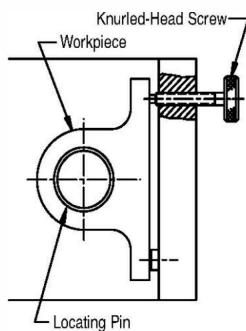


KNURLED HEAD SCREWS

STEEL: 1215, CASE HARDENED, BLACK OXIDE FINISH.
STAINLESS STEEL: 300-SERIES, PASSIVATED



Handy thumb screw. Knurled head provides a positive grip for finger tightening in light clamping applications.



STEEL (INCH)

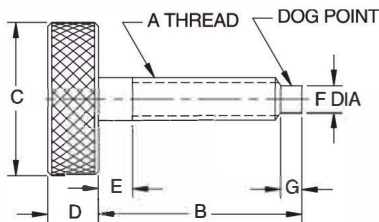
PART NO.	A THREAD	B	C DIA	D	E	F DIA	G
CL-1-KHS	#10-24	1	3/4	1/4	1/4	.12	.09
CL-2-KHS		1-1/2					
CL-3-KHS		2					
CL-1A-KHS	#10-32	1	1	5/16		.15	.12
CL-1A-KHS-1		1-3/8					
CL-2A-KHS		1-1/2					
CL-2A-KHS-1	1/4-20	1-5/8	1	3/8		.20	.16
CL-3A-KHS		2					
CL-4-KHS		1-1/2					
CL-4-KHS-1	5/16-18	1-3/8	1-1/8	7/16		.25	.19
CL-4-KHS-2		1-3/4					
CL-5-KHS		2					
CL-6-KHS	3/8-16	2-1/2	1-1/4	1/2		.34	.25
CL-7-KHS		1-1/2					
CL-7-KHS-1		1-3/4					
CL-8-KHS	1/2-13	2	1	1/2		.34	.25
CL-9-KHS		2-1/2					
CL-10-KHS		2					
CL-11-KH	1/2-13	2-1/2	1	1/2		.34	.25
CL-12-KHS		3					
CL-13-KHS		3					
CL-14-KHS	1/2-13	3-1/2	1-1/2	1/2		1	.34

STAINLESS STEEL (INCH)

PART NO.	A THREAD	B	C DIA	D	E	F DIA	G
CL-23207	#10-32	3/4	1/2	3/16	1/8	.12	.09
CL-23210		1					
CL-23212		1-1/4					
CL-23215	1/4-20	1-1/2	1	5/16	1/8	.15	.12
CL-23507		3/4					
CL-23510		1					
CL-23512	5/16-18	1-1/4	1-1/8	3/8	3/16	.20	.16
CL-23515		1-1/2					
CL-23520		2					
CL-23615	3/8-16	1-1/2	1-1/4	7/16	3/16	.25	.19
CL-23620		2					
CL-23625		2-1/2					
CL-23820	1/2-13	2	1-1/2	1	.34	.25	.19
CL-23825		2-1/2					
CL-23830		3					

STEEL (METRIC)

PART NO.	A THREAD	THREAD PITCH (mm)	B (mm)	C DIA (mm)	D (mm)	E (mm)	F DIA (mm)	G (mm)
CLM-1-KHS	M5	.8	25	19	6.5	6.5	3.4	2.7
CLM-2-KHS-1		.85	35					
CLM-2-KHS		.8	40					
CLM-3-KHS		.8	50					
CLM-4-KHS	M6	1	40	25.5	8		4.4	3.3
CLM-4-KHS-1			45					
CLM-5-KHS			50					
CLM-6-KHS			65					
CLM-7-KHS	M8	1.25	40	28.5	9.5		5.9	4.6
CLM-8-KHS-1			45					
CLM-8-KHS			50					
CLM-9-KHS			65					
CLM-10-KHS	M10	1.5	40	32	11		6.9	4.8
CLM-11-KHS			65					
CLM-12-KHS			75					
CLM-13-KHS			75					
CLM-14-KHS	M12	1.75	90		12.5			8.9



BODIES FOR SWIVEL SCREWS

STEEL: 1215 OR 1144, HEAT TREATED, ZINC PLATED YELLOW CHROMATE OR BLACK OXIDE FINISH
STAINLESS STEEL: 300-SERIES, PASSIVATED



Socket Head

Swivel-screw bodies that accept any of the feet shown on the opposite page. Socket-head version allows applying strong clamping force using a hex wrench.
Patent no. 2,531,892.

D LEFT HAND THD.



SOCKET HEAD (INCH)

PART NO. STEEL ZINC PLATED	PART NO. STEEL BLACK OXIDE	PART NO. STAINLESS STEEL	A	B	C	D
CL-1-BSS	CL-1-BSS-BO	—	1/4-20	1/8	15/32	#8-36 L.H.
CL-2-BSS	CL-2-BSS-BO	CL-2-BSS-S			23/32	
CL-3-BSS	CL-3-BSS-BO	CL-3-BSS-S			31/32	
CL-4-BSS	CL-4-BSS-BO	CL-4-BSS-S			1-15/32	
CL-5-BSS	CL-5-BSS-BO	—	5/16-18	5/32	23/32	#12-28 L.H.
CL-6-BSS	CL-6-BSS-BO	CL-6-BSS-S			31/32	
CL-7-BSS	CL-7-BSS-BO	CL-7-BSS-S			1-15/32	
CL-8-BSS	CL-8-BSS-BO	CL-8-BSS-S			1-31/32	
CL-9-BSS	CL-9-BSS-BO	—	3/8-16	3/16	11/16	1/4-28 L.H.
CL-10-BSS	CL-10-BSS-BO	—			15/16	
CL-11-BSS	CL-11-BSS-BO	CL-11-BSS-S			1-7/16	
CL-12-BSS	CL-12-BSS-BO	CL-12-BSS-S			1-15/16	
CL-13-BSS	CL-13-BSS-BO	CL-13-BSS-S	1/2-13	1/4	2-15/16	5/16-24 L.H.
CL-15-BSS	CL-15-BSS-BO	—			1-7/16	
CL-16-BSS	CL-16-BSS-BO	CL-16-BSS-S			1-15/16	
CL-17-BSS	CL-17-BSS-BO	CL-17-BSS-S			2-15/16	
CL-18-BSS	CL-18-BSS-BO	CL-18-BSS-S	5/8-11	5/16	3-15/16	7/16-20 L.H.
CL-20-BSS	CL-20-BSS-BO	—			1-15/16	
CL-21-BSS	CL-21-BSS-BO	—			2-15/16	
CL-22-BSS	CL-22-BSS-BO	—			3-15/16	
CL-23-BSS	CL-23-BSS-BO	—			4-15/16	

