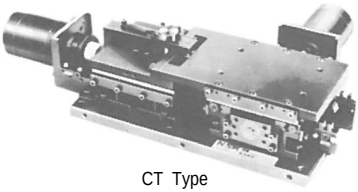

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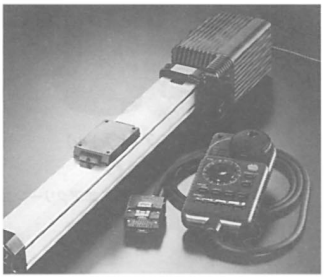

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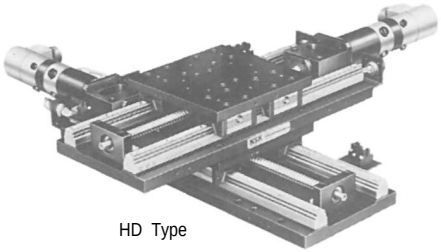

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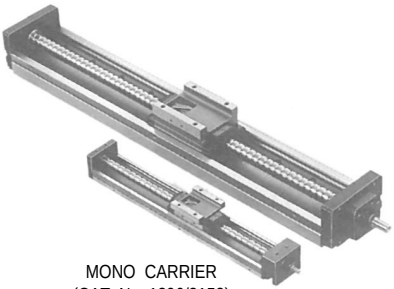

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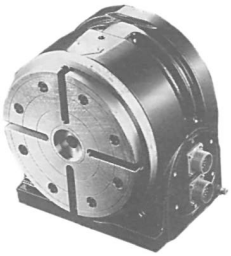

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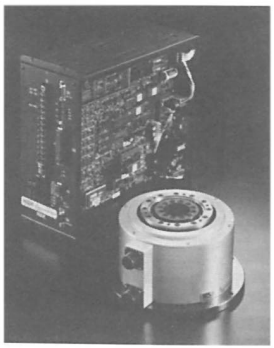

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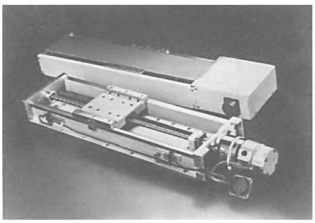

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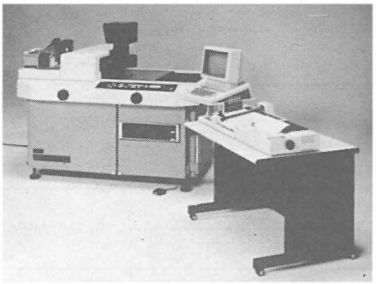
MECHATRONIC PRODUCTS



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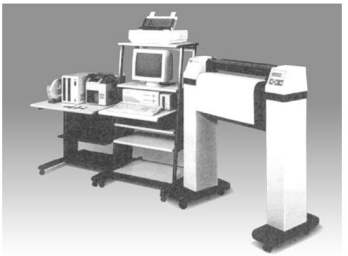

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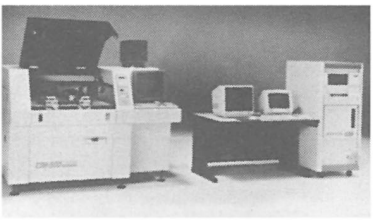

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부표 1 국제단위계 (SI)로부터 환산

SI, CGS계 및 공학단위계의 대조표

량 / 단위계	길이	질량	시간	온도	가속도	力	응력	압력	일	일율
SI	m	kg	s	K, °C	m/s^2	N	Pa	Pa	J	W
CGS계	cm	g	s	°C	Gal	dyn	dyn/cm^2	dyn/cm^2	erg	erg/s
공학단위계	m	$kgf \cdot s^2/m$	s	°C	m/s^2	kgf	kgf/m^2	kgf/m^2	kgf • m	kgf • m/s

SI단위로부터 환산율

량	SI단위		SI이외의 단위		SI단위에서의 환산율
	단위의 명칭	기호	단위의 명칭	기호	
각 도	Radian	rad	Degree	°	$180/\pi$
			Minute	′	$10\,800/\pi$
			Second	″	$648\,000/\pi$
길 이	Meter	m	Micron	μ	10^6
			Angstrom	Å	10^{10}
면 적	Square meter	m^2	Are	a	10^{-2}
			Hectare	ha	10^{-4}
체 적	Cubic meter	m^3	Liter	I, L	10^3
			Deciliter	dI, dL	10^4
시 간	Second	s	Minute	min	1/60
			Hour	h	1/3 600
			Day	d	1/86 400
진동수, 주파수	Hertz	Hz	Cycle	s^{-1}	1
회전수	Revolution per second	s^{-1}	Revolution per minute	rpm	60
속 도	Meter per second	m/s	Kilometer per hour	km/h	3 600/1 000
			Knot	kn	3 600/1 852
가속도	Meter per second per second	m/s^2	Gal	Gal	10^2
			g	G	1/9.806 65
질 량	Kilogram	kg	Ton	t	10^{-3}
力	Newton	N	Kilogram-force	kgf	1/9.806 65
			Ton-force	tf	$1/(9.806\,65\times10^3)$
			Dyne	dyn	10^5
토오크및 힘의 모 멘 트	Newton-meter	$N \cdot m$	Kilogram-force meter	$kgf \cdot m$	1/9.806 65
응 력	Pascal (Newton per square meter)	Pa (N/m^2)	Kilogram-force per square centimeter	$kgf \cdot m^2$	$1/(9.806\,65\times10^4)$
			Kilogram-force per square millimeter	$kgf \cdot mm^2$	$1/(9.806\,65\times10^6)$

SI단위의 접두어

단위에 곱하여 지는 배수	접두어의 명 칭	기 호	단위에 곱하여 지는 배수	접두어의 명 칭	기 호
10^{18}	Exa	E	10^{-1}	Deci	d
10^{15}	Peta	P	10^{-2}	Centi	c
10^{12}	Tera	T	10^{-3}	Milli	m
10^{9}	Giga	G	10^{-6}	Micro	μ
10^{6}	Mega	M	10^{-9}	Nano	n
10^{3}	Kilo	k	10^{-12}	Pico	p
10^{2}	Hecto	h	10^{-15}	Femto	f
10^{1}	Deca	da	10^{-18}	Ato	a

SI 단위로부터 환산율 (계속)

량	SI단위		SI이외의 단위		SI단위에서의 환산율
	단위의 명칭	기 호	단위의 명칭	기 호	
압 력	Pascal (Newton per square meter)	Pa (N/m^2)	Kilogram-force per square meter	kgf/m^2	1/9.806 65
			Water Column	mH_2O	$1/(9.806\ 65\times10^3)$
			Mercury Column	mmHg	$760/(1.013\ 25\times10^5)$
			Torr	Torr	$760/(1.013\ 25\times10^5)$
			Bar	bar	10^{-5}
			Atmosphere	atm	$1/(1.013\ 25\times10^5)$
일	Joule (Newton meter)	J ($N\cdot m$)	Erg	erg	10^7
			Calorie (International)	cal_{IT}	1/4.186 8
			Kilogram-force meter	$kgf\cdot m$	1/9.806 65
			Kilowatt hour	$kW\cdot h$	$1/(3.6\times10^6)$
			French hourse power hour	$PS\cdot h$	$\approx3.776\ 72\times10^{-7}$
동력, 일율	Watt (Joule per second)	W (J/s)	Kilogram-force meter per second	$kgf\cdot m/s$	1/9.806 65
			Kilocalorie per hour	kcal/h	1/1.163
			French horse power	PS	≈1/735.498 8
점도, 점도지수	Hertz	$Pa\cdot s$	Poise	P	10
동점도, 동점도지수	Square meter per second	m^2/s	Stokes	St	10^4
			Centistokes	cSt	10^6
온도, 온도차	Kelvin	K, ℃	Celsius Degree, degree	°C	(注(1) 참조)
전류, 기자력	ampere	A	Ampere	A	1
전압, 기전력	Volt	V	(Watts per ampere)	(W/A)	1
자계의 강도	Ampere per meter	A/m	Oersted	Oe	$4\pi/10^3$
자속밀도	Tesla	T	Gauss	Gs	10^4
			Gamma	γ	10^9
전기저항	Ohm	Ω	(Volts per ampere)	(V/A)	1

주 (1) TK에서 θ℃로의 온도환산은 $\theta = T-273.15$로 하지만 온도차인 경우는 $\Delta T=\Delta\theta$이다.
단, ΔT 및 $\Delta\theta$는 각각 캘빈 및 셀시우스度으로 측정한 온도차를 나타낸다.

비 고 괄호안에 쓴 단위명칭 및 기호는 그 위 또는 왼쪽에 쓴 단위의 정의를 나타낸다.

환산례 1 N=1/9.806 65kgf

부표 2 N-kgf 환 산 표

〔표 보는 방법〕 예를들면, 10 N을 kgf로 환산할때, 제 1 BLOCK의 중앙란에 있는 10의 오른쪽 kgf란을 읽으면, 10 N은 1.0197 kgf이란 것을 알 수 있다.
또 10 kgf을 N으로 환산할 때는, 그 왼쪽의 N란을 읽으면 98.066 N인 것을 알 수 있다.

1 N = 0.1019716 kgf
1 kgf = 9.80665 N

N		kgf	N		kgf	N		kgf
9.8066	**1**	0.1020	333.43	**34**	3.4670	657.05	**67**	6.8321
19.613	**2**	0.2039	343.23	**35**	3.5690	666.85	**68**	6.9341
29.420	**3**	0.3059	353.04	**36**	3.6710	676.66	**69**	7.0360
39.227	**4**	0.4079	362.85	**37**	3.7729	686.47	**70**	7.1380
49.033	**5**	0.5099	372.65	**38**	3.8749	696.27	**71**	7.2400
58.840	**6**	0.6118	382.46	**39**	3.9769	706.08	**72**	7.3420
68.647	**7**	0.7138	392.27	**40**	4.0789	715.89	**73**	7.4439
78.453	**8**	0.8158	402.07	**41**	4.1808	725.69	**74**	7.5459
88.260	**9**	0.9177	411.88	**42**	4.2828	735.50	**75**	7.6479
98.066	**10**	1.0197	421.69	**43**	4.3848	745.31	**76**	7.7498
107.87	**11**	1.1217	431.49	**44**	4.4868	755.11	**77**	7.8518
117.68	**12**	1.2237	441.30	**45**	4.5887	764.92	**78**	7.9538
127.49	**13**	1.3256	451.11	**46**	4.6907	774.73	**79**	8.0558
137.29	**14**	1.4276	460.91	**47**	4.7927	784.53	**80**	8.1577
147.10	**15**	1.5296	470.72	**48**	4.8946	794.34	**81**	8.2597
156.91	**16**	1.6315	480.53	**49**	4.9966	804.15	**82**	8.3617
166.71	**17**	1.7335	490.33	**50**	5.0986	813.95	**83**	8.4636
176.52	**18**	1.8355	500.14	**51**	5.2006	823.76	**84**	8.5656
186.33	**19**	1.9375	509.95	**52**	5.3025	833.57	**85**	8.6676
196.13	**20**	2.0394	519.75	**53**	5.4045	843.37	**86**	8.7696
205.94	**21**	2.1414	529.56	**54**	5.5065	853.18	**87**	8.8715
215.75	**22**	2.2434	539.37	**55**	5.6084	862.99	**88**	8.9735
225.55	**23**	2.3453	549.17	**56**	5.7104	872.79	**89**	9.0755
235.36	**24**	2.4473	558.98	**57**	5.8124	882.60	**90**	9.1774
245.17	**25**	2.5493	568.79	**58**	5.9144	892.41	**91**	9.2794
254.97	**26**	2.6513	578.59	**59**	6.0163	902.21	**92**	9.3814
264.78	**27**	2.7532	588.40	**60**	6.1183	912.02	**93**	9.4834
274.59	**28**	2.8552	598.21	**61**	6.2203	921.83	**94**	9.5853
284.39	**29**	2.9572	608.01	**62**	6.3222	931.63	**95**	9.6873
294.20	**30**	3.0591	617.82	**63**	6.4242	941.44	**96**	9.7893
304.01	**31**	3.1611	627.63	**64**	6.5262	951.25	**97**	9.8912
313.81	**32**	3.2631	637.43	**65**	6.6282	961.05	**98**	9.9932
323.62	**33**	3.3651	647.24	**66**	6.7301	970.86	**99**	10.095

부 표 3 kg－1b 환 산 표

〔표 보는 방법〕 예를들면, kg를 lb로 환산할때, 제 1 BLOCK의 중앙란에 있는 10 의 오른쪽 lb란을 읽으면, 10 kg는 22.0461 lb인 것을 알 수 있다.
또 10lb를 kg으로 환산할 때는, 그 왼쪽의 kg란을 읽으면 10lb는 4.536 kg인 것을 알 수 있다.

