



## Standard Rim Type: Dimension table & tightening torque table

### Dimension table

unit : millimeters (mm)

Nominal size	Pitch	Thickness				Width across flats		e	Overall height	Rim dia.	Unit Weight
		Convex nut		Concave nut							
		m		m1		s					
d	P	Basic	Tolerance	Basic	Tolerance	Basic	Tolerance				
M5	0.8	4	0.1 -0.15	4	0.5 -0.2	8	0 -0.2	9.2	7.2	9.2	1.9
M6	1	5	±0.3	5	0 -0.3	10	0 -0.6	11.5	8.5	11.5	4
M8	1.25	6.5	0 -0.58	6.5	0 -0.58	13	0 -0.7	15	10.8	15	8.9
M10	1.5	8	0 -0.58	8	0 -0.58	17	0 -0.7	19.6	13.2	19.6	18
M12	1.75	10	0 -0.58	9.3	0 -0.58	19	0 -0.8	21.9	16	21.9	26
M16	2	13	±0.9	11	0 -0.7	24	0 -0.8	27.7	21.2	27.7	46
M20	2.5	16	±0.9	14.5	0 -0.7	30	0 -0.8	34.6	26.7	34.6	93
M22	2.5	18	±0.9	15.6	0 -1.2	32	0 -1	37	29.9	37	115
M24	3	19	±0.9	17.6	0 -1.2	36	0 -1	41.6	32.4	41.6	183
M27	3	21	±1.0	17.6	0 -1.2	41	0 -1	47.3	33.5	47.3	243
M30	3.5	23	±1.0	18.6	0 -1.2	46	0 -1	53.1	36.5	53.1	312

External dimensions : JIS B1181(2004) / ISO 4032(Width across flats only)

Threads screw tolerances : JIS B0209(2001) / ISO 965 6H

The overall height has been changed to the approx. maximum height including considerable tolerances since Jan. 2014.

S45C is used in the concave nut with rim of Class10.

Class4 with HDZ35, Class8, Class10 are available in over M8.

Fine threads are available in Basic type.

M20 – M30 in A2(SUS304 equiv.) are available in Basic type because their rim types are currently under development.

Please be advised that the dimensions or specifications may be subject to change without notice.

# Tightening Torque Table

unit : newton meters  
(N·m)

Nominal size	Reference tightening torque for the convex nut (same as general hex nut) *70% of the bolt yield point						Recommended tightening torque for the concave nut
	Class4 (SS400 or equivalent)		Class8 (S45C)	Class10 (SCM435)	A2 (SUS304 or equivalent)		Common to all
	4.8(320N/mm <sup>2</sup> )		8.8(640N/mm <sup>2</sup> )	10.9(900N/mm <sup>2</sup> )	A2-50	A2-70	
	CR3	HDZ35	Manganese Phosphate coating	Plain			
M5	2.5	-	-	-	1.5	3.5	
M6	4	-	-	-	3	6	4~5
M8	10	23	20	28	6.5	14	9~13
M10	20	45	40	55	13	27	18~24
M12	35	80	70	95	22	50	27~39
M16	85	200	170	235	55	120	70~100
M20	165	385	330	465	-	-	120~200
M22	225	525	450	630	-	-	150~250
M24	285	665	570	800	-	-	160~300
M27	415	970	835	1,170	-	-	250~390
M30	565	1,320	1,130	1,590	-	-	270~440

The above reference tightening torque for the convex nut is calculated on the basis of the torque coefficient of 0.15.

The above tightening torque for the convex nut with HDZ35 is calculated on the basis of the torque coefficient of 0.35.

Regarding the tightening torque for the convex nut in A2, please check strength classification of the bolt used.

The proof load of the convex nut is equal to the general single nut, therefore there is no unique torque value for the convex nut.

The concave nut can be tightened until contact with the convex nut even if its tightening torque value exceeds our recommended maximum value because the torque coefficient will vary depending on the surface roughness.

In the case of HDZ, please tighten the convex nut 50% more than the above torque value due to the high torque coefficient.