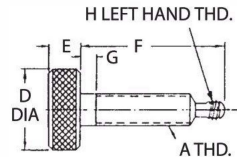
SOCKET HEAD (METRIC)

PART NO. STEEL BLACK OXIDE	A	B	C	D
CLM-1-BSS-BO	M6	3mm	.56	#8-36 L.H.
CLM-2-BSS-BO			.76	
CLM-3-BSS-BO			.95	
CLM-4-BSS-BO			1.54	
CLM-5-BSS-BO	M8	4mm	.74	#12-28 L.H.
CLM-6-BSS-BO			.94	
CLM-7-BSS-BO			1.53	
CLM-8-BSS-BO			1.92	
CLM-9-BSS-BO	M10	5mm	.73	1/4-28 L.H.
CLM-10-BSS-BO			.93	
CLM-11-BSS-BO			1.52	
CLM-12-BSS-BO			1.92	
CLM-13-BSS-BO	M12	6mm	2.90	5/16-24 L.H.
CLM-15-BSS-BO			1.52	
CLM-16-BSS-BO			1.91	
CLM-17-BSS-BO			2.89	
CLM-18-BSS-BO	M16	8mm	3.88	7/16-20 L.H.
CLM-20-BSS-BO			1.89	
CLM-21-BSS-BO			2.87	
CLM-22-BSS-BO			3.86	
CLM-23-BSS-BO			4.85	



Knurled Head

Similar to the above screws, except with a knurled head for finger tightening.



KNURLED HEAD (INCH)

PART NO. STEEL ZINC PLATED	PART NO. STEEL BLACK OXIDE	PART NO. STAINLESS STEEL	A	D DIA	E	F	G	H
CL-24-BSS	CL-24-BSS-BO	CL-24-BSS-S	1/4-20	1	5/16	31/32	1/8	#8-36 L.H.
CL-25-BSS	CL-25-BSS-BO	CL-25-BSS-S				1-15/32		
CL-26-BSS	CL-26-BSS-BO	CL-26-BSS-S				1-31/32		
CL-27-BSS	CL-27-BSS-BO	CL-27-BSS-S				2-31/32		
CL-28-BSS	CL-28-BSS-BO	—	5/16-18	1-1/8	3/8	31/32	3/16	#12-28 L.H.
CL-29-BSS	CL-29-BSS-BO	CL-29-BSS-S				1-15/32		
CL-30-BSS	CL-30-BSS-BO	CL-30-BSS-S				1-31/32		
CL-31-BSS	CL-31-BSS-BO	CL-31-BSS-S				2-31/32		
CL-33-BSS	CL-33-BSS-BO	—	3/8-16	1-1/4	7/16	1-7/16	3/16	1/4-28 L.H.
CL-34-BSS	CL-34-BSS-BO	CL-34-BSS-S				1-15/16		
CL-35-BSS	CL-35-BSS-BO	CL-35-BSS-S				2-15/16		
CL-36-BSS	CL-36-BSS-BO	CL-36-BSS-S				3-15/16		
CL-38-BSS	CL-38-BSS-BO	—	1/2-13	1-1/4	1/2	1-7/16	3/16	5/16-24 L.H.
CL-39-BSS	CL-39-BSS-BO	—				1-15/16		
CL-40-BSS	CL-40-BSS-BO	CL-40-BSS-S				2-15/16		
CL-41-BSS	CL-41-BSS-BO	CL-41-BSS-S				3-15/16		
CL-43-BSS	CL-43-BSS-BO	—	5/8-11	1-1/4	1/2	1-15/16	3/16	7/16-20 L.H.
CL-44-BSS	CL-44-BSS-BO	—				2-15/16		
CL-45-BSS	CL-45-BSS-BO	—				3-15/16		
CL-46-BSS	CL-46-BSS-BO	—				4-15/16		

KNURLED HEAD (METRIC)

PART NO. STEEL BLACK OXIDE	A	D DIA	E	F	G	H
CLM-24-BSS-BO	M6	1	5/16	.95	1/8	#8-36 L.H.
CLM-25-BSS-BO				1.54		
CLM-26-BSS-BO				1.94		
CLM-27-BSS-BO				2.92		
CLM-28-BSS-BO	M8	1-1/8	3/8	.94	3/16	#12-28 L.H.
CLM-29-BSS-BO				1.53		
CLM-30-BSS-BO				1.92		
CLM-31-BSS-BO				2.91		
CLM-33-BSS-BO	M10	1-1/4	7/16	1.52	3/16	1/4-28 L.H.
CLM-34-BSS-BO				1.92		
CLM-35-BSS-BO				2.90		
CLM-36-BSS-BO				3.88		
CLM-38-BSS-BO	M12	1-1/4	1/2	1.52	3/16	5/16-24 L.H.
CLM-39-BSS-BO				1.91		
CLM-40-BSS-BO				2.89		
CLM-41-BSS-BO				3.88		
CLM-43-BSS-BO	M16	1-1/4	1/2	1.89	3/16	7/16-20 L.H.
CLM-44-BSS-BO				2.88		
CLM-45-BSS-BO				3.86		
CLM-46-BSS-BO				4.85		