1kg＝2.2046226 lb
1lb＝0.45359237kg

kg		lb	kg		lb	kg		lb
0.454	**1**	2.205	15.422	**34**	74.957	30.391	**67**	147.71
0.907	**2**	4.409	15.876	**35**	77.162	30.844	**68**	149.91
1.361	**3**	6.614	16.329	**36**	79.366	31.298	**69**	152.12
1.814	**4**	8.818	16.783	**37**	81.571	31.751	**70**	154.32
2.268	**5**	11.023	17.237	**38**	83.776	32.205	**71**	156.53
2.722	**6**	13.228	17.690	**39**	85.980	32.659	**72**	158.73
3.175	**7**	15.432	18.144	**40**	88.185	33.112	**73**	160.94
3.629	**8**	17.637	18.597	**41**	90.390	33.566	**74**	163.14
4.082	**9**	19.842	19.051	**42**	92.594	34.019	**75**	165.35
4.536	**10**	22.046	19.504	**43**	94.799	34.473	**76**	167.55
4.990	**11**	24.251	19.958	**44**	97.003	34.927	**77**	169.76
5.443	**12**	26.455	20.412	**45**	99.208	35.380	**78**	171.96
5.897	**13**	28.660	20.865	**46**	101.41	35.834	**79**	174.17
6.350	**14**	30.865	21.319	**47**	103.62	36.287	**80**	176.37
6.804	**15**	33.069	21.772	**48**	105.82	36.741	**81**	178.57
7.257	**16**	35.274	22.226	**49**	108.03	37.195	**82**	180.78
7.711	**17**	37.479	22.680	**50**	110.23	37.648	**83**	182.98
8.165	**18**	39.683	23.133	**51**	112.44	38.102	**84**	185.19
8.618	**19**	41.888	23.587	**52**	114.64	38.555	**85**	187.39
9.072	**20**	44.092	24.040	**53**	116.84	39.009	**86**	189.60
9.525	**21**	46.297	24.494	**54**	119.05	39.463	**87**	191.80
9.979	**22**	48.502	24.948	**55**	121.25	39.916	**88**	194.01
10.433	**23**	50.706	25.401	**56**	123.46	40.370	**89**	196.21
10.886	**24**	52.911	25.855	**57**	125.66	40.823	**90**	198.42
11.340	**25**	55.116	26.308	**58**	127.87	41.277	**91**	200.62
11.793	**26**	57.320	26.762	**59**	130.07	41.730	**92**	202.83
12.247	**27**	59.525	27.216	**60**	132.28	42.184	**93**	205.03
12.701	**28**	61.729	27.669	**61**	134.48	42.638	**94**	207.23
13.154	**29**	63.934	28.123	**62**	136.69	43.091	**95**	209.44
13.608	**30**	66.139	28.576	**63**	138.89	43.545	**96**	211.64
14.061	**31**	68.343	29.030	**64**	141.10	43.998	**97**	213.85
14.515	**32**	70.548	29.484	**65**	143.30	44.452	**98**	216.05
14.969	**33**	72.753	29.937	**66**	145.51	44.906	**99**	218.26

부표 4 ˚C~˚F 온 도 환 산 표

〔표 보는 방법〕 예를들면, 38℃을 ℉로 환산할때, 제 2BLOCK의 중앙란에 있는 38의 오른쪽 ℉란을 읽으면, 38℃은 100.4℉이란 것을 알 수 있다.
또 38℉을 ℃으로 환산할 때는, 그 왼쪽의 ℃란을 읽으면 38℉는 3.3℃인 것을 알 수 있다.

$$C = \frac{5}{9}(F - 32)$$

$$F = 32 + \frac{9}{5}C$$

˚C		˚F	˚C		˚F	˚C		˚F	˚C		˚F
− 73.3	**−100**	− 148.0	0.0	**32**	89.6	21.7	**71**	159.8	43.3	**110**	230
− 62.2	**− 80**	− 112.0	0.6	**33**	91.4	22.2	**72**	161.6	46.1	**115**	239
− 51.1	**− 60**	− 76.0	1.1	**34**	93.2	22.8	**73**	163.4	48.9	**120**	248
− 40.0	**− 40**	− 40.0	1.7	**35**	95.0	23.3	**74**	165.2	51.7	**125**	257
− 34.4	**− 30**	− 22.0	2.2	**36**	96.8	23.9	**75**	167.0	54.4	**130**	266
− 28.9	**− 20**	− 4.0	2.8	**37**	98.6	24.4	**76**	168.8	57.2	**135**	275
− 23.3	**− 10**	14.0	3.3	**38**	100.4	25.0	**77**	170.6	60.0	**140**	284
− 17.8	**0**	32.0	3.9	**39**	102.2	25.6	**78**	172.4	65.6	**150**	302
− 17.2	**1**	33.8	4.4	**40**	104.0	26.1	**79**	174.2	71.1	**160**	320
− 16.7	**2**	35.6	5.0	**41**	105.8	26.7	**80**	176.0	76.7	**170**	338
− 16.1	**3**	37.4	5.6	**42**	107.6	27.2	**81**	177.8	82.2	**180**	356
− 15.6	**4**	39.2	6.1	**43**	109.4	27.8	**82**	179.6	87.8	**10**	374
− 15.0	**5**	41.0	6.7	**44**	111.2	28.3	**83**	181.4	93.3	**200**	392
− 14.4	**6**	42.8	7.2	**45**	113.0	28.9	**84**	183.2	98.9	**210**	410
− 13.9	**7**	44.6	7.8	**46**	114.8	29.4	**85**	185.0	104.4	**220**	428
− 13.3	**8**	46.4	8.3	**47**	116.6	30.0	**86**	186.8	110.0	**230**	446
− 12.8	**9**	48.2	8.9	**48**	118.4	30.6	**87**	188.6	115.6	**240**	464
− 12.2	**10**	50.0	9.4	**49**	120.2	31.1	**88**	190.4	121.1	**250**	482
− 11.7	**11**	51.8	10.0	**50**	122.0	31.7	**89**	192.2	148.9	**300**	572
− 11.1	**12**	53.6	10.6	**51**	123.8	32.2	**90**	194.0	176.7	**350**	662
− 10.6	**13**	55.4	11.1	**52**	125.6	32.8	**91**	195.8	204	**400**	752
− 10.0	**14**	57.2	11.7	**53**	127.4	33.3	**92**	197.6	232	**450**	842
− 9.4	**15**	59.0	12.2	**54**	129.2	33.9	**93**	199.4	260	**500**	932
− 8.9	**16**	60.8	12.8	**55**	131.0	34.4	**94**	201.2	288	**550**	1 022
− 8.3	**17**	62.6	13.3	**56**	132.8	35.0	**95**	203.0	316	**600**	1 112
− 7.8	**18**	64.4	13.9	**57**	134.6	35.6	**96**	204.8	343	**650**	1 202
− 7.2	**19**	66.2	14.4	**58**	136.4	36.1	**97**	206.6	371	**700**	1 292
− 6.7	**20**	68.0	15.0	**59**	138.2	36.7	**98**	208.4	399	**750**	1 382
− 6.1	**21**	69.8	15.6	**60**	140.0	37.2	**99**	210.2	427	**800**	1 472
− 5.6	**22**	71.6	16.1	**61**	141.8	37.8	**100**	212.0	454	**850**	1 562
− 5.0	**23**	73.4	16.7	**62**	143.6	38.3	**101**	213.8	482	**900**	1 652
− 4.4	**24**	75.2	17.2	**63**	145.4	38.9	**102**	215.6	510	**950**	1 742
− 3.9	**25**	77.0	17.8	**64**	147.2	39.4	**103**	217.4	538	**1 000**	1 832
− 3.3	**26**	78.8	18.3	**65**	149.0	40.0	**104**	219.2	593	**1 100**	2 012
− 2.8	**27**	80.6	18.9	**66**	150.8	40.6	**105**	221.0	649	**1 200**	2 192
− 2.2	**28**	82.4	19.4	**67**	152.6	41.1	**106**	222.8	704	**1 300**	2 372
− 1.7	**29**	84.2	20.0	**68**	154.4	41.7	**107**	224.6	760	**1 400**	2 552
− 1.1	**30**	86.0	20.6	**69**	156.2	42.2	**108**	226.4	816	**1 500**	2 732
− 0.6	**31**	87.8	21.1	**70**	158.0	42.8	**109**	228.2	871	**1 600**	2 912

부표 5 점 도 환 산 표

동점도 ㎟/s	세이볼트 유니버셜 SUS(초)		1 호 형 레드우드 R(초)		앵귤러 E(도)
	100°F	210°F	50°C	100°C	
2	32.6	32.8	30.8	31.2	1.14
3	36.0	36.3	33.3	33.7	1.22
4	39.1	39.4	35.9	36.5	1.31
5	42.3	42.6	38.5	39.1	1.40
6	45.5	45.8	41.1	41.7	1.48
7	48.7	49.0	43.7	44.3	1.56
8	52.0	52.4	46.3	47.0	1.65
9	55.4	55.8	49.1	50.0	1.75
10	58.8	59.2	52.1	52.9	1.84
11	62.3	62.7	55.1	56.0	1.93
12	65.9	66.4	58.2	59.1	2.02
13	69.6	70.1	61.4	62.3	2.12
14	73.4	73.9	64.7	65.6	2.22
15	77.2	77.7	68.0	69.1	2.32
16	81.1	81.7	71.5	72.6	2.43
17	85.1	85.7	75.0	76.1	2.54
18	89.2	89.8	78.6	79.7	2.64
19	93.3	94.0	82.1	83.6	2.76
20	97.5	98.2	85.8	87.4	2.87
21	102	102	89.5	91.3	2.98
22	106	107	93.3	95.1	3.10
23	110	111	97.1	98.9	3.22
24	115	115	101	103	3.34
25	119	120	105	107	3.46
26	123	124	109	111	3.58
27	128	129	112	115	3.70
28	132	133	116	119	3.82
29	137	138	120	123	3.95
30	141	142	124	127	4.07
31	145	146	128	131	4.20
32	150	150	132	135	4.32
33	154	155	136	139	4.45
34	159	160	140	143	4.57

동점도 ㎟/s	세이볼트 유니버셜 SUS(초)		1 호 형 레드우드 R(초)		앵귤러 E(도)
	100°F	210°F	50°C	100°C	
35	163	164	144	147	4.70
36	168	170	148	151	4.83
37	172	173	153	155	4.96
38	177	178	156	159	5.08
39	181	183	160	164	5.21
40	186	187	164	168	5.34
41	190	192	168	172	5.47
42	195	196	172	176	5.59
43	199	201	176	180	5.72
44	204	205	180	185	5.85
45	208	210	184	189	5.98
46	213	215	188	193	6.11
47	218	219	193	197	6.24
48	222	224	197	202	6.37
49	227	228	201	206	6.50
50	231	233	205	210	6.63
55	254	256	225	231	7.24
60	277	279	245	252	7.90
65	300	302	266	273	8.55
70	323	326	286	294	9.21
75	346	349	306	315	9.89
80	371	373	326	336	10.5
85	394	397	347	357	11.2
90	417	420	367	378	11.8
95	440	443	387	399	12.5
100	464	467	408	420	13.2
120	556	560	490	504	15.8
140	649	653	571	588	18.4
160	742	747	653	672	21.1
180	834	840	734	757	23.7
200	927	933	816	841	26.3
250	1 159	1 167	1 020	1 051	32.9
300	1 391	1 400	1 224	1 241	39.5

