

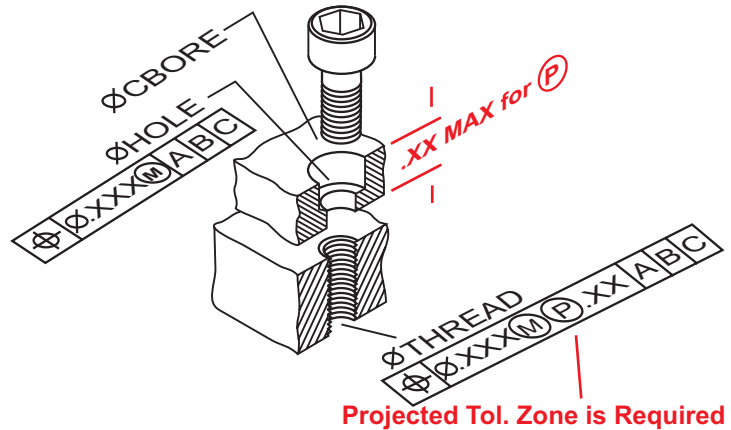
This chart gives the sizes and positional tolerance for interchangeability of metric socket head cap screws.

The top of the screw head will be below the top surface.

Positional tolerance zones are split 60/40 due to larger available body clearance tolerance.

Projected tolerance zone MUST be used on the threaded hole in order for the sizes to have interchangeability. The height of the projected tolerance zone is equal to the maximum height of the mating part.

Metric Screw Assembly - Threaded Part



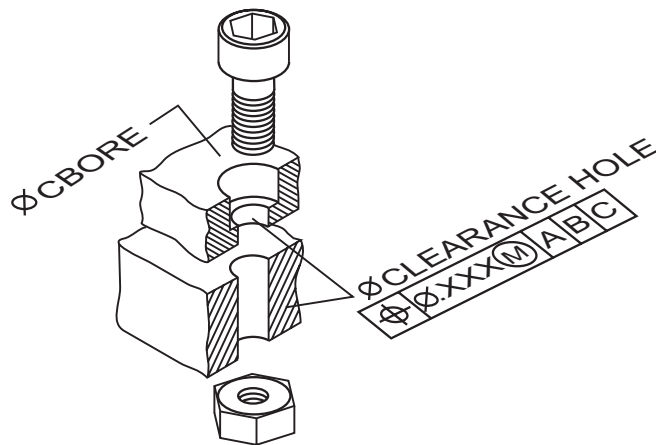
* PREFERRED SIZES

Thread size	Thread Pitch		Thread Positional (P) Tolerance	Through Hole			Screw head Ø	Counterbore			
	Course	Fine		Ø Size	Tol.	Ø Tol.		Ø Size	Tol.	Depth	Tol.
M1	x 0.25	x 0.2	0.12	1.2		0.08	—	—		—	
M1.2	x 0.25	x 0.2	0.12	1.4		0.08	—	—		—	
M1.4	x 0.3	x 0.2	0.12	1.6		0.08	2.6	3.1		2.4	±0.75
M1.6	x 0.35	x 0.2	0.12	1.8		0.08	3	3.5		2.6	
M1.8	x 0.35	x 0.2	0.18	2.1	+0.14 -0.05	0.12	3	3.5	+0.18 -0.05	2.8	
M2	x 0.4	x 0.25	0.24	2.4		0.16	3.5	4.4		3	
M2.5	x 0.45	x 0.35	0.24	2.9		0.16	—	5.4		3.5	
* M3	x 0.5	x 0.35	0.24	3.4		0.16	5.5	6.5		4	
M3.5	x 0.6	x 0.35	0.24	3.9		0.16	—	—		4.5	
* M4	x 0.7	x 0.5	0.3	4.5	+0.18 -0.05	0.2	7	8.25		5	
M4.5	x 0.75	x 0.5	0.3	5		0.2	—	—	+0.22 -0.05	5.5	
* M5	x 0.8	x 0.5	0.3	5.5		0.2	8.5	9.75		6	
* M6	x 1	x 0.75	0.36	6.6	+0.22 -0.05	0.24	10	11.25		7	
M7	x 1	x 0.75	0.36	7.6		0.24	—	—		8	
* M8	x1.25	x1, x0.75	0.6	9		0.4	13	14.25	+0.27 -0.05	9	
* M10	x1.5	x1.25, x1, x0.75	0.6	11		0.4	16	17.25		11	
* M12	x1.75	x1.5, x1.25, x1	0.9	13.5	+0.27 -0.05	0.6	18	19.25		12	
M14	x 2	x1.5, x1.25, x1	0.9	15.5		0.6	21	22.25	+0.33 -0.05	15	
* M16	x 2	x1.5, x1	0.9	17.5		0.6	24	25.5		17	
M18	x2.5	x2, x1.5, x1	1.2	20		0.8	27	28.5		19	
* M20	x2.5	x2, x1.5, x1	1.2	22	+0.33 -0.05	0.8	30	31.5		21	
M22	x2.5	x2, x1.5, x1	1.2	24		0.8	33	34.5		23	
* M24	x 3	x2, x1.5, x1	1.2	26		0.8	36	37.5	+0.39 -0.05	25	
M27	x 3	x2, x1.5, x1	1.8	30		1.2	40	41.5		28	
* M30	x3.5	x3, x2, x1.5, x1	1.8	33		1.2	45	47.5		31	
M33	x3.5	x3, x2	1.8	36		1.2	50	52		34	
M36	x 4	x3, x2, x1.5	1.8	39		1.2	54	56.5		37	
M39	x 4	x3, x2, x1.5	1.8	42	+0.39 -0.05	1.2	—	—		40	
* M42	x4.5	x4, x3, x2, x1.5	1.8	45		1.2	63	66	+0.46 -0.05	43	
M45	x4.5	x4, x3, x2, x1.5	1.8	48		1.2	—	—		46	±0.75
* M48	x 5	x4, x3, x2, x1.5	2.4	52	+0.48 -0.05	1.6	72	75		49	