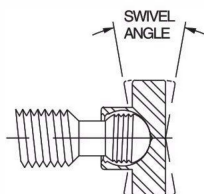
FEET FOR SWIVEL SCREWS

STEEL: (TYPES A, B, D, E), 1215 STEEL, ZINC PLATED YELLOW CHROMATE (BLACK OXIDE OPTIONAL)

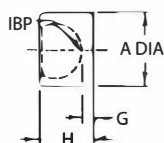
STAINLESS: 300-SERIES STAINLESS STEEL, PASSIVATED

DELRIN®: WHITE DELRIN® 500

Matching feet for the swivel-screw bodies on the opposite page. Types A, B, and D can be used with any body-thread size. Type E can be used with the largest two sizes.

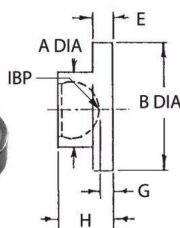


Ball and foot are threaded to allow easy installation and removal, a lefthand thread to positively prevent backout when turning the screw counterclockwise. Once the threads clear during installation, the foot rotates and pivots freely (20° included angle). Note: Delrin® feet are not threaded — they snap on and off.



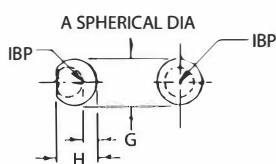
TYPE A — SMALL FOOT

PART NO. STEEL ZINC PLATED	PART NO. STEEL BLACK OXIDE	PART NO. STAINLESS STEEL	PART NO. DELRIN®	FITS BODY THREAD SIZE	A DIA	G	H
CL-1A-FSS	CL-1A-FSS-BO	CL-1A-FSS-S	CL-1A-FSSN	1/4-20 and M6	.187	.031	.200
CL-2A-FSS	CL-2A-FSS-BO	CL-2A-FSS-S	CL-2A-FSSN	5/16-18 and M8	.250	.046	.255
CL-3A-FSS	CL-3A-FSS-BO	CL-3A-FSS-S	CL-3A-FSSN	3/8-16 and M10	.298	.053	.315
CL-4A-FSS	CL-4A-FSS-BO	CL-4A-FSS-S	CL-4A-FSSN	1/2-13 and M12	.390	.058	.359
CL-5A-FSS	CL-5A-FSS-BO	CL-5A-FSS-S	CL-5A-FSSN	5/8-11 and M16	.500	.076	.470



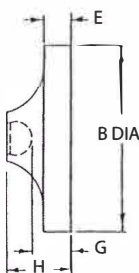
TYPE B — LARGE FOOT

PART NO. STEEL ZINC PLATED	PART NO. STEEL BLACK OXIDE	PART NO. STAINLESS STEEL	PART NO. DELRIN®	FITS BODY THREAD SIZE	A DIA	B DIA	E	G	H
CL-1B-FSS	CL-1B-FSS-BO	CL-1B-FSS-S	CL-1B-FSSN	1/4-20 and M6	.187	.375	.125	.131	.300
CL-2B-FSS	CL-2B-FSS-BO	CL-2B-FSS-S	CL-2B-FSSN	5/16-18 and M8	.250	.500	.156	.141	.350
CL-3B-FSS	CL-3B-FSS-BO	CL-3B-FSS-S	CL-3B-FSSN	3/8-16 and M10	.298	.562	.187	.177	.437
CL-4B-FSS	CL-4B-FSS-BO	CL-4B-FSS-S	CL-4B-FSSN	1/2-13 and M12	.390	.750	.187	.119	.420
CL-5B-FSS	CL-5B-FSS-BO	CL-5B-FSS-S	CL-5B-FSSN	5/8-11 and M16	.500	.930	.218	.121	.515



TYPE D — BALL FOOT

PART NO. STEEL ZINC PLATED	PART NO. STEEL BLACK OXIDE	FITS BODY THREAD SIZE	A DIA	G	H
CL-1D-FSS	CL-1D-FSS-BO	1/4-20 and M6	.250	.051	.220
CL-2D-FSS	CL-2D-FSS-BO	5/16-18 and M8	.312	.071	.280
CL-3D-FSS	CL-3D-FSS-BO	3/8-16 and M10	.375	.064	.325
CL-4D-FSS	CL-4D-FSS-BO	1/2-13 and M12	.500	.144	.443
CL-5D-FSS	CL-5D-FSS-BO	5/8-11 and M16	.620	.137	.531