비 고 $1mm^2/s=1cSt$

부표 6 inch－mm 환 산 표

1″=25.4mm

inch		0	1	2	3	4	5	6	7	8	9	10
분 수	소 수	mm										
0	**0.000000**	**0.000**	**25.400**	**50.800**	**76.200**	**101.600**	**127.000**	**152.400**	**177.800**	**203.200**	**228.600**	**254.000**
1/64	0.015625	0.397	25.797	51.197	76.597	101.997	127.397	152.797	178.197	203.597	228.997	254.397
1/32	0.031250	0.794	26.194	51.594	76.994	102.394	127.794	153.194	178.594	203.994	229.394	254.794
3/64	0.046875	1.191	26.591	51.991	77.391	102.791	128.191	153.591	178.991	204.391	229.791	255.191
1/16	**0.062500**	**1.588**	**26.988**	**52.388**	**77.788**	**103.188**	**128.588**	**153.988**	**179.388**	**204.788**	**230.188**	**255.588**
5/64	0.078125	1.984	27.384	52.784	78.184	103.584	128.984	154.384	179.784	205.184	230.584	255.984
3/32	0.093750	2.381	27.781	53.181	78.581	103.981	129.381	154.781	180.181	205.581	230.981	256.381
7/64	0.109375	2.778	28.178	53.578	78.978	104.378	129.778	155.178	180.579	205.978	231.378	256.778
1/8	**0.125000**	**3.175**	**28.575**	**53.975**	**79.375**	**104.775**	**130.175**	**155.575**	**180.975**	**206.375**	**231.775**	**257.175**
9/64	0.140625	3.572	28.972	54.372	79.772	105.172	130.572	155.972	181.372	206.772	232.172	257.572
5/32	0.156250	3.969	29.369	54.769	80.169	105.569	130.969	156.369	181.769	207.169	232.569	257.969
11/64	0.171875	4.366	29.766	55.166	80.566	105.966	131.366	156.766	182.166	207.566	232.966	258.366
3/16	**0.187500**	**4.762**	**30.162**	**55.562**	**80.962**	**106.362**	**131.762**	**157.162**	**182.562**	**207.962**	**233.362**	**258.762**
13/64	0.203125	5.159	30.559	55.959	81.359	106.759	132.159	157.559	182.959	208.359	233.759	259.159
7/32	0.218750	5.556	30.956	56.356	81.756	107.156	132.556	157.956	183.356	208.756	234.156	259.556
15/64	0.234375	5.953	31.353	56.753	82.153	107.553	132.953	158.353	183.753	209.153	234.553	259.953
1/4	**0.250000**	**6.350**	**31.750**	**57.150**	**82.550**	**107.950**	**133.350**	**158.750**	**184.150**	**209.550**	**234.950**	**260.350**
17/64	0.265625	6.747	32.147	57.547	82.947	108.347	133.747	159.147	184.547	209.947	235.347	260.747
9/32	0.281250	7.144	32.544	57.944	83.344	108.744	134.144	159.544	184.944	210.344	235.744	261.144
19/64	0.296875	7.541	32.941	58.341	83.741	109.141	134.541	159.941	185.341	210.741	236.141	261.541
5/16	**0.312500**	**7.938**	**33.338**	**58.738**	**84.138**	**109.538**	**134.938**	**160.338**	**185.738**	**211.138**	**236.538**	**261.938**
21/64	0.328125	8.334	33.734	59.134	84.534	109.934	135.334	160.734	186.134	211.534	236.934	262.334
11/32	0.343750	8.731	34.131	59.531	84.931	110.331	135.731	161.131	186.531	211.931	237.331	262.731
23/64	0.359375	9.128	34.528	59.928	85.328	110.728	136.128	161.528	186.928	212.328	237.728	263.128
3/8	**0.375000**	**9.525**	**34.925**	**60.325**	**85.725**	**111.125**	**136.525**	**161.925**	**187.325**	**212.725**	**238.125**	**263.525**
25/64	0.390625	9.922	35.322	60.722	86.122	111.522	136.922	162.322	187.722	213.122	238.522	263.922
13/32	0.406250	10.319	35.719	61.119	86.519	111.919	137.319	162.719	188.119	213.519	238.919	264.319
27/64	0.421875	10.716	36.116	61.516	86.916	112.316	137.716	163.116	188.516	213.916	239.316	264.716
7/16	**0.437500**	**11.112**	**36.512**	**61.912**	**87.312**	**112.712**	**138.112**	**163.512**	**188.912**	**214.312**	**239.712**	**265.112**
29/64	0.453125	11.509	36.909	62.309	87.709	113.109	138.509	163.909	189.309	214.709	240.109	265.509
15/32	0.468750	11.906	37.306	62.706	88.106	113.506	138.906	164.306	189.706	215.106	240.506	265.906
31/64	0.484375	12.303	37.703	63.103	88.503	113.903	139.303	164.703	190.103	215.503	240.903	266.303
1/2	**0.500000**	**12.700**	**38.100**	**63.500**	**88.900**	**114.300**	**139.700**	**165.100**	**190.500**	**215.900**	**241.300**	**266.700**
33/64	0.515625	13.097	38.497	63.897	89.297	114.697	140.097	165.497	190.897	216.297	241.697	267.097
17/32	0.531250	13.494	38.894	64.294	89.694	115.094	140.494	165.894	191.294	216.694	242.094	267.494
35/64	0.546875	13.891	39.291	64.691	90.091	115.491	140.891	166.291	191.691	217.091	242.491	267.891
9/16	**0.562500**	**14.288**	**39.688**	**65.088**	**90.488**	**115.888**	**141.288**	**166.688**	**192.088**	**217.488**	**242.888**	**268.288**
37/64	0.578125	14.684	40.084	65.484	90.884	116.284	141.684	167.084	192.484	217.884	243.284	268.684
19/32	0.593750	15.081	40.481	65.881	91.281	116.681	142.081	167.481	192.881	218.281	243.681	269.081
39/64	0.609375	15.478	40.878	66.278	91.678	117.078	142.478	167.878	193.278	218.678	244.078	269.478
5/8	**0.625000**	**15.875**	**41.275**	**66.675**	**92.075**	**117.475**	**142.875**	**168.275**	**193.675**	**219.075**	**244.475**	**269.875**
41/64	0.640625	16.272	41.672	67.072	92.472	117.872	143.272	168.672	194.072	219.472	244.872	270.272
21/32	0.656250	16.669	42.069	67.469	92.869	118.269	143.669	169.069	194.469	219.869	245.269	270.669
43/64	0.671875	17.066	42.466	67.866	93.266	118.666	144.066	169.466	194.866	220.266	245.666	271.066
11/16	**0.687500**	**17.462**	**42.862**	**68.262**	**93.662**	**119.062**	**144.462**	**169.862**	**195.262**	**220.662**	**246.062**	**271.462**
45/64	0.703125	17.859	43.259	68.659	94.059	119.459	144.859	170.259	195.659	221.059	246.459	271.859
23/32	0.718750	18.256	43.656	69.056	94.456	119.856	145.256	170.656	196.056	221.456	246.856	272.256
47/64	0.734375	18.653	44.053	69.453	94.853	120.253	145.653	171.053	196.453	221.853	247.253	272.653
3/4	**0.750000**	**19.050**	**44.450**	**69.850**	**95.250**	**120.650**	**146.050**	**171.450**	**196.850**	**222.250**	**247.650**	**273.050**
49/64	0.765625	19.447	44.847	70.247	95.647	121.047	146.447	171.847	197.247	222.647	248.047	273.447
25/32	0.781250	19.844	45.244	70.644	96.044	121.444	146.844	172.244	197.644	223.044	248.444	273.844
51/64	0.796875	20.241	45.641	71.041	96.441	121.841	147.241	172.641	198.041	223.441	248.841	274.241
13/16	**0.812500**	**20.638**	**46.038**	**71.438**	**96.838**	**122.238**	**147.638**	**173.038**	**198.438**	**223.838**	**249.238**	**274.638**
53/64	0.828125	21.034	46.434	71.834	97.234	122.634	148.034	173.434	198.834	224.234	249.634	275.034
27/32	0.843750	21.431	46.831	72.231	97.631	123.031	148.431	173.831	199.231	224.631	250.031	275.431
55/64	0.859375	21.828	47.228	72.628	98.028	123.428	148.828	174.228	199.628	225.028	250.428	275.828
7/8	**0.875000**	**22.225**	**47.625**	**73.025**	**98.425**	**123.825**	**149.225**	**174.625**	**200.025**	**225.425**	**250.825**	**276.225**
57/64	0.890625	22.622	48.022	73.422	98.822	124.222	149.622	175.022	200.422	225.822	251.222	276.622
29/32	0.906250	23.019	48.419	73.819	99.219	124.619	150.019	175.419	200.819	226.219	251.619	277.019
59/64	0.921875	23.416	48.816	74.216	99.616	125.016	150.416	175.816	201.216	226.616	252.016	277.416
15/16	**0.937500**	**23.812**	**49.212**	**74.612**	**100.012**	**125.412**	**150.812**	**176.212**	**201.612**	**227.012**	**252.412**	**277.812**
61/64	0.953125	24.209	49.609	75.009	100.409	125.809	151.209	176.609	202.009	227.409	252.809	278.209
31/32	0.968750	24.606	50.006	75.406	100.806	126.206	151.606	177.006	202.406	227.806	253.206	278.606
63/64	0.984375	25.003	50.403	75.803	101.203	126.603	152.003	177.403	202.803	228.203	253.603	279.003

1″=25.4mm

inch		11	12	13	14	15	16	17	18	19	20
분 수	소 수	mm									
0	**0.0000**	**279.400**	**304.800**	**330.200**	**355.600**	**381.000**	**406.400**	**431.800**	**457.200**	**482.600**	**508.000**
1/16	0.0625	280.988	306.388	331.788	357.188	382.588	407.988	433.388	458.788	484.188	509.588
1/8	0.1250	282.575	307.975	333.375	358.775	384.175	409.575	434.975	460.375	485.775	511.175
3/16	0.1875	284.162	309.562	334.962	360.362	385.762	411.162	436.562	461.962	487.362	512.762
1/4	**0.2500**	**285.750**	**311.150**	**336.550**	**361.950**	**387.350**	**412.750**	**438.150**	**463.550**	**488.950**	**514.350**
5/16	0.3125	287.338	312.738	338.138	363.538	388.938	414.338	439.738	465.138	490.538	515.938
3/8	0.3750	288.925	314.325	339.725	365.125	390.525	415.925	441.325	466.725	492.125	517.525
7/16	0.4375	290.512	315.912	341.312	366.712	392.112	417.512	442.912	468.312	493.712	519.112
1/2	**0.5000**	**292.100**	**317.500**	**342.900**	**368.300**	**393.700**	**419.100**	**444.500**	**469.900**	**495.300**	**520.700**
9/16	0.5625	293.688	319.088	344.488	369.888	395.288	420.688	446.088	471.488	496.888	522.288
5/8	0.6250	295.275	320.675	346.075	371.475	396.875	422.275	447.675	473.075	498.475	523.875
11/16	0.6875	296.862	322.262	347.662	373.062	398.462	423.862	449.262	474.662	500.062	525.462
3/4	**0.7500**	**298.450**	**323.850**	**349.250**	**374.650**	**400.050**	**425.450**	**450.850**	**476.250**	**501.650**	**527.050**
13/16	0.8125	300.038	325.438	350.838	376.238	401.638	427.038	452.438	477.838	503.238	528.638
7/8	0.8750	301.625	327.025	352.425	377.825	403.225	428.625	454.025	479.425	504.825	530.225
15/16	0.9375	303.212	328.612	354.012	379.412	404.812	430.212	455.612	481.012	506.412	531.812

1″=25.4mm

inch		21	22	23	24	25	26	27	28	29	30
분 수	소 수	mm									
0	**0.0000**	**533.400**	**558.800**	**584.200**	**609.600**	**635.000**	**660.400**	**685.800**	**711.200**	**736.600**	**762.000**
1/16	0.0625	534.988	560.388	585.788	611.188	636.588	661.988	687.388	712.788	738.188	763.588
1/8	0.1250	536.575	561.975	587.375	612.775	638.175	663.575	688.975	714.375	739.775	765.175
3/16	0.1875	538.162	563.562	588.962	614.362	639.762	665.162	690.562	715.962	741.362	766.762
1/4	**0.2500**	**539.750**	**565.150**	**590.550**	**615.950**	**641.350**	**666.750**	**692.150**	**717.550**	**742.950**	**768.350**
5/16	0.3125	541.338	566.738	592.138	617.538	642.938	668.338	693.738	719.138	744.538	769.938
3/8	0.3750	542.925	568.325	593.725	619.125	644.525	669.925	695.325	720.725	746.125	771.525
7/16	0.4375	544.512	569.912	595.312	620.712	646.112	671.512	696.912	722.312	747.712	773.112
1/2	**0.5000**	**546.100**	**571.500**	**596.900**	**622.300**	**647.700**	**673.100**	**698.500**	**723.900**	**749.300**	**774.700**
9/16	0.5625	547.688	573.088	598.488	623.888	649.288	674.688	700.088	725.488	750.888	776.288
5/8	0.6250	549.275	574.675	600.075	625.475	650.875	676.275	701.675	727.075	752.475	777.875
11/16	0.6875	550.862	576.262	601.662	627.062	652.462	677.862	703.262	728.662	754.062	779.462
3/4	**0.7500**	**552.450**	**577.850**	**603.250**	**628.650**	**654.050**	**679.450**	**704.850**	**730.250**	**755.650**	**781.050**
13/16	0.8125	554.038	579.438	604.838	630.238	655.638	681.038	706.438	731.838	757.238	782.638
7/8	0.8750	555.625	581.025	606.425	631.825	657.225	682.625	708.025	733.425	758.825	784.225
15/16	0.9375	557.212	582.612	608.012	633.412	658.812	684.212	709.612	735.012	760.412	785.812

1″=25.4mm

inch		31	32	33	34	35	36	37	38	39	40
분 수	소 수	mm									
0	**0.0000**	**787.400**	**812.800**	**838.200**	**863.600**	**889.000**	**914.400**	**939.800**	**965.200**	**990.600**	**1016.000**
1/16	0.0625	788.988	814.388	839.788	865.188	890.588	915.988	941.388	966.788	992.188	1017.588
1/8	0.1250	790.575	815.975	841.375	866.775	892.175	917.575	942.975	968.375	993.775	1019.175
3/16	0.1875	792.162	817.562	842.962	868.362	893.762	919.162	944.562	969.962	995.362	1020.762
1/4	**0.2500**	**793.750**	**819.150**	**844.550**	**869.950**	**895.350**	**920.750**	**946.150**	**971.550**	**996.950**	**1022.350**
5/16	0.3125	795.338	820.738	846.138	871.538	896.938	922.338	947.738	973.138	998.538	1023.938
3/8	0.3750	796.925	822.325	847.725	873.125	898.525	923.925	949.325	974.725	1000.125	1025.525
7/16	0.4375	798.512	823.912	849.312	874.712	900.112	925.512	950.912	976.312	1001.712	1027.112
1/2	**0.5000**	**800.100**	**825.500**	**850.900**	**876.300**	**901.700**	**927.100**	**952.500**	**977.900**	**1003.300**	**1028.700**
9/16	0.5625	801.688	827.088	852.488	877.888	903.288	928.688	954.088	979.488	1004.888	1030.288
5/8	0.6250	803.275	828.675	854.075	879.475	904.875	930.275	955.675	981.075	1006.475	1031.875
11/16	0.6875	804.862	830.262	855.662	881.062	906.462	931.862	957.262	982.662	1008.062	1033.462
3/4	**0.7500**	**806.450**	**831.850**	**857.250**	**882.650**	**908.050**	**933.450**	**958.850**	**984.250**	**1009.650**	**1035.050**
13/16	0.8125	808.038	833.438	858.838	884.238	909.638	935.038	960.438	985.838	1011.238	1036.638
7/8	0.8750	809.625	835.025	860.425	885.825	911.225	936.625	962.025	987.425	1012.825	1038.225
15/16	0.9375	811.212	836.612	862.012	887.412	912.812	938.212	963.621	989.012	1014.412	1039.812