This chart gives the sizes and positional tolerance for interchangeability of metric socket head cap screws.

Metric Screw Assembly - Unthreaded Part

The top of the screw head will be below the top surface.



* PREFERRED SIZES

Thread size	Thread Pitch		Positional Tolerance	Clearance Hole		Screw head Ø	Counterbore			
	Course	Fine		Ø Size	Tol.		Ø Size	Tol.	Depth	Tol.
M1	x 0.25	x 0.2	0.2	1.2		—	—		—	
M1.2	x 0.25	x 0.2	0.2	1.4		—	—		—	
M1.4	x 0.3	x 0.2	0.2	1.6		2.6	3.1		2.4	±0.75
M1.6	x 0.35	x 0.2	0.2	1.8		3	3.5		2.6	
					+0.14 -0.05			+0.18 -0.05		
M1.8	x 0.35	x 0.2	0.3	2.1		3	3.5		2.8	
M2	x 0.4	x 0.25	0.4	2.4		3.5	4.4		3	
M2.5	x 0.45	x 0.35	0.4	2.9		—	5.4		3.5	
* M3	x 0.5	x 0.35	0.4	3.4		5.5	6.5		4	
M3.5	x 0.6	x 0.35	0.4	3.9		—	—		4.5	
* M4	x 0.7	x 0.5	0.5	4.5		7	8.25		5	
					+0.18 -0.05			+0.22 -0.05		
M4.5	x 0.75	x 0.5	0.5	5		—	—		5.5	
* M5	x 0.8	x 0.5	0.5	5.5		8.5	9.75		6	
* M6	x 1	x 0.75	0.6	6.6		10	11.25		7	
					+0.22 -0.05					
M7	x 1	x 0.75	0.6	7.6		—	—		8	
* M8	x1.25	x1, x0.75	1	9		13	14.25	+0.27 -0.05	9	
* M10	x1.5	x1.25, x1, x0.75	1	11		16	17.25		11	
* M12	x1.75	x1.5, x1.25, x1	1.5	13.5	+0.27 -0.05	18	19.25		12	
M14	x 2	x1.5, x1.25, x1	1.5	15.5		21	22.25	+0.33 -0.05	15	
* M16	x 2	x1.5, x1	1.5	17.5		24	25.5		17	
M18	x2.5	x2, x1.5, x1	2	20		27	28.5		19	
* M20	x2.5	x2, x1.5, x1	2	22	+0.33 -0.05	30	31.5		21	
M22	x2.5	x2, x1.5, x1	2	24		33	34.5		23	
* M24	x 3	x2, x1.5, x1	2	26		36	37.5	+0.39 -0.05	25	
M27	x 3	x2, x1.5, x1	3	30		40	41.5		28	
* M30	x3.5	x3, x2, x1.5, x1	3	33		45	47.5		31	
M33	x3.5	x3, x2	3	36		50	52		34	
M36	x 4	x3, x2, x1.5	3	39		54	56.5		37	
M39	x 4	x3, x2, x1.5	3	42	+0.39 -0.05	—	—		40	
								+0.46 -0.05		
* M42	x4.5	x4, x3, x2, x1.5	3	45		63	66		43	
M45	x4.5	x4, x3, x2, x1.5	3	48		—	—		46	±0.75
* M48	x 5	x4, x3, x2, x1.5	4	52	+0.48 -0.05	72	75		49	