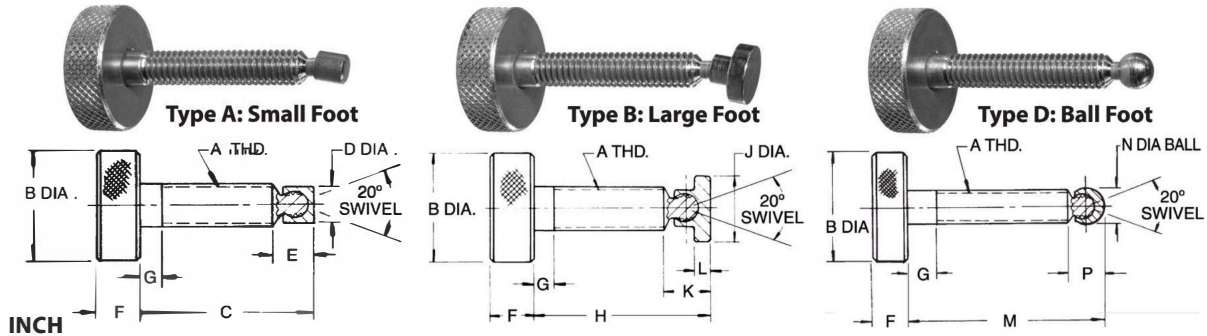
TYPE E — EXTRA-LARGE FOOT

PART NO. STEEL ZINC PLATED	PART NO. STEEL BLACK OXIDE	FITS BODY THREAD SIZE	B DIA	E	G	H
CL-4E-FSS	CL-4E-FSS-BO	1/2-13 and M12	1.50	1/4	.26	.56
CL-5E-FSS	CL-5E-FSS-BO	5/8-11 and M16	2.00	5/16	.31	.70

SWIVEL HEAD SCREWS

BODY: 1215 STEEL, CARBURIZED-HARDENED, ZINC PLATED YELLOW CHROMATE (OR 300-SERIES STAINLESS STEEL)
FOOT: 1215 STEEL, ZINC PLATED YELLOW CHROMATE (OR 300-SERIES STAINLESS STEEL, OR DELRIN®)

The steel version is optionally available with a black oxide finish by adding "-BO" to the part number (example: CL-1-SHS-BO). Type A and B feet are optionally available in Delrin® by adding "N" to the part number (examples: CL-1-SHSN, CL-1-SHS-BON, CL-1-SHS-SN).



TYPE A STEEL PART NO.*	TYPE A STAINLESS PART NO.	TYPE B STEEL PART NO.*	TYPE B STAINLESS PART NO.	TYPE D STEEL PART NO.*	A	B DIA	C	D DIA	E	F	G	H	J DIA	K	L	M	N	P
CL-1-SHS	CL-1-SHS-S	CL-17-SHS	CL-17-SHS-S	CL-47-SHS	1/4-20	1	1	3/16	9/32	5/16	1/8	1-3/32	3/8	23/64	1/8	1-1/32	1/4	5/16
CL-2-SHS	CL-2-SHS-S	CL-18-SHS	CL-18-SHS-S	CL-48-SHS			1-1/2					1-19/32				1-17/32		
CL-3-SHS	CL-3-SHS-S	CL-19-SHS	CL-19-SHS-S	CL-49-SHS			2					2-3/32				2-1/32		
CL-33-SHS	CL-33-SHS-S	CL-40-SHS	CL-40-SHS-S	CL-50-SHS			3					3-3/32				3-1/32		
CL-4-SHS	—	CL-20-SHS	—	CL-51-SHS	5/16-18	1-1/8	1	1/4	11/32	3/8	3/16	1-3/32	1/2	27/64	5/32	1-1/64	5/16	23/64
CL-5-SHS	CL-5-SHS-S	CL-21-SHS	CL-21-SHS-S	CL-52-SHS			1-1/2					1-19/32				1-33/64		
CL-6-SHS	CL-6-SHS-S	CL-22-SHS	CL-22-SHS-S	CL-53-SHS			2					2-3/32				2-1/64		
CL-34-SHS	CL-34-SHS-S	CL-41-SHS	CL-41-SHS-S	CL-54-SHS			3					3-3/32				3-1/64		
CL-8-SHS	—	CL-24-SHS	—	CL-56-SHS	3/8-16	1-1/4	1-1/2	19/64	3/8	7/16	3/16	1-5/8	9/16	5/8	3/16	1-9/16	3/8	7/16
CL-9-SHS	CL-9-SHS-S	CL-25-SHS	CL-25-SHS-S	CL-57-SHS			2					2-1/8				2-1/16		
CL-35-SHS	CL-35-SHS-S	CL-42-SHS	CL-42-SHS-S	CL-58-SHS			3					3-1/8				3-1/16		
CL-36-SHS	CL-36-SHS-S	CL-43-SHS	CL-43-SHS-S	CL-59-SHS			4					4-1/8				4-1/16		
CL-11-SHS	—	CL-27-SHS	—	CL-61-SHS	1/2-13	1-1/4	1-1/2	13/32	15/32	1/2	3/16	1-9/16	3/4	17/32	3/16	1-19/32	1/2	9/16
CL-12-SHS	—	CL-28-SHS	—	CL-62-SHS			2					2-1/16				2-3/32		
CL-13-SHS	CL-13-SHS-S	CL-29-SHS	CL-29-SHS-S	CL-63-SHS			3					3-1/16				3-3/32		
CL-37-SHS	CL-37-SHS-S	CL-44-SHS	CL-44-SHS-S	CL-64-SHS			4					4-1/16				4-3/32		
CL-15-SHS	—	CL-31-SHS	—	CL-66-SHS	5/8-11	1-1/4	2	1/2	5/8	1/2	3/16	2-3/64	15/16	21/32	7/32	2-1/8	5/8	11/16
CL-16-SHS	—	CL-32-SHS	—	CL-67-SHS			3					3-3/64				3-1/8		
CL-38-SHS	—	CL-45-SHS	—	CL-68-SHS			4					4-3/64				4-1/8		
CL-39-SHS	—	CL-46-SHS	—	CL-69-SHS			5					5-3/64				5-1/8		