부 표 7 경 도 환 산 표 (참고)

록크웰 C 스케일경도 (1471N) {150kgf}	빅커스 경도	브리넬경도		록크웰경도		쇼어경도
		표준구	텅스텐 카바이드구	A스케일 하중 588.4N {60kgf} brale 압예	B스케일 하중 980.7N {100kgf} 경 1.588㎜ (1/16in) 구	
68	940	–	–	85.6	–	97
67	900	–	–	85.0	–	95
66	865	–	–	84.5	–	92
65	832	–	739	83.9	–	91
64	800	–	722	83.4	–	88
63	772	–	705	82.8	–	87
62	746	–	688	82.3	–	85
61	720	–	670	81.8	–	83
60	697	–	654	81.2	–	81
59	674	–	634	80.7	–	80
58	653	–	615	80.1	–	78
57	633	–	595	79.6	–	76
56	613	–	577	79.0	–	75
55	595	–	560	78.5	–	74
54	577	–	543	78.0	–	72
53	560	–	525	77.4	–	71
52	544	500	512	76.8	–	69
51	528	487	496	76.3	–	68
50	513	475	481	75.9	–	67
49	498	464	469	72.5	–	66
48	484	451	455	74.7	–	64
47	471	442	443	74.1	–	63
46	458	432	432	73.6	–	62
45	446	421	421	73.1	–	60
44	434	409	409	72.5	–	58
43	423	400	400	72.0	–	57
42	412	390	390	71.5	–	56
41	402	381	381	70.9	–	55
40	392	371	371	70.4	–	54
39	382	362	362	69.9	–	52
38	372	353	353	69.4	–	51
37	363	344	344	68.9	–	50
36	354	336	336	68.4	(109.0)	49
35	345	327	327	67.9	(108.5)	48
34	336	319	319	67.4	(108.0)	47
33	327	311	311	66.8	(107.5)	46
32	318	301	301	66.3	(107.0)	44
31	310	294	294	65.8	(106.0)	43
30	302	286	286	65.3	(105.5)	42
29	294	279	279	64.7	(104.5)	41
28	286	271	271	64.3	(104.0)	41
27	279	264	264	63.8	(103.0)	40
26	272	258	258	63.3	(102.5)	38
25	266	253	253	62.8	(101.5)	38
24	260	247	247	62.4	(101.0)	37
23	254	243	243	62.0	100.0	36
22	248	237	237	61.5	99.0	35
21	243	231	231	61.0	98.5	35
20	238	226	226	60.5	97.8	34
(18)	230	219	219	–	96.7	33
(16)	222	212	212	–	95.5	32
(14)	213	203	203	–	93.9	31
(12)	204	194	194	–	92.3	29
(10)	196	187	187	–	90.7	28
(8)	188	179	179	–	89.5	27
(6)	180	171	171	–	87.1	26
(4)	173	165	165	–	85.5	25
(2)	166	158	158	–	83.5	24
(0)	160	152	152	–	81.7	24

부표8 금속재료의 물리적 기계적 성질

재 료	비 중	선팽창계수 (0°~100°C) (K^{-1})	硬 度 (브리넬)	종탄성계수 (MPa) {kgf/mm²}	인장강도 (MPa) {kgf/mm²}	항복점 (MPa) {kgf/mm²}	팽창율 (%)
베어링강 (燒入)	7.83	12.5×10^{-6}	650～740	208 000 {21 200}	1 570～1 960 {160～200}	–	–
마르텐사이트계 스테인레스동 SUS 440C	7.68	10.1×10^{-6}	580	200 000 {20 400}	1 960 {200}	1 860 {190}	–
軟 鋼 (C=0.12~0.20%)	7.86	11.6×10^{-6}	100～130	206 000 {21 000}	373～471 {38～48}	216～294 {22～30}	24～36
硬 鋼 (C=0.3~0.5%)	7.84	11.3×10^{-6}	160～200	206 000 {21 000}	539～686 {55～70}	333～451 {34～46}	14～26
오스테나이트계 스테인레스동 SUS 304	8.03	16.3×10^{-6}	150	193 000 {19 700}	588 {60}	245 {25}	60
주철 회주철 FC 200	7.3	10.4×10^{-6}	223	98 100 {10 000}	200이상 {20}	–	–
주철 구상흑연주철 FCD 400	7.0	11.7×10^{-6}	201이하		400이상 {41}	–	12이상
알루미늄	2.69	23.7×10^{-6}	15～26	70 600 {7 200}	78 {8}	34 {3.5}	35
아 연	7.14	31×10^{-6}	30～60	92 200 {9 400}	147 {15}	–	30～40
동	8.93	16.2×10^{-6}	50	123 000 {12 500}	196 {20}	69 {7}	15～20
황동 (燒鈍)	8.5	19.1×10^{-6}	약45	103 000 {10 500}	294～343 {30～35}	–	65～75
황동 (加工)			85～130		363～539 {37～55}		15～50

비 고 탬퍼링된 베어링강 및 마르텐사이트계 스테인레스동의 경도는, 록크웰 C스케일 경도로 표시되는 것이 보통이지만 비교해 보기 위하여 브리넬 경도로 환산하여 표시하였다.

부표 9 축 의

경의 구분(㎜) 초과	이하	베어링의 평면 내평균내경의 치수 차(0급) Δ_{dmp}	d6	e6	f6	g5	g6	h5	h6	h7	h8	h9	h10	js5	js6
3	6	0 − 8	− 30 − 38	− 20 − 28	− 10 − 18	− 4 − 9	− 4 − 12	0 − 5	0 − 8	0 − 12	0 − 18	0 − 30	0 − 48	± 2.5	± 4
6	10	0 − 8	− 40 − 49	− 25 − 34	− 13 − 22	− 5 − 11	− 5 − 14	0 − 6	0 − 9	0 − 15	0 − 22	0 − 36	0 − 58	± 3	± 4.5
10	18	0 − 8	− 50 − 61	− 32 − 43	− 16 − 27	− 6 − 14	− 6 − 17	0 − 8	0 − 11	0 − 18	0 − 27	0 − 43	0 − 70	± 4	± 5.5
18	30	0 − 10	− 65 − 78	− 40 − 53	− 20 − 33	− 7 − 16	− 7 − 20	0 − 9	0 − 13	0 − 21	0 − 33	0 − 52	0 − 84	± 4.5	± 6.5
30	50	0 − 12	− 80 − 96	− 50 − 66	− 25 − 41	− 9 − 20	− 9 − 25	0 − 11	0 − 16	0 − 25	0 − 39	0 − 62	0 − 100	± 5.5	± 8
50	80	0 − 15	− 100 − 119	− 60 − 79	− 30 − 49	− 10 − 23	− 10 − 29	0 − 13	0 − 19	0 − 30	0 − 46	0 − 74	0 − 120	± 6.5	± 9.5
80	120	0 − 20	− 120 − 142	− 72 − 94	− 36 − 58	− 12 − 27	− 12 − 34	0 − 15	0 − 22	0 − 35	0 − 54	0 − 87	0 − 140	± 7.5	± 11
120	180	0 − 25	− 145 − 170	− 85 − 110	− 43 − 68	− 14 − 32	− 14 − 39	0 − 18	0 − 25	0 − 40	0 − 63	0 − 100	0 − 160	± 9	± 12.5
180	250	0 − 30	− 170 − 199	− 100 − 129	− 50 − 79	− 15 − 35	− 15 − 44	0 − 20	0 − 29	0 − 46	0 − 72	0 − 115	0 − 185	± 10	± 14.5
250	315	0 − 35	− 190 − 222	− 110 − 142	− 56 − 88	− 17 − 40	− 17 − 49	0 − 23	0 − 32	0 − 52	0 − 81	0 − 130	0 − 210	± 11.5	± 16
315	400	0 − 40	− 210 − 246	− 125 − 161	− 62 − 98	− 18 − 43	− 18 − 54	0 − 25	0 − 36	0 − 57	0 − 89	0 − 140	0 − 230	± 12.5	± 18
400	500	0 − 45	− 230 − 270	− 135 − 175	− 68 − 108	− 20 − 47	− 20 − 60	0 − 27	0 − 40	0 − 63	0 − 97	0 − 155	0 − 250	± 13.5	± 20
500	630	0 − 50	− 260 − 304	− 145 − 189	− 76 − 120	_	− 22 − 66	_	0 − 44	0 − 70	0 − 110	0 − 175	0 − 280	−	± 22
630	800	0 − 75	− 290 − 340	− 160 − 210	− 80 − 130	_	− 24 − 74	_	0 − 50	0 − 80	0 − 125	0 − 200	0 − 320	−	± 25
800	1 000	0 − 100	− 320 − 376	− 170 − 226	− 86 − 142	_	− 26 − 82	_	0 − 56	0 − 90	0 − 140	0 − 230	0 − 360	−	± 28
1 000	1 250	0 − 125	− 350 − 416	− 195 − 261	− 98 − 164	_	− 28 − 94	_	0 − 66	0 − 105	0 − 165	0 − 260	0 − 420	−	± 33
1 250	1 600	0 − 160	− 390 − 468	− 220 − 298	− 110 − 188	_	− 30 − 108	_	0 − 78	0 − 125	0 − 195	0 − 310	0 − 500	−	± 39
1 600	2 000	0 − 200	− 430 − 522	− 240 − 332	− 120 − 212	_	− 32 − 124	_	0 − 92	0 − 150	0 − 230	0 − 370	0 − 600	−	± 46

치 수 허 용 차

단위 : μm

j5	j6	j7	k5	k6	k7	m5	m6	n6	p6	r6	r7	경의 구분(mm) 초과	이하
+ 3 − 2	+ 6 − 2	+ 8 − 4	+ 6 + 1	+ 9 + 1	+ 13 + 1	+ 9 + 4	+ 12 + 4	+ 16 + 8	+ 20 + 12	+ 23 + 15	+ 27 + 15	3	6
+ 4 − 2	+ 7 − 2	+ 10 − 5	+ 7 + 1	+ 10 + 1	+ 16 + 1	+ 12 + 6	+ 15 + 6	+ 19 + 10	+ 24 + 15	+ 28 + 19	+ 34 + 19	6	10
+ 5 − 3	+ 8 − 3	+ 12 − 6	+ 9 + 1	+ 12 + 1	+ 19 + 1	+ 15 + 7	+ 18 + 7	+ 23 + 12	+ 29 + 18	+ 34 + 23	+ 41 + 23	10	18
+ 5 − 4	+ 9 − 4	+ 13 − 8	+ 11 + 2	+ 15 + 2	+ 23 + 2	+ 17 + 8	+ 21 + 8	+ 28 + 15	+ 35 + 22	+ 41 + 28	+ 49 + 28	18	30
+ 6 − 5	+ 11 − 5	+ 15 − 10	+ 13 + 2	+ 18 + 2	+ 27 + 2	+ 20 + 9	+ 25 + 9	+ 33 + 17	+ 42 + 26	+ 50 + 34	+ 59 + 34	30	50
+ 6 − 7	+ 12 − 7	+ 18 − 12	+ 15 + 2	+ 21 + 2	+ 32 + 2	+ 24 + 11	+ 30 + 11	+ 39 + 20	+ 51 + 32	+ 60 + 41	+ 71 + 41	50	65
										+ 62 + 43	+ 73 + 43	65	80
+ 6 − 9	+ 13 − 9	+ 20 − 15	+ 18 + 3	+ 25 + 3	+ 38 + 3	+ 28 + 13	+ 35 + 13	+ 45 + 23	+ 59 + 37	+ 73 + 51	+ 86 + 51	80	100
										+ 76 + 54	+ 89 + 54	100	120
+ 7 − 11	+ 14 − 11	+ 22 − 18	+ 21 + 3	+ 28 + 3	+ 43 + 3	+ 33 + 15	+ 40 + 15	+ 52 + 27	+ 68 + 43	+ 88 + 63	+ 103 + 63	120	140
										+ 90 + 65	+ 105 + 65	140	160
										+ 93 + 68	+ 108 + 68	160	180
+ 7 − 13	+ 16 − 13	+ 25 − 21	+ 24 + 4	+ 33 + 4	+ 50 + 4	+ 37 + 17	+ 46 + 17	+ 60 + 31	+ 79 + 50	+ 106 + 77	+ 123 + 77	180	200
										+ 109 + 80	+ 126 + 80	200	225
										+ 113 + 84	+ 130 + 84	225	250
+ 7 − 16	+ 16 − 16	+ 26 − 26	+ 27 + 4	+ 36 + 4	+ 56 + 4	+ 43 + 20	+ 52 + 20	+ 66 + 34	+ 88 + 56	+ 126 + 94	+ 146 + 94	250	280
										+ 130 + 98	+ 150 + 98	280	315
+ 7 − 18	+ 18 − 18	+ 29 − 28	+ 29 + 4	+ 40 + 4	+ 61 + 4	+ 46 + 21	+ 57 + 21	+ 73 + 37	+ 98 + 62	+ 144 + 108	+ 165 + 108	315	355
										+ 150 + 114	+ 171 + 114	355	400
+ 7 − 20	+ 20 − 20	+ 31 − 32	+ 32 + 5	+ 45 + 5	+ 68 + 5	+ 50 + 23	+ 63 + 23	+ 80 + 40	+ 108 + 68	+ 166 + 126	+ 189 + 126	400	450
										+ 172 + 132	+ 195 + 132	450	500
−	−	−	−	+ 44 0	+ 70 0	−	+ 70 + 26	+ 88 + 44	+ 122 + 78	+ 194 + 150	+ 220 + 150	500	560
										+ 199 + 155	+ 225 + 155	560	630
−	−	−	−	+ 50 0	+ 80 0	−	+ 80 + 30	+ 100 + 50	+ 138 + 88	+ 225 + 175	+ 255 + 175	630	710
										+ 235 + 185	+ 265 + 185	710	800
−	−	−	−	+ 56 0	+ 90 0	−	+ 90 + 34	+ 112 + 56	+ 156 + 100	+ 266 + 210	+ 300 + 210	800	900
										+ 276 + 220	+ 310 + 220	900	1 000
−	−	−	−	+ 66 0	+ 105 0	−	+ 106 + 40	+ 132 + 66	+ 186 + 120	+ 316 + 250	+ 355 + 250	1 000	1 120
										+ 326 + 260	+ 365 + 260	1 120	1 250
−	−	−	−	+ 78 0	+ 125 0	−	+ 126 + 48	+ 156 + 78	+ 218 + 140	+ 378 + 300	+ 425 + 300	1 250	1 400
										+ 408 + 330	+ 455 + 330	1 400	1 600
−	−	−	−	+ 92 0	+ 150 0	−	+ 150 + 58	+ 184 + 92	+ 262 + 170	+ 462 + 370	+ 520 + 370	1 600	1 800
										+ 492 + 400	+ 550 + 400	1 800	2 000

부 착 10 하우징구멍의

경의 구분(㎜) 초과	이하	베어링의 평면 내평균내경의 치 수 차(0급) Δ_{Dmp}	E6	F6	F7	G6	G7	H6	H7	H8	J6	J7	JS6	JS7
10	18	0 − 8	+ 43 + 32	+ 27 + 16	+ 34 + 16	+ 17 + 6	+ 24 + 6	+ 11 0	+ 18 0	+ 27 0	+ 6 − 5	+10 − 8	± 5.5	± 9
18	30	0 − 9	+ 53 + 40	+ 33 + 20	+ 41 + 20	+ 20 + 7	+ 28 + 7	+ 13 0	+ 21 0	+ 33 0	+ 8 − 5	+12 − 9	± 6.5	±10
30	50	0 − 11	+ 66 + 50	+ 41 + 25	+ 50 + 25	+ 25 + 9	+ 34 + 9	+ 16 0	+ 25 0	+ 39 0	+ 10 − 6	+14 −11	± 8	±12
50	80	0 − 13	+ 79 + 60	+ 49 + 30	+ 60 + 30	+ 29 + 10	+ 40 + 10	+ 19 0	+ 30 0	+ 46 0	+13 − 6	+18 −12	± 9.5	±15
80	120	0 − 15	+ 94 + 72	+ 58 + 36	+ 71 + 36	+ 34 + 12	+ 47 + 12	+ 22 0	+ 35 0	+ 54 0	+16 − 6	+22 −13	±11	±17
120 150	150 180	0 − 18 0 − 25	+110 + 85	+ 68 + 43	+ 83 + 43	+ 39 + 14	+ 54 + 14	+ 25 0	+ 40 0	+ 63 0	+18 − 7	+26 −14	±12.5	±20
180	250	0 − 30	+129 +100	+ 79 + 50	+ 96 + 50	+ 44 + 15	+ 61 + 15	+ 29 0	+ 46 0	+ 72 0	+22 − 7	+30 −16	±14.5	±23
250	315	0 − 35	+142 + 110	+ 88 + 56	+108 + 56	+ 49 + 17	+ 69 + 17	+ 32 0	+ 52 0	+ 81 0	+25 − 7	+36 −16	±16	±26
315	400	0 − 40	+161 +125	+ 98 + 62	+119 + 62	+ 54 + 18	+ 75 + 18	+ 36 0	+ 57 0	+ 89 0	+29 − 7	+39 −18	±18	±28
400	500	0 − 45	+175 +135	+108 + 68	+131 + 68	+ 60 + 20	+ 83 + 20	+ 40 0	+ 63 0	+ 97 0	+33 − 7	+43 −20	±20	±31
500	630	0 − 50	+189 +145	+120 + 76	+146 + 76	+ 66 + 22	+ 92 + 22	+ 44 0	+ 70 0	+110 0	–	–	±22	±35
630	800	0 − 75	+210 +160	+130 + 80	+160 + 80	+ 74 + 24	+104 + 24	+ 50 0	+ 80 0	+125 0	–	–	±25	±40
800	1 000	0 −100	+226 +170	+142 + 86	+176 + 86	+ 82 + 26	+116 + 26	+ 56 0	+ 90 0	+140 0	–	–	±28	±45
1 000	1 250	0 −125	+261 +195	+164 + 98	+203 + 98	+ 94 + 28	+133 + 28	+ 66 0	+105 0	+165 0	–	–	±33	±52
1 250	1 600	0 −160	+298 +220	+188 +110	+235 +110	+108 + 30	+155 + 30	+ 78 0	+125 0	+195 0	–	–	±39	±62
1 600	2 000	0 −200	+332 +240	+212 +120	+270 +120	+124 + 32	+182 + 32	+ 92 0	+150 0	+230 0	–	–	±46	±75
2 000	2 500	0 −250	+370 +260	+240 +130	+305 +130	+144 + 34	+209 + 34	+110 0	+175 0	+280 0	–	–	±55	±87

치수허용차

단위 : μm

K5	K6	K7	M5	M6	M7	N5	N6	N7	P6	P7	경의 구분(mm) 초과	경의 구분(mm) 이하
+2 −6	+2 −9	+6 −12	−4 −12	−4 −15	0 −18	−9 −17	−9 −20	−5 −23	−15 −26	−11 −29	10	18
+1 −8	+2 −11	+6 −15	−5 −14	−4 −17	0 −21	−12 −21	−11 −24	−7 −28	−18 −31	−14 −35	18	30
+2 −9	+3 −13	+7 −18	−5 −16	−4 −20	0 −25	−13 −24	−12 −28	−8 −33	−21 −37	−17 −42	30	50
+3 −10	+4 −15	+9 −21	−6 −19	−5 −24	0 −30	−15 −28	−14 −33	−9 −39	−26 −45	−21 −51	50	80
+2 −13	+4 −18	+10 −25	−8 −23	−6 −28	0 −35	−18 −33	−16 −38	−10 −45	−30 −52	−24 −59	80	120
+3 −15	+4 −21	+12 −28	−9 −27	−8 −33	0 −40	−21 −39	−20 −45	−12 −52	−36 −61	−28 −68	120	180
+2 −18	+5 −24	+13 −33	−11 −31	−8 −37	0 −46	−25 −45	−22 −51	−14 −60	−41 −70	−33 −79	180	250
+3 −20	+5 −27	+16 −36	−13 −36	−9 −41	0 −52	−27 −50	−25 −57	−14 −66	−47 −79	−36 −88	250	315
+3 −22	+7 −29	+17 −40	−14 −39	−10 −46	0 −57	−30 −55	−26 −62	−16 −73	−51 −87	−41 −98	315	400
+2 −25	+8 −32	+18 −45	−16 −43	−10 −50	0 −63	−33 −60	−27 −67	−17 −80	−55 −95	−45 −108	400	500
−	0 −44	0 −70	−	−26 −70	−26 −96	−	−44 −88	−44 −114	−78 −122	−78 −148	500	630
−	0 −50	0 −80	−	−30 −80	−30 −110	−	−50 −100	−50 −130	−88 −138	−88 −168	630	800
−	0 −56	0 −90	−	−34 −90	−34 −124	−	−56 −112	−56 −146	−100 −156	−100 −190	800	1 000
−	0 −66	0 −105	−	−40 −106	−40 −145	−	−66 −132	−66 −171	−120 −186	−120 −225	1 000	1 250
−	0 −78	0 −125	−	−48 −126	−48 −173	−	−78 −156	−78 −203	−140 −218	−140 −265	1 250	1 600
−	0 −92	0 −150	−	−58 −150	−58 −208	−	−92 −184	−92 −242	−170 −262	−170 −320	1 600	2 000
−	0 −110	0 −175	−	−68 −178	−68 −243	−	−110 −220	−110 −285	−195 −305	−195 −370	2 000	2 500

부 착 11 기본공차

표준치수의 구 분(mm)		공차										
		IT1	IT2	IT3	IT4	IT5	IT6	IT7	IT8	IT9	IT10	IT11
초과	이하	기본공차의 수치(μm)										
–	3	0.8	1.2	2	3	4	6	10	14	25	40	60
3	6	1	1.5	2.5	4	5	8	12	18	30	48	75
6	10	1	1.5	2.5	4	6	9	15	22	36	58	90
10	18	1.2	2	3	5	8	11	18	27	43	70	110
18	30	1.5	2.5	4	6	9	13	21	33	52	84	130
30	50	1.5	2.5	4	7	11	16	25	39	62	100	160
50	80	2	3	5	8	13	19	30	46	74	120	190
80	120	2.5	4	6	10	15	22	35	54	87	140	220
120	180	3.5	5	8	12	18	25	40	63	100	160	250
180	250	4.5	7	10	14	20	29	46	72	115	185	290
250	315	6	8	12	16	23	32	52	81	130	210	320
315	400	7	9	13	18	25	36	57	89	140	230	360
400	500	8	10	15	20	27	40	63	97	155	250	400
500	630	9	11	16	22	30	44	70	110	175	280	440
630	800	10	13	18	25	35	50	80	125	200	320	500
800	1 000	11	15	21	29	40	56	90	140	230	360	560
1 000	1 250	13	18	24	34	46	66	105	165	260	420	660
1 250	1 600	15	21	29	40	54	78	125	195	310	500	780
1 600	2 000	18	25	35	48	65	92	150	230	370	600	920
2 000	2 500	22	30	41	57	77	110	175	280	440	700	1 100
2 500	3 150	26	36	50	69	93	135	210	330	540	860	1 350

비 고 1. 공차등급 IT14~IT18은, 기준치수 1㎜이하에는 적용하지 않는다.
2. 500㎜를 초과하는 기준치수에 대한 동차등급 IT1~IT5의 공차의 값은 실험적으로 사용하기 위한 暫定的인 것이다.

IT 의 수 치

등급							표준치수의 구 분(mm)	
IT12	IT13	IT14	IT15	IT16	IT17	IT18		
기본공차의 수치(mm)							초과	이하
0.10	0.14	0.26	0.40	0.60	1.00	1.40	–	3
0.12	0.18	0.30	0.48	0.75	1.20	1.80	3	6
0.15	0.22	0.36	0.58	0.90	1.50	2.20	6	10
0.18	0.27	0.43	0.70	1.10	1.80	2.70	10	18
0.21	0.33	0.52	0.84	1.30	2.10	3.30	18	30
0.25	0.39	0.62	1.00	1.60	2.50	3.90	30	50
0.30	0.46	0.74	1.20	1.90	3.00	4.60	50	80
0.35	0.54	0.87	1.40	2.20	3.50	5.40	80	120
0.40	0.63	1.00	1.60	2.50	4.00	6.30	120	180
0.46	0.72	1.15	1.85	2.90	4.60	7.20	180	250
0.52	0.81	1.30	2.10	3.20	5.20	8.10	250	315
0.57	0.89	1.40	2.30	3.60	5.70	8.90	315	400
0.63	0.97	1.55	2.50	4.00	6.30	9.70	400	500
0.70	1.10	1.75	2.80	4.40	7.00	11.00	500	630
0.80	1.25	2.00	3.20	5.00	8.00	12.50	630	800
0.90	1.40	2.30	3.60	5.60	9.00	14.00	800	1 000
1.05	1.65	2.60	4.20	6.60	10.50	16.50	1 000	1 250
1.25	1.95	3.10	5.00	7.80	12.50	19.50	1 250	1 600
1.50	2.30	3.70	6.00	9.20	15.00	23.00	1 600	2 000
1.75	2.80	4.40	7.00	11.00	17.50	28.00	2 000	2 500
2.10	3.30	5.40	8.60	13.50	21.00	33.00	2 500	3 150