METRIC

CLM-1-SHS-BO	—	CLM-17A-SHS-BO	—	CLM-47-SHS-BO	M6	1	.98	3/16	9/32	5/16	1/8	1.08	3/8	23/64	1/8	1.03	1/4	5/16
CLM-2-SHS-BO	—	CLM-18A-SHS-BO	—	CLM-48-SHS-BO			1.57					1.67				1.62		
CLM-3-SHS-BO	—	CLM-19-SHS-BO	—	CLM-49-SHS-BO			1.97					2.07				2.02		
CLM-4-SHS-BO	—	CLM-40-SHS-BO	—	CLM-50-SHS-BO			2.95					3.05				3.00		
CLM-5-SHS-BO	—	CLM-20-SHS-BO	—	CLM-51-SHS-BO	M8	1-1/8	.98	1/4	11/32	3/8	3/16	1.08	1/2	27/64	5/32	1.05	5/16	23/64
CLM-6-SHS-BO	—	CLM-21-SHS-BO	—	CLM-52-SHS-BO			1.57					1.67				1.64		
CLM-7-SHS-BO	—	CLM-22-SHS-BO	—	CLM-53-SHS-BO			1.97					2.06				2.03		
CLM-8-SHS-BO	—	CLM-41-SHS-BO	—	CLM-54-SHS-BO			2.95					3.05				3.02		
CLM-9-SHS-BO	—	CLM-24-SHS-BO	—	CLM-56-SHS-BO	M10	1-1/4	1.57	19/64	3/8	7/16	3/16	1.70	9/16	5/8	3/16	1.61	3/8	7/16
CLM-10-SHS-BO	—	CLM-25-SHS-BO	—	CLM-57-SHS-BO			1.97					2.10				2.01		
CLM-11-SHS-BO	—	CLM-42-SHS-BO	—	CLM-58-SHS-BO			2.95					3.08				2.99		
CLM-12-SHS-BO	—	CLM-43-SHS-BO	—	CLM-59-SHS-BO			3.94					4.06				3.97		
CLM-11A-SHS-BO	—	CLM-27-SHS-BO	—	CLM-61-SHS-BO	M12	1-1/4	1.57	13/32	15/32	1/2	3/16	1.64	3/4	17/32	3/16	1.69	1/2	9/16
CLM-12A-SHS-BO	—	CLM-28-SHS-BO	—	CLM-62-SHS-BO			1.97					2.03				2.08		
CLM-13-SHS-BO	—	CLM-29-SHS-BO	—	CLM-63-SHS-BO			2.95					3.01				3.06		
CLM-14-SHS-BO	—	CLM-44-SHS-BO	—	CLM-64-SHS-BO			3.94					4.00				4.05		
CLM-15-SHS-BO	—	CLM-31-SHS-BO	—	CLM-66-SHS-BO	M16	1-1/4	1.97	1/2	5/8	1/2	3/16	2.01	15/16	21/32	7/32	2.06	5/8	11/16
CLM-16-SHS-BO	—	CLM-32-SHS-BO	—	CLM-67-SHS-BO			2.95					3.00				3.05		
CLM-17-SHS-BO	—	CLM-45-SHS-BO	—	CLM-68-SHS-BO			3.94					3.98				4.03		
CLM-18-SHS-BO	—	CLM-46-SHS-BO	—	CLM-69-SHS-BO			4.92					4.97				5.02		

* Inch sizes are available zinc plated or with black oxide finish. Metric sizes are available only with black oxide finish (-BO only).

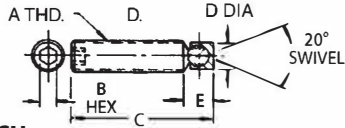
SWIVEL SCREW CLAMPS

BODY: 1215 OR 1144 STEEL, HEAT TREATED, ZINC PLATED YELLOW CHROMATE (OR 300-SERIES STAINLESS STEEL)
FOOT: 1215 STEEL, ZINC PLATED YELLOW CHROMATE (OR 300-SERIES STAINLESS STEEL, OR DELRIN®)

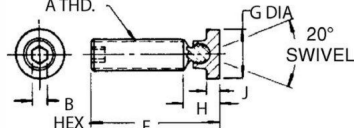
The steel version is optionally available with black oxide finish by adding "-BO" to the part number (example: CL-2-SSC-BO). Type A and B feet are optionally available in Delrin® by adding "N" to the part number (examples: CL-2-SSC-N, CL-2-SSC-BON, CL-2-SSC-SN).



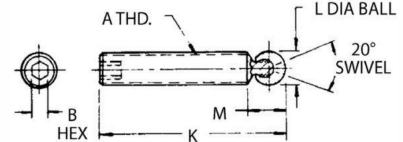
Type A: Small Foot



Type B: Large Foot



Type D: Ball Foot



INCH

TYPE A STEEL PART NO.*	TYPE A STAINLESS PART NO.	TYPE B STEEL PART NO.*	TYPE B STAINLESS PART NO.	TYPE D STEEL PART NO.*	A	B	C	D DIA	E	F	G DIA	H	J	K	L DIA	M
CL-1-SSC	—	CL-20-SSC	—	CL-47-SSC	1/4-20	1/8	1/2	3/16	9/32	19/32	3/8	23/64	1/8	17/32	1/4	5/16
CL-2-SSC	CL-2-SSC-S	CL-21-SSC	CL-21-SSC-S	CL-48-SSC			3/4			27/32				25/32		
CL-3-SSC	CL-3-SSC-S	CL-22-SSC	CL-22-SSC-S	CL-49-SSC			1			1-3/32				1-1/32		
CL-4-SSC	CL-4-SSC-S	CL-23-SSC	CL-23-SSC-S	CL-50-SSC			1-1/2			1-19/32				1-17/32		
CL-5-SSC	—	CL-24-SSC	—	CL-51-SSC	5/16-18	5/32	3/4	1/4	11/32	27/32	1/2	27/64	5/32	25/32	5/16	23/64
CL-6-SSC	CL-6-SSC-S	CL-25-SSC	CL-25-SSC-S	CL-52-SSC			1			1-3/32				1-1/32		
CL-7-SSC	CL-7-SSC-S	CL-26-SSC	CL-26-SSC-S	CL-53-SSC			1-1/2			1-19/32				1-17/32		
CL-8-SSC	CL-8-SSC-S	CL-27-SSC	CL-27-SSC-S	CL-54-SSC			2			2-3/32				2-1/32		
CL-9-SSC	—	CL-28-SSC	—	CL-55-SSC	3/8-16	3/16	3/4	19/64	3/8	7/8	9/16	5/8	3/16	25/32	3/8	7/16
CL-10-SSC	—	CL-29-SSC	—	CL-56-SSC			1			1-1/8				1-1/32		
CL-11-SSC	CL-11-SSC-S	CL-30-SSC	CL-30-SSC-S	CL-57-SSC			1-1/2			1-5/8				1-17/32		
CL-12-SSC	CL-12-SSC-S	CL-31-SSC	CL-31-SSC-S	CL-58-SSC			2			2-1/8				2-1/32		
CL-39-SSC	CL-39-SSC-S	CL-43-SSC	CL-43-SSC-S	CL-59-SSC	1/2-13	1/4	3	13/32	15/32	3-1/8	3/4	17/32	3/16	3-1/32	1/2	9/16
CL-14-SSC	—	CL-33-SSC	—	CL-61-SSC			1-1/2			1-9/16				1-19/32		
CL-15-SSC	CL-15-SSC-S	CL-34-SSC	CL-34-SSC-S	CL-62-SSC			2			2-1/16				2-3/32		
CL-16-SSC	CL-16-SSC-S	CL-35-SSC	CL-35-SSC-S	CL-63-SSC			3			3-1/16				3-3/32		
CL-40-SSC	CL-40-SSC-S	CL-44-SSC	CL-44-SSC-S	CL-64-SSC	5/8-11	5/16	4	1/2	5/8	4-1/16	15/16	21/32	7/32	4-3/32	5/8	11/16
CL-18-SSC	—	CL-37-SSC	—	CL-66-SSC			2			2-3/64				2-7/32		
CL-19-SSC	—	CL-38-SSC	—	CL-67-SSC			3			3-3/64				3-7/32		
CL-41-SSC	—	CL-45-SSC	—	CL-68-SSC			4			4-3/64				4-7/32		
CL-42-SSC	—	CL-46-SSC	—	CL-69-SSC			5			5-3/64				5-7/32		

METRIC

CLM-1-SSC-BO	—	CLM-20A-SSC-BO	—	CLM-47-SSC-BO	M6	3mm	.59	3/16	9/32	.69	3/8	23/64	1/8	17/32	1/4	5/16
CLM-2-SSC-BO	—	CLM-21A-SSC-BO	—	CLM-48-SSC-BO			.79			.89				25/32		
CLM-3-SSC-BO	—	CLM-22-SSC-BO	—	CLM-49-SSC-BO			.98			1.08				1-1/32		
CLM-4-SSC-BO	—	CLM-23-SSC-BO	—	CLM-50-SSC-BO			1.57			1.67				1-17/32		
CLM-5-SSC-BO	—	CLM-24-SSC-BO	—	CLM-51-SSC-BO	M8	4mm	.79	1/4	11/32	.88	1/2	27/64	5/32	25/32	5/16	23/64
CLM-6-SSC-BO	—	CLM-25-SSC-BO	—	CLM-52-SSC-BO			.98			1.08				1-1/32		
CLM-7-SSC-BO	—	CLM-26-SSC-BO	—	CLM-53-SSC-BO			1.57			1.67				1-17/32		
CLM-8-SSC-BO	—	CLM-27-SSC-BO	—	CLM-54-SSC-BO			1.97			2.06				2-1/32		
CLM-9-SSC-BO	—	CLM-28-SSC-BO	—	CLM-55-SSC-BO	M10	5mm	.79	19/64	3/8	.91	9/16	5/8	3/16	25/32	3/8	7/16
CLM-10-SSC-BO	—	CLM-29-SSC-BO	—	CLM-56-SSC-BO			.98			1.11				1-1/32		
CLM-11-SSC-BO	—	CLM-30-SSC-BO	—	CLM-57-SSC-BO			1.57			1.70				1-17/32		
CLM-12-SSC-BO	—	CLM-31-SSC-BO	—	CLM-58-SSC-BO			1.97			2.10				2-1/32		
CLM-13-SSC-BO	—	CLM-32-SSC-BO	—	CLM-59-SSC-BO	M12	6mm	2.95	13/32	15/32	3.08	3/4	17/32	3/16	3-1/32	1/2	9/16
CLM-14-SSC-BO	—	CLM-33-SSC-BO	—	CLM-61-SSC-BO			1.57			1.64				1-19/32		
CLM-15-SSC-BO	—	CLM-34-SSC-BO	—	CLM-62-SSC-BO			1.97			2.03				2-3/32		
CLM-16-SSC-BO	—	CLM-35-SSC-BO	—	CLM-63-SSC-BO			2.95			3.01				3-3/32		
CLM-17-SSC-BO	—	CLM-36-SSC-BO	—	CLM-64-SSC-BO	M16	8mm	3.94	1/2	5/8	4.00	15/16	21/32	7/32	4-3/32	5/8	11/16
CLM-18-SSC-BO	—	CLM-37-SSC-BO	—	CLM-66-SSC-BO			1.97			2.01				2-7/32		
CLM-19-SSC-BO	—	CLM-38-SSC-BO	—	CLM-67-SSC-BO			2.95			2.99				3-7/32		
CLM-20-SSC-BO	—	CLM-39-SSC-BO	—	CLM-68-SSC-BO			3.94			3.98				4-7/32		
CLM-21-SSC-BO	—	CLM-40-SSC-BO	—	CLM-69-SSC-BO			4.92			4.97				5-7/32		

* Inch sizes are available zinc plated or with black oxide finish. Metric sizes are available only with black oxide finish (-BO only).