부표 12 회전속도 n과 속도계수 f_n

볼베어링 $f_n=(0.03n)^{-1/3}$
로울러베어링 $f_n=(0.03n)^{-3/10}$

회전속도 n(rpm)	속도계수 f_n	
	볼베어링	로울러베어링
10	1.49	1.44
11	1.45	1.39
12	1.41	1.36
13	1.37	1.33
14	1.34	1.30
15	1.30	1.27
16	1.28	1.25
17	1.25	1.22
18	1.23	1.20
19	1.21	1.18
20	1.19	1.17
21	1.17	1.15
22	1.15	1.13
23	1.13	1.12
24	1.12	1.10
25	1.10	1.09
26	1.09	1.08
27	1.07	1.07
28	1.06	1.05
29	1.05	1.04
30	1.04	1.03
31	1.02	1.02
32	1.01	1.01
33.3	1.00	1.00
34	0.993	0.994
36	0.975	0.977
38	0.957	0.961
40	0.941	0.947
42	0.926	0.933
44	0.912	0.920
46	0.898	0.908
48	0.886	0.896
50	0.874	0.885
55	0.846	0.861
60	0.822	0.838
65	0.800	0.818
70	0.781	0.800
75	0.763	0.784
80	0.747	0.769
85	0.732	0.755
90	0.718	0.742
95	0.705	0.730
100	0.693	0.719
110	0.672	0.699
120	0.652	0.681
130	0.635	0.665
140	0.620	0.650
150	0.606	0.637
160	0.593	0.625
170	0.581	0.613
180	0.570	0.603
190	0.560	0.593
200	0.550	0.584
220	0.533	0.568
240	0.518	0.553
260	0.504	0.540
280	0.492	0.528
300	0.481	0.517
320	0.471	0.507
340	0.461	0.498
360	0.452	0.490
380	0.444	0.482
400	0.437	0.475
420	0.430	0.468
440	0.423	0.461
460	0.417	0.455
480	0.411	0.449
500	0.405	0.444
550	0.393	0.431
600	0.382	0.420
650	0.372	0.410
700	0.362	0.401
750	0.354	0.393
800	0.347	0.385
850	0.340	0.378
900	0.333	0.372
950	0.327	0.366
1 000	0.322	0.360
1 050	0.317	0.355
1 100	0.312	0.350
1 150	0.307	0.346
1 200	0.303	0.341
1 250	0.299	0.337
1 300	0.295	0.333
1 400	0.288	0.326
1 500	0.281	0.319
1 600	0.275	0.313
1 700	0.270	0.307
1 800	0.265	0.302
1 900	0.260	0.297
2 000	0.255	0.293
2 100	0.251	0.289
2 200	0.247	0.285
2 300	0.244	0.281
2 400	0.240	0.277
2 500	0.237	0.274
2 600	0.234	0.271
2 700	0.231	0.268
2 800	0.228	0.265
2 900	0.226	0.262
3 000	0.223	0.259
3 200	0.218	0.254
3 400	0.214	0.250
3 600	0.210	0.245
3 800	0.206	0.242
4 000	0.203	0.238
4 200	0.199	0.234
4 400	0.196	0.231
4 600	0.194	0.228
4 800	0.191	0.225
5 000	0.188	0.222
5 200	0.186	0.220
5 400	0.183	0.217
5 600	0.181	0.215
5 800	0.179	0.213
6 000	0.177	0.211
6 200	0.175	0.209
6 400	0.173	0.207
6 600	0.172	0.205
6 800	0.170	0.203
7 000	0.168	0.201
7 200	0.167	0.199
7 400	0.165	0.198
7 600	0.164	0.196
7 800	0.162	0.195
8 000	0.161	0.193
8 500	0.158	0.190
9 000	0.155	0.186
9 500	0.152	0.183
10 000	0.149	0.181
11 000	0.145	0.176
12 000	0.141	0.171
13 000	0.137	0.167
14 000	0.134	0.163
15 000	0.130	0.160
16 000	0.128	0.157
17 000	0.125	0.154
18 000	0.123	0.151
19 000	0.121	0.149
20 000	0.119	0.147
22 000	0.115	0.143
24 000	0.112	0.139
26 000	0.109	0.136
28 000	0.106	0.133
30 000	0.104	0.130
32 000	0.101	0.127
34 000	0.099	0.125
36 000	0.097	0.123
38 000	0.096	0.121
40 000	0.094	0.119

부표 13 하중비 C/P · 피로수명계수 f_h와 피로수명 $L \cdot L_h$

볼베어링 $L = (C/P)^3$ $L_h = 500 f_n^3$

로울러베어링 $L = (C/P)^{10/3}$ $L_h = 500 f_n^{10/3}$

하중비 C/P 또는 피로수명계수 f_h	볼베어링의 피로수명		로울러베어링의 피로수명	
	L (10^6rev)	L_h (h)	L (10^6rev)	L_h (h)
0.70	0.34	172	0.30	152
0.75	0.42	211	0.38	192
0.80	0.51	256	0.48	238
0.85	0.61	307	0.58	291
0.90	0.73	365	0.70	352
0.95	0.86	429	0.84	421
1.00	**1.00**	**500**	**1.00**	**500**
1.05	1.16	579	1.18	588
1.10	1.33	665	1.37	687
1.15	1.52	760	1.59	797
1.20	1.73	864	1.84	918
1.25	1.95	977	2.10	1 050
1.30	2.20	1 100	2.40	1 200
1.35	2.46	1 230	2.72	1 360
1.40	2.74	1 370	3.07	1 530
1.45	3.05	1 520	3.45	1 730
1.50	3.38	1 690	3.86	1 930
1.55	3.72	1 860	4.31	2 150
1.60	4.10	2 050	4.79	2 400
1.65	4.49	2 250	5.31	2 650
1.70	4.91	2 460	5.86	2 930
1.75	5.36	2 680	6.46	3 230
1.80	5.83	2 920	7.09	3 550
1.85	6.33	3 170	7.77	3 890
1.90	6.86	3 430	8.50	4 250
1.95	7.41	3 710	9.26	4 630
2.00	8.00	4 000	10.1	5 040
2.05	8.62	4 310	10.9	5 470
2.10	9.26	4 630	11.9	5 930
2.15	9.94	4 970	12.8	6 410
2.20	10.6	5 320	13.8	6 920
2.25	11.4	5 700	14.9	7 460
2.30	12.2	6 080	16.1	8 030
2.35	13.0	6 490	17.3	8 630
2.40	13.8	6 910	18.5	9 250
2.45	14.7	7 350	19.8	9 910
2.50	15.6	7 810	21.2	10 600
2.55	16.6	8 290	22.7	11 300
2.60	17.6	8 790	24.2	12 100
2.65	18.6	9 300	25.8	12 900
2.70	19.7	9 840	27.4	13 700
2.75	20.8	10 400	29.1	14 600
2.80	22.0	11 000	30.9	15 500
2.85	23.1	11 600	32.8	16 400
2.90	24.4	12 200	34.8	17 400
2.95	25.7	12 800	36.8	18 400
3.00	27.0	13 500	38.9	19 500
3.05	28.4	14 200	41.1	20 600
3.10	29.8	14 900	43.4	21 700
3.15	31.3	15 600	45.8	22 900
3.20	32.8	16 400	48.3	24.100
3.25	34.3	17 200	50.8	25 400
3.30	35.9	18 000	53.5	26 800
3.35	37.6	18 800	56.3	28 100
3.40	39.3	19 700	59.1	29 600

하중비 C/P 또는 피로수명계수 f_h	볼베어링의 피로수명		로울러베어링의 피로수명	
	L (10^6rev)	L_h (h)	L (10^6rev)	L_h (h)
3.45	41.1	20 500	62.0	31 000
3.50	42.9	21 400	65.1	32 500
3.55	44.7	22 400	68.2	34 100
3.60	46.7	23 300	71.5	35 800
3.65	48.6	24 300	74.9	37 400
3.70	50.7	25 300	78.3	39 200
3.75	52.7	26 400	81.9	41 000
3.80	54.9	27 400	85.6	42 800
3.85	57.1	28 500	89.4	44 700
3.90	59.3	29 700	93.4	46 700
3.95	61.6	30 800	97.4	48 700
4.00	64.0	32 000	102	50 800
4.05	66.4	33 200	106	52 900
4.10	68.9	34 500	110	55 200
4.15	71.5	35 700	115	57 400
4.20	74.1	37 000	120	59 800
4.25	76.8	38 400	124	62 200
4.30	79.5	39 800	129	64 600
4.35	82.3	41 200	134	67 200
4.40	85.2	42 600	140	69 800
4.45	88.1	44 100	145	72 500
4.50	91.1	45 600	150	75 200
4.55	94.2	47 100	156	78 000
4.60	97.3	48 700	162	80 900
4.65	101	50 300	168	83 900
4.70	104	51 900	174	87 000
4.75	107	53 600	180	90 100
4.80	111	55 300	187	93 300
4.85	114	57 000	193	96 600
4.90	118	58 800	200	99 900
4.95	121	60 600	207	103 000
5.00	125	62 500	214	107 000
5.10	133	66 300	228	114 000
5.20	141	70 300	244	122 000
5.30	149	74 400	260	130 000
5.40	157	78 700	276	138 000
5.50	166	83 200	294	147 000
5.60	176	87 800	312	156 000
5.70	185	92 600	331	165 000
5.80	195	97 600	351	175 000
5.90	205	103 000	371	186 000
6.00	216	108 000	392	196 000
6.50	275	137 000	513	256 000
7.00	343	172 000	656	328 000
7.50	422	211 000	826	413 000
8.00	512	256 000	1 020	512 000
8.50	614	307 000	1 250	627 000
9.00	729	365 000	1 520	758 000
9.50	857	429 000	1 820	908 000
10.0	1 000	–	2 150	–
11.0	1 330	–	2 960	–
12.0	1 730	–	3 960	–
13.0	2 200	–	5 170	–
14.0	2 740	–	6 610	–
15.0	3 380	–	8 320	–

부 표 14 인치계열 테이퍼로울러베어링의 색인

호칭번호 CONE/CUP	호칭치수(mm) *d* : CONE 내경 *D* : CUP 외경		베어링記載페이지
332	*D*	80.000	B140, B144, B146
336	*d*	41.275	B146
342	*d*	41.275	B146
342S	*d*	42.875	B146
344	*d*	40.000	B144
344A	*d*	40.000	B144
346	*d*	31.750	B140
354A	*D*	85.000	B148
359S	*d*	46.038	B148
362A	*D*	88.900	B148, B150
366	*d*	50.000	B150
368	*d*	50.800	B150
368A	*d*	50.800	B150
369A	*d*	47.625	B148
372	*D*	100.000	B150
374	*D*	93.264	B148
376	*d*	45.000	B148
377	*d*	52.388	B150
382	*D*	98.425	B152
382A	*D*	96.838	B152
382S	*D*	96.838	B152
385	*d*	55.000	B152
387	*d*	57.150	B152
387A	*d*	57.150	B152
388A	*d*	57.531	B152
390A	*d*	63.500	B154
394A	*D*	110.000	B154, B156
395	*d*	63.500	B154
395A	*d*	66.675	B156
395S	*d*	66.675	B156
397	*d*	60.000	B154
399A	*d*	68.262	B156
414	*D*	88.501	B144
418	*d*	38.100	B144
432	*D*	95.250	B146
432A	*D*	95.250	B148
436	*d*	46.038	B148
438	*d*	44.450	B146
453A	*D*	107.950	B148
453X	*D*	104.775	B152
460	*d*	44.450	B148
462	*d*	57.150	B152
469	*d*	57.150	B152
472	*D*	120.000	B156, B158
472A	*D*	120.000	B156
478	*d*	65.000	B156
480	*d*	68.262	B156
484	*d*	70.000	B158
492A	*D*	133.350	B160, B162
493	*D*	136.525	B158, B160, B162
495	*d*	82.550	B160
495A	*d*	76.200	B158
495AX	*d*	76.200	B158
496	*d*	80.962	B160

호칭번호 CONE/CUP	호칭치수(mm) *d* : CONE 내경 *D* : CUP 외경		베어링記載페이지
497	*d*	85.725	B162
498	*d*	84.138	B162
522	*D*	101.600	B148, B150
528	*d*	47.625	B148
529	*d*	50.800	B150
529X	*d*	50.800	B150
532X	*D*	107.950	B152
539	*d*	53.975	B152
552A	*D*	123.825	B152, B154, B156
553X	*D*	122.238	B154, B156
555S	*d*	57.150	B152
557S	*d*	53.975	B152
558	*d*	60.325	B154
559	*d*	63.500	B154
560	*d*	66.675	B156
560S	*d*	68.262	B156
563	*D*	127.000	B154, B156, B158
563X	*D*	127.000	B156
565	*d*	63.500	B154
566	*d*	69.850	B156
567	*d*	73.025	B158
567A	*d*	71.438	B158
567S	*d*	71.438	B158
568	*d*	73.817	B158
569	*d*	64.963	B154
570	*d*	68.262	B156
572	*D*	139.992	B158, B160
572X	*D*	139.700	B160
575	*d*	76.200	B158
580	*d*	82.550	B160
581	*d*	80.962	B160
582	*d*	82.550	B160
590A	*d*	76.200	B158
592	*D*	152.400	B164
592A	*D*	152.400	B158, B162, B164
593	*d*	88.900	B162
594	*d*	95.250	B164
596	*d*	85.725	B162
597	*d*	93.662	B164
598	*d*	92.075	B164
598A	*d*	92.075	B164
614X	*D*	115.000	B152
622X	*d*	55.000	B152
632	*D*	136.525	B154, B158
633	*D*	130.175	B154, B156, B158
637	*d*	60.325	B154
639	*d*	63.500	B154
643	*d*	69.850	B156
644	*d*	71.438	B158
645	*d*	71.438	B158
652	*D*	152.400	B158, B160
653	*D*	146.050	B156, B158, B160, B162
653X	*D*	150.000	B158
655	*d*	69.850	B156

호칭번호 CONE/CUP	호칭치수(mm) *d* : CONE 내경 *D* : CUP 외경		베어링記載페이지
657	*d*	73.025	B158
658	*d*	74.612	B158
659	*d*	76.200	B158
661	*d*	79.375	B160
663	*d*	82.550	B160
664	*d*	84.138	B162
665	*d*	85.725	B162
665A	*d*	85.725	B162
672	*D*	168.275	B162, B164, B166
677	*d*	85.725	B162
681	*d*	92.075	B164
683	*d*	95.250	B164
685	*d*	98.425	B164
687	*d*	101.600	B166
742	*D*	150.089	B156, B160, B162
743	*D*	150.000	B160
745A	*d*	69.850	B156
749	*d*	85.026	B162
749A	*d*	82.550	B160
749S	*d*	85.026	B162
750	*d*	79.375	B160
752	*D*	161.925	B160, B162
753	*D*	168.275	B160, B162
757	*d*	82.550	B160
758	*d*	85.725	B162
759	*d*	88.900	B162
760	*d*	90.488	B162
766	*d*	88.900	B162
772	*D*	180.975	B164, B166
776	*d*	95.250	B164
779	*d*	98.425	B164
780	*d*	101.600	B166
782	*d*	104.775	B166
787	*d*	104.775	B166
792	*D*	206.375	B168
795	*d*	120.650	B168
797	*d*	130.000	B168
799	*d*	128.588	B168
799A	*d*	130.175	B168
832	*D*	168.275	B160, B162
837	*d*	76.200	B160
842	*d*	82.550	B160
843	*d*	76.200	B160
850	*d*	88.900	B162
854	*D*	190.500	B162, B164, B166
855	*d*	88.900	B162
857	*d*	92.075	B164
861	*d*	101.600	B166
864	*d*	95.250	B164
866	*d*	98.425	B164
932	*D*	212.725	B166
938	*d*	114.300	B166
1220	*D*	57.150	B136
1280	*d*	22.225	B136

호칭번호 CONE/CUP	호칭치수(mm) *d* : CONE 내경 *D* : CUP 외경		베어링記載페이지
1328	*D*	52.388	B136
1329	*D*	53.975	B136
1380	*d*	22.225	B136
1620	*D*	66.675	B142
1680	*d*	33.338	B142
1729	*D*	56.896	B136, B138
1755	*d*	22.225	B136
1779	*d*	23.812	B138
1922	*D*	57.150	B138
1988	*d*	28.575	B138
1997X	*d*	26.988	B138
A2047	*d*	12.000	B136
A2126	*D*	31.991	B136
2523	*D*	69.850	B140, B142
2558	*d*	30.162	B140
2559	*d*	30.162	B140
2580	*d*	31.750	B140
2582	*d*	31.750	B140
2585	*d*	33.338	B142
2631	*D*	66.421	B140
2690	*d*	29.367	B140
2720	*D*	76.200	B144
2729	*D*	76.200	B144
2735X	*D*	73.025	B144
2788	*d*	38.100	B144
2789	*d*	39.688	B144
2820	*D*	73.025	B142
2877	*d*	34.925	B142
2924	*D*	85.000	B148
2984	*d*	46.038	B148
3120	*D*	72.626	B140, B142
3188	*d*	31.750	B140
3197	*d*	33.338	B142
3320	*D*	80.167	B144
3386	*d*	39.688	B144
3420	*D*	79.375	B142, B144
3478	*d*	34.925	B142
3479	*d*	36.512	B144
3490	*d*	38.100	B144
3525	*D*	87.312	B146
3576	*d*	41.275	B146
3578	*d*	44.450	B146
3720	*D*	93.264	B146
3730	*D*	93.264	B150
3775	*d*	50.800	B150
3780	*d*	50.800	B150
3782	*d*	44.450	B146
3820	*D*	85.725	B146
3877	*d*	41.275	B146
3920	*D*	112.712	B154, B156
3926	*D*	112.712	B152, B154
3981	*d*	58.738	B152
3982	*d*	63.500	B154
3984	*d*	66.675	B156

호칭번호 CONE/CUP	호칭치수(mm) d : CONE 내경 D : CUP 외경		베어링記載페이지
3994	d	66.675	B156
A4050	d	12.700	B136
A4059	d	15.000	B136
A4138	D	34.988	B136
4335	D	90.488	B146
4388	d	41.275	B146
4535	D	104.775	B152
4595	d	53.975	B152
A5069	d	17.455	B136
A5144	D	36.525	B136
5335	D	103.188	B148
5356	d	44.450	B148
5535	D	122.238	B152, B154
5566	d	55.562	B152
5582	d	60.325	B154
5584	d	63.500	B154
5735	D	135.732	B158, B160
5760	d	76.200	B158
5795	d	77.788	B160
A6062	d	15.875	B136
A6067	d	16.993	B136
A6075	d	19.050	B136
A6157	D	39.992	B136
6220	D	127.000	B150, B152
6279	d	50.800	B150
6280	d	53.975	B152
6320	D	135.755	B154, B156
6376	d	60.325	B154
6379	d	65.088	B156
6420	D	149.225	B152, B156, B158
6454	d	69.850	B156
6455	d	57.150	B152
6460	d	73.025	B158
6461	d	76.200	B158
6535	D	161.925	B158, B160, B162
6536	D	161.925	B158
6559	d	82.550	B160
6575	d	76.200	B158
6576	d	76.200	B158
6580	d	88.900	B162
9121	D	152.400	B154, B156
9180	d	61.912	B154
9185	d	68.262	B156
9220	D	161.925	B158
9285	d	76.200	B158
9320	D	177.800	B160
9321	D	171.450	B160, B162
9378	d	76.200	B160
9380	d	76.200	B160
9385	d	84.138	B162
02420	D	68.262	B138, B140
02473	d	25.400	B138
02474	d	28.575	B138
02475	d	31.750	B140

호칭번호 CONE/CUP	호칭치수(mm) d : CONE 내경 D : CUP 외경		베어링記載페이지
02820	D	73.025	B138, B142
02872	d	28.575	B138
02878	d	34.925	B142
03062	d	15.875	B136
03162	D	41.275	B136
05062	d	15.875	B136
05068	d	17.462	B136
05075	d	19.050	B136
05079	d	19.990	B136
05175	D	44.450	B136
05185	D	47.000	B136
07079	d	20.000	B136
07087	d	22.225	B136
07097	d	25.000	B138
07098	d	24.981	B138
07100	d	25.400	B138
07100SA	d	25.400	B138
07196	D	50.005	B136, B138
07204	D	51.994	B136, B138
07205	D	52.001	B138
08118	d	30.162	B140
08125	d	31.750	B140
08231	D	58.738	B140
09062	d	15.875	B136
09067	d	19.050	B136
09074	d	19.050	B136
09078	d	19.050	B136
09081	d	20.625	B136
09194	D	49.225	B136
09195	D	49.225	B136
09196	D	49.225	B136
11162	d	41.275	B146
11300	D	76.200	B146
11520	D	42.862	B136
11590	d	15.875	B136
LM11710	D	39.878	B136
LM11749	d	17.462	B136
LM11910	D	45.237	B136
LM11949	d	19.050	B136
12168	d	42.862	B146
12303	D	76.992	B146
12520	D	49.225	B136
12580	d	20.638	B136
M12610	D	50.005	B136
M12648	d	22.225	B136
M12649	d	21.430	B136
LM12710	D	45.237	B136
LM12711	D	45.975	B136
LM12749	d	22.000	B136
13175	d	44.450	B146
13181	d	46.038	B148
13318	D	80.962	B146, B148
13620	D	69.012	B144
13621	D	69.012	B144

호칭번호 CONE/CUP	호칭치수(mm) d : CONE 내경 D : CUP 외경		베어링記載페이지
13685	d	38.100	B144
13687	d	38.100	B144
13830	D	63.500	B144
13889	d	38.100	B144
14123A	d	31.750	B140
14125A	d	31.750	B140
14130	d	33.338	B142
14131	d	33.338	B142
14137A	d	34.925	B142
14138A	d	34.925	B142
14139	d	34.976	B142
14274	D	69.012	B140, B142
14276	D	69.012	B140, B142
14283	D	72.085	B142
15100	d	25.400	B138
15101	d	25.400	B138
15106	d	26.988	B138
15112	d	28.575	B138
15113	d	28.575	B138
15116	d	30.112	B140
15117	d	30.000	B140
15118	d	30.213	B140
15119	d	30.213	B140
15120	d	30.213	B140
15123	d	31.750	B140
15125	d	31.750	B140
15126	d	31.750	B140
15245	D	62.000	B138, B140
15250	D	63.500	B140
15250X	D	63.500	B138
15520	D	57.150	B138
15523	D	60.325	B138
15578	d	25.400	B138
15580	d	26.988	B138
16150	d	38.100	B144
16284	D	72.238	B144
16929	D	74.988	B146
16986	d	43.000	B146
17098	d	24.981	B138
17118	d	30.000	B140
17244	D	62.000	B138, B140
17520	D	42.862	B136
17580	d	15.875	B136
17831	D	79.985	B148
17887	d	45.230	B148
18200	d	50.800	B150
18337	D	85.725	B150
18520	D	73.025	B144
18590	d	41.275	B144
18620	D	79.375	B148
18690	d	46.038	B148
18720	D	85.000	B150
18790	d	50.800	B150
19138	d	34.976	B142

호칭번호 CONE/CUP	호칭치수(mm) d : CONE 내경 D : CUP 외경		베어링記載페이지
19150	d	38.100	B144
19268	D	68.262	B142, B144
21075	d	19.050	B136
21212	D	53.975	B136
L21511	D	34.988	B136
L21549	d	15.875	B136
22168	d	42.862	B146
22325	D	82.550	B146
23100	d	25.400	B138
23256	D	65.088	B138
23621	D	73.025	B142
23691	d	35.000	B142
24720	D	76.200	B146
24721	D	76.200	B146
24780	d	41.275	B146
25520	D	82.931	B146, B148
25521	D	83.058	B146
25523	D	82.931	B146, B148
25577	d	42.875	B146
25578	d	42.862	B146
25580	d	44.450	B146
25584	d	44.983	B148
25590	d	45.618	B148
25820	D	73.025	B142
25821	D	73.025	B142, B144
25877	d	34.925	B142
25878	d	34.925	B142
25880	d	36.487	B144
26118	d	30.000	B140
26131	d	33.338	B142
26283	D	72.000	B140, B142
26820	D	80.167	B146
26822	D	79.375	B146
26823	D	76.200	B146
26882	d	41.275	B146
26884	d	42.875	B146
27620	D	125.412	B160
27687	d	82.550	B160
27689	d	83.345	B160
27690	d	83.345	B160
27820	D	80.035	B144
27880	d	38.100	B144
28138	d	34.976	B142
28315	D	80.000	B142
28521	D	92.075	B150
28580	d	50.800	B150
28584	d	52.388	B150
28622	D	97.630	B152
28680	d	55.562	B152
28920	D	101.600	B154
28921	D	100.000	B154
28985	d	60.325	B154
29520	D	107.950	B154
29586	d	63.500	B154

호칭번호 CONE/CUP	호칭치수(mm) *d* : CONE 내경 *D* : CUP 외경		베어링記載페이지
29620	*D*	112.712	B156, B158
29630	*D*	120.650	B156
29675	*d*	69.850	B156
29685	*d*	73.025	B158
LM29710	*D*	65.088	B144
LM29711	*D*	65.088	B144
LM29748	*d*	38.100	B144
LM29749	*d*	38.100	B144
31520	*D*	76.200	B142
31594	*d*	34.925	B142
33262	*d*	66.675	B156
33275	*d*	69.850	B156
33281	*d*	71.438	B158
33287	*d*	73.025	B158
JHM33410	*D*	55.000	B138
JHM33449	*d*	24.000	B138
33462	*D*	117.475	B156, B158
33821	*D*	95.250	B150
33889	*d*	50.800	B150
34300	*d*	76.200	B158
34306	*d*	77.788	B160
34478	*D*	121.442	B158, B160
36620	*D*	193.675	B168
36690	*d*	146.050	B168
36920	*D*	227.012	B170
36990	*d*	177.800	B170
37425	*d*	107.950	B166
37625	*D*	158.750	B166
M38510	*D*	66.675	B142
M38511	*D*	65.987	B142
M38547	*d*	35.000	B142
M38549	*d*	34.925	B142
39236	*d*	60.000	B154
39250	*d*	63.500	B154
39412	*D*	104.775	B154
39520	*D*	112.712	B154, B156
39521	*D*	112.712	B156
39585	*d*	63.500	B154
39590	*d*	66.675	B156
41100	*d*	25.400	B138
41125	*d*	28.575	B138
41126	*d*	28.575	B138
41286	*D*	72.626	B138
42350	*d*	88.900	B162
42362	*d*	92.075	B164
42368	*d*	93.662	B164
42375	*d*	95.250	B164
42376	*d*	95.250	B164
42381	*d*	96.838	B164
42584	*D*	148.430	B164
42587	*D*	149.225	B162, B164
42620	*D*	127.000	B158, B160
42687	*d*	76.200	B158
42688	*d*	76.200	B158