BALL-END THRUST SCREWS

BODY: ALLOY STEEL, BLACK OXIDE FINISH
BALL: 440C STAINLESS STEEL OR WHI TEDELIN® 500



**Rolling Ball
(Stainless Steel)**



**Rolling Ball
(Delrin)**

New item!

Ball-End Thrust Screws are heavy-duty screw clamps with a hardened stainless-steel ball contained in the end. Available with either a spherical rolling ball or a swivel ball with a flat contact surface. Both ball options are optionally available in Delrin material. These thrust screws have a large head and large hex-socket for excellent strength.

The rolling-ball version shown above is available in thread sizes from 1/4-20 to 5/8-11 (M6 to M16 in metric), each in a choice of two lengths.

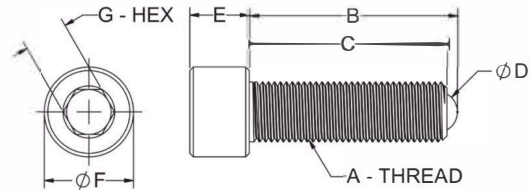


**Swivel Ball with Flat
(Stainless Steel)**



**Swivel Ball with Flat
(Delrin)**

The swivel-ball version shown here is available in thread sizes from 3/8-16 to 5/8-11 (M10 to M16 in metric), each in a choice of two lengths.

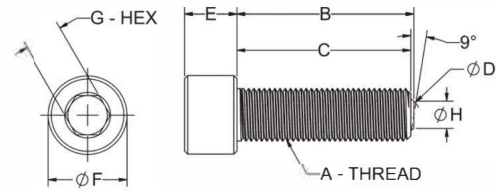


ROLLING BALL (INCH)

PART NO.		A THREAD	B	C	D DIA	E	F DIA	G
STAINLESS STEEL BALL	DELIN BALL							
CL-4-BTS-1.00	CL-4-BTSN-1.00	1/4-20	1.03	1	5/32	.25	.38	3/16
CL-4-BTS-2.00	CL-4-BTSN-2.00	1/4-20	2.03	2	5/32	.25	.38	3/16
CL-6-BTS-2.00	CL-6-BTSN-2.00	3/8-16	2.06	2	1/4	.38	.56	5/16
CL-6-BTS-3.00	CL-6-BTSN-3.00	3/8-16	3.06	3	1/4	.38	.56	5/16
CL-8-BTS-3.00	CL-8-BTSN-3.00	1/2-13	3.12	3	11/32	.50	.75	3/8
CL-8-BTS-4.00	CL-8-BTSN-4.00	1/2-13	4.12	4	11/32	.50	.75	3/8
CL-80-BTS-1.75	CL-80-BTSN-1.75	1/2-20 Fine	1.87	1-3/4	11/32	.50	.75	3/8
CL-10-BTS-4.00	CL-10-BTSN-4.00	5/8-11	4.15	4	7/16	.63	.94	1/2
CL-10-BTS-5.00	CL-10-BTSN-5.00	5/8-11	5.15	5	7/16	.63	.94	1/2

ROLLING BALL (METRIC)

PART NO.		A THREAD	THREAD PITCH (mm)	B (mm)	C (mm)	D DIA (mm)	E (mm)	F DIA (mm)	G (mm)
STAINLESS STEEL BALL	DELIN BALL								
CLM-6-BTS-25	CLM-6-BTSN-25	M6	1	26	25	3.97	6	10	5
CLM-6-BTS-50	CLM-6-BTSN-50	M6	1	51	50	3.97	6	10	5
CLM-10-BTS-50	CLM-10-BTSN-50	M10	1.5	52.4	50	7.14	10	16	8
CLM-10-BTS-75	CLM-10-BTSN-75	M10	1.5	77.4	75	7.14	10	16	8
CLM-12-BTS-75	CLM-12-BTSN-75	M12	1.75	77.7	75	8.73	12	18	10
CLM-12-BTS-100	CLM-12-BTSN-100	M12	1.75	102.7	100	8.73	12	18	10
CLM-16-BTS-100	CLM-16-BTSN-100	M16	2	103.9	100	11.11	16	24	14
CLM-16-BTS-125	CLM-16-BTSN-125	M16	2	128.9	125	11.11	16	24	14



SWIVEL BALL WITH FLAT (INCH)

PART NO.		A THREAD	B	C	D DIA	E	F DIA	G	H DIA
STAINLESS STEEL BALL	DELIN BALL								
CL-6-BTSF-2.00	CL-6-BTSFN-2.00	3/8-16	2.03	2	1/4	.38	.56	5/16	.16
CL-6-BTSF-3.00	CL-6-BTSFN-3.00	3/8-16	2.03	3	1/4	.38	.56	5/16	.16
CL-8-BTSF-3.00	CL-8-BTSFN-3.00	1/2-13	3.06	3	11/32	.50	.75	3/8	.24
CL-8-BTSF-4.00	CL-8-BTSFN-4.00	1/2-13	4.06	4	11/32	.50	.75	3/8	.24
CL-80-BTSF-1.75	CL-80-BTSFN-1.75	1/2-20 Fine	1.81	1-3/4	11/32	.50	.75	3/8	.24
CL-10-BTSF-4.00	CL-10-BTSFN-4.00	5/8-11	4.06	4	7/16	.63	.94	1/2	.35
CL-10-BTSF-5.00	CL-10-BTSFN-5.00	5/8-11	5.06	5	7/16	.63	.94	1/2	.35

SWIVEL BALL WITH FLAT (METRIC)

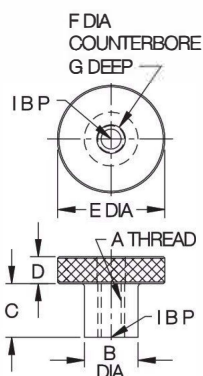
PART NO.		A THREAD	THREAD PITCH (mm)	B (mm)	C (mm)	D DIA (mm)	E (mm)	F DIA (mm)	G (mm)
STAINLESS STEEL BALL	DELIN BALL								
—	CLM-6-BTSN-25	M6	1	26	25	3.97	6	10	5
—	CLM-6-BTSN-50	M6	1	51	50	3.97	6	10	5
CLM-10-BTSF-50	CLM-10-BTSN-50	M10	1.5	51.1	50	7.14	10	16	8
CLM-10-BTSF-75	CLM-10-BTSN-75	M10	1.5	76.1	75	7.14	10	16	8
CLM-12-BTSF-75	CLM-12-BTSN-75	M12	1.75	76.5	75	8.73	12	18	10
CLM-12-BTSF-100	CLM-12-BTSN-100	M12	1.75	101.5	100	8.73	12	18	10
CLM-16-BTSF-100	CLM-16-BTSN-100	M16	2	101.6	100	11.11	16	24	14
CLM-16-BTSF-125	CLM-16-BTSN-125	M16	2	126.6	125	11.11	16	24	14

KNURLED KNOBS

STEEL: 1215, CARBURIZED-HARDENED, BLACK OXIDE FINISH.
STAINLESS STEEL: 300-SERIES, PASSIVATED



High-quality knurled-head knob provides a positive grip for quick finger tightening in light clamping applications. Available in steel with a black oxide finish or stainless steel.



STEEL (INCH)

PART NO.	A	B DIA	C	D	E DIA	F DIA	G
CL-4-KK	1/4-20	5/8	1/2	1/4	1	NONE	NONE
CL-5-KK	5/16-18	5/8	1/2	5/16	1-1/4		
CL-6-KK	3/8-16	3/4	5/8	1/2	1-1/4		
CL-8-KK	1/2-13	1	3/4	1/2	1-1/2		

STAINLESS STEEL (INCH)

PART NO.	A	B DIA	C	D	E DIA	F DIA	G
CL-16312	#10-24	3/8	1/4	3/16	1/2	NONE	NONE
CL-16322			1/2			13/64	1/4
CL-16314			1/4			NONE	NONE
CL-16324	#10-32	3/8	1/2	3/16	1/2	13/64	1/4
CL-16412			1/4			NONE	NONE
CL-16422			1/2			13/64	1/4
CL-16414	1/4-20	1/2	1/4	1/4	1	NONE	NONE
CL-16424			1/2			13/64	1/4
CL-16513			3/4			NONE	NONE
CL-16514	5/16-18	5/8	1/4	5/16	1-1/4	NONE	NONE
CL-16524			1/2			17/64	1/4
CL-16534			3/4			17/64	1/2
CL-16625	3/8-16	3/4	1/2	3/8	1-1/4	21/64	1/4
CL-16635			3/4			21/64	1/2
CL-16725			1/2			25/64	1/4
CL-16735	1/2-13	1	3/4	1/2	1-1/2	NONE	NONE
CL-8-KK-S			3/4			NONE	NONE

STEEL (METRIC)

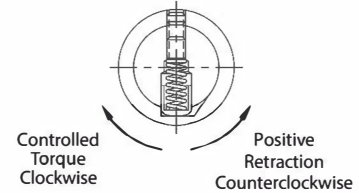
PART NO.	A THREAD	THREAD PITCH (mm)	B DIA (mm)	C (mm)	D (mm)	E DIA (mm)	F DIA	G
CLM-5-KK	M5	.8	10	7.5	4	20	None	None
CLM-6-KK	M6	1	12	10	5	24		
CLM-8-KK	M8	1.25	16	12	6	30		
CLM-10-KK	M10	1.5	20	15	8	36		
CLM-12-KK	M12	1.75	20	15	8	40		

STAINLESS STEEL (METRIC)

PART NO.	A THREAD	THREAD PITCH (mm)	B DIA (mm)	C (mm)	D (mm)	E DIA (mm)	F DIA	G
CLM-6-KK-S	M6	1	12	10	5	24	None	None
CLM-10-KK-S	M10	1.5	20	15	8	36		

ADJUSTABLE-TORQUE THUMB SCREWS

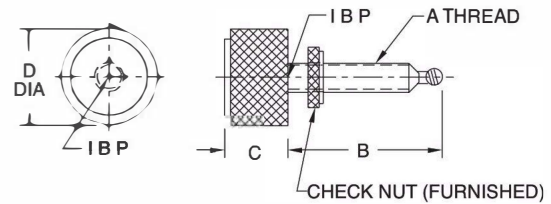
SCREW: 1215 STEEL, CARBURIZED