호칭번호 CONE/CUP	호칭치수(mm) *d* : CONE 내경 *D* : CUP 외경		베어링記載페이지
42690	*d*	77.788	B160
43118	*d*	30.162	B140
43131	*d*	33.338	B142
43300	*D*	76.200	B140
43312	*D*	79.375	B142
44143	*d*	36.512	B144
44150	*d*	38.100	B144
44157	*d*	40.000	B144
44162	*d*	41.275	B146
44348	*D*	88.501	B144, B146
L44610	*D*	50.292	B138
L44640	*d*	23.812	B138
L44643	*d*	25.400	B138
L44649	*d*	26.988	B138
45220	*D*	104.775	B152
45221	*D*	104.775	B152
45289	*d*	57.150	B152
L45410	*D*	50.292	B140
L45449	*d*	29.000	B140
46143	*d*	36.512	B144
46162	*d*	41.275	B146
46176	*d*	44.450	B146
46368	*D*	93.662	B144, B146
46720	*D*	225.425	B168
46780	*d*	158.750	B168
47420	*D*	120.000	B156, B158
47487	*d*	69.850	B156
47490	*d*	71.438	B158
47620	*D*	133.350	B158, B160
47680	*d*	76.200	B158
47685	*d*	82.550	B160
47686	*d*	82.550	B160
47687	*d*	82.550	B160
47820	*D*	146.050	B164
47890	*d*	92.075	B164
47896	*d*	95.250	B164
48120	*D*	161.925	B166
48190	*d*	107.950	B166
48220	*D*	182.562	B168
48282	*d*	120.650	B168
48286	*d*	123.825	B168
48290	*d*	127.000	B168
48320	*D*	190.500	B168
48385	*d*	133.350	B168
48393	*d*	136.525	B168
LM48510	*D*	65.088	B142
LM48511	*D*	65.088	B142
LM48548	*d*	34.925	B142
48620	*D*	200.025	B168
48685	*d*	142.875	B168
49175	*d*	44.450	B146
49176	*d*	44.450	B146
49368	*D*	93.662	B146
49520	*D*	101.600	B150

호칭번호 CONE/CUP	호칭치수(mm) d : CONE 내경 D : CUP 외경		베어링記載페이지
49585	d	50.800	B150
52387	d	98.425	B164
52393	d	100.012	B164
52400	d	101.600	B166
52618	D	157.162	B164, B166
52637	D	161.925	B164, B166
53150	d	38.100	B144
53162	d	41.275	B146
53176	d	44.450	B148
53177	d	44.450	B148
53178	d	44.450	B148
53375	D	95.250	B144, B148
53387	D	98.425	B146, B148
55175	d	44.450	B148
55187	d	47.625	B148
55200	d	50.800	B150
55200C	d	50.800	B150
55206	d	52.388	B150
55437	D	111.125	B148, B150
55443	D	112.712	B148
56418	d	106.362	B166
56425	d	107.950	B166
56650	D	165.100	B166
59200	d	50.800	B150
59429	D	108.966	B150
64433	d	109.992	B166
64450	d	114.300	B166
64700	D	177.800	B166
65200	d	50.800	B150
65212	d	53.975	B152
65237	d	60.325	B154
65320	D	114.300	B148
65385	d	44.450	B148
65500	D	127.000	B150, B152, B154
66187	d	47.625	B148
66462	D	117.475	B148
66520	D	122.238	B152, B154
66584	d	53.975	B152
66585	d	60.000	B154
66587	d	57.150	B152
LM67010	D	59.131	B138, B140
LM67043	d	28.575	B138
LM67048	d	31.750	B140
67320	D	203.200	B168
67322	D	196.850	B168
67388	d	127.000	B168
67389	d	130.175	B168
67390	d	133.350	B168
67720	D	247.650	B168, B170
67780	d	165.100	B168
67787	d	174.625	B170
67790	d	177.800	B170
67820	D	266.700	B170
67885	d	190.500	B170

호칭번호 CONE/CUP	호칭치수(mm) d : CONE 내경 D : CUP 외경		베어링記載페이지
67920	D	282.575	B170
67983	d	203.200	B170
67985	d	206.375	B170
L68110	D	59.131	B142
L68111	D	59.975	B142
L68149	d	35.000	B142
68450	d	114.300	B166
68462	d	117.475	B166
68709	D	180.000	B166
68712	D	180.975	B166
JL69310	D	63.000	B144
JL69349	d	38.000	B144
71412	d	104.775	B166
71425	d	107.950	B166
71437	d	111.125	B166
71450	d	114.300	B166
71453	d	115.087	B166
71750	D	190.500	B166
72187	d	47.625	B148
72200	d	50.800	B150
72200C	d	50.800	B150
72212	d	53.975	B152
72212C	d	53.975	B152
72218	d	55.562	B152
72218C	d	55.562	B152
72225C	d	57.150	B152
72487	D	123.825	B148, B150, B152
LM72810	D	47.000	B138
LM72849	d	22.606	B138
74500	d	127.000	B168
74525	d	133.350	B168
74537	d	136.525	B168
74550	d	139.700	B168
74850	D	215.900	B168
74856	D	217.488	B168
77375	d	95.250	B164
77675	D	171.450	B164
78225	d	57.150	B152
78250	d	63.500	B154
LM78310	D	62.000	B142
LM78310A	D	62.000	B142
LM78349	d	35.000	B142
78537	D	136.525	B154
78551	D	140.030	B152, B154
78571	D	144.983	B152
HM81610	D	47.000	B136
HM81649	d	16.000	B136
M84210	D	59.530	B138
M84249	d	25.400	B138
M84510	D	57.150	B138
M84548	d	25.400	B138
M86610	D	64.292	B138, B140
M86643	d	25.400	B138
M86647	d	28.575	B138

호칭번호 CONE/CUP	호칭치수(mm) d : CONE 내경 D : CUP 외경		베어링記載페이지
M86648A	d	30.955	B140
M86649	d	30.162	B140
M88010	D	68.262	B140, B142
M88043	d	30.162	B140
M88046	d	31.750	B140
M88048	d	33.338	B142
HM88510	D	73.025	B140, B142
HM88542	d	31.750	B140
HM88547	d	33.338	B142
HM88610	D	72.233	B138, B140, B142, B144
HM88630	d	25.400	B138
HM88638	d	32.000	B140
HM88648	d	35.717	B144
HM88649	d	34.925	B142
HM89410	D	76.200	B142, B144
HM89411	D	76.200	B142
HM89443	d	33.338	B142
HM89444	d	33.338	B142
HM89446	d	34.925	B142
HM89446A	d	34.925	B142
HM89449	d	36.512	B144
99100	D	254.000	B168
99550	d	139.700	B168
99575	d	146.050	B168
99587	d	149.225	B168
99600	d	152.400	B168
LM102910	D	73.431	B148
LM102949	d	45.242	B148
JLM104910	D	82.000	B150
LM104911	D	82.550	B150
LM104911A	D	82.550	B150
LM104912	D	82.931	B150
LM104947A	d	50.000	B150
JLM104948	d	50.000	B150
LM104949	d	50.800	B150
M201011	D	73.025	B144
M201047	d	39.688	B144
JM205110	D	90.000	B150
JM205149	d	50.000	B150
JM207010	D	95.000	B152
JM207049	d	55.000	B152
JH211710	D	120.000	B156
JH211749	d	65.000	B156
HM212010	D	122.238	B154, B156
HM212011	D	122.238	B154, B156
HM212044	d	60.325	B154
HM212046	d	63.500	B154
HM212047	d	63.500	B154
HM212049	d	66.675	B156
JH217210	D	150.000	B162
JH217249	d	85.000	B162
HM218210	D	147.000	B162
HM218248	d	90.000	B162
HH221410	D	190.500	B162, B164, B166

호칭번호 CONE/CUP	호칭치수(mm) d : CONE 내경 D : CUP 외경		베어링記載페이지
HH221432	d	87.312	B162
HH221434	d	88.900	B162
HH221440	d	95.250	B164
HH221442	d	98.425	B164
HH221447	d	99.982	B164
HH221449	d	101.600	B166
HH224310	D	212.725	B166
HH224335	d	101.600	B166
HH224340	d	107.950	B166
HH224346	d	114.300	B166
M224710	D	174.625	B168
M224748	d	120.000	B168
LL225710	D	165.895	B168
LL225749	d	127.000	B168
HM231110	D	236.538	B168
HM231140	d	146.050	B168
M236810	D	260.350	B170
M236849	d	177.800	B170
LM300811	D	68.000	B144
LM300849	d	41.000	B144
L305610	D	80.962	B150
L305649	d	50.800	B150
JH307710	D	110.000	B152
JH307749	d	55.000	B152
JHM318410	D	155.000	B162
JHM318448	d	90.000	B162
L327210	D	177.008	B168
L327249	d	133.350	B168
LM328410	D	187.325	B168
LM328448	d	139.700	B168
H414210	D	136.525	B156, B158
H414245	d	68.262	B156
H414249	d	71.438	B158
JH415610	D	145.000	B158
JH415647	d	75.000	B158
LM501310	D	73.431	B144
LM501314	D	73.431	B144
LM501349	d	41.275	B144
LM503310	D	75.000	B148
LM503349	d	46.000	B148
HH506310	D	114.300	B150
HH506348	d	49.212	B150
JLM506810	D	90.000	B152
JLM506849	d	55.000	B152
JLM508710	D	95.000	B154
JLM508748	d	60.000	B154
JM511910	D	110.000	B156
JM511946	d	65.000	B156
JM515610	D	130.000	B160
JM515649	d	80.000	B160
HM516410	D	133.350	B160
HM516448	d	82.550	B160
JHM516810	D	140.000	B162
JHM516849	d	85.000	B162

호칭번호 CONE/CUP	호칭치수(mm) d : CONE 내경 D : CUP 외경		베어링記載페이지
HM518410	D	152.400	B162
HM518445	d	88.900	B162
LM522510	D	159.987	B166
LM522546	d	107.950	B166
LM522548	d	109.987	B166
LM522549	d	109.987	B166
JHM522610	D	180.000	B166
JHM522649	d	110.000	B166
JHM534110	D	230.000	B170
JHM534149	d	170.000	B170
LM603011	D	77.788	B148
LM603012	D	77.788	B148
LM603049	d	45.242	B148
L610510	D	94.458	B154
L610549	d	63.500	B154
JM612910	D	115.000	B158
JM612949	d	70.000	B158
LM613410	D	112.712	B156
LM613449	d	69.850	B156
HM617010	D	142.138	B162
HM617049	d	85.725	B162
L623110	D	152.400	B166
L623149	d	114.300	B166
JLM710910	D	105.000	B156
JLM710949	d	65.000	B156
JLM714110	D	115.000	B158
JLM714149	d	75.000	B158
JM714210	D	120.000	B158
JM714249	d	75.000	B158
H715311	D	136.525	B154, B156, B158
H715334	d	61.912	B154
H715340	d	65.088	B156
H715341	d	66.675	B156
H715343	d	68.262	B156
H715345	d	71.438	B158
JM716610	D	130.000	B162
JM716648	d	85.000	B162
JM716649	d	85.000	B162
JM718110	D	145.000	B162
JM718149	d	90.000	B162
JM719113	D	150.000	B164
JM719149	d	95.000	B164
JM720210	D	155.000	B164
JHM720210	D	160.000	B164
JM720249	d	100.000	B164
JHM720249	d	100.000	B164
JL724314	D	170.000	B168
JL724348	d	120.000	B168
JL725316	D	175.000	B168
JL725346	d	125.000	B168
JM734410	D	240.000	B170
JM734449	d	170.000	B170
JM738210	D	260.000	B170
JM738249	d	190.000	B170

호칭번호 CONE/CUP	호칭치수(mm) d : CONE 내경 D : CUP 외경		베어링記載페이지
HM801310	D	82.550	B144
HM801346	d	38.100	B144
M802011	D	82.550	B146
M802048	d	41.275	B146
HM803110	D	88.900	B146
HM803145	d	41.275	B146
HM803146	d	41.275	B146
HM803149	d	44.450	B146
M804010	D	88.900	B148
M804049	d	47.625	B148
HM804810	D	95.250	B146, B148, B150
HM804840	d	41.275	B146
HM804843	d	44.450	B148
HM804846	d	47.625	B148
HM804848	d	48.412	B150
HM804849	d	48.412	B150
HM807010	D	104.775	B148, B150
HM807011	D	104.775	B150
JHM807012	D	105.000	B150
HM807040	d	44.450	B148
HM807044	d	49.212	B150
JHM807045	d	50.000	B150
HM807046	d	50.800	B150
JLM813010	D	110.000	B158
JLM813049	d	70.000	B158
JLM820012	D	150.000	B164
JLM820048	d	100.000	B164
JM822010	D	165.000	B166
JM822049	d	110.000	B166
JHM840410	D	300.000	B170
JHM840449	d	200.000	B170
HM903210	D	95.250	B148
HM903247	d	44.450	B148
HM903249	d	44.450	B148
HM911210	D	130.175	B152
HM911242	d	53.975	B152
H913810	D	146.050	B154, B156
H913842	d	61.912	B154
H913849	d	69.850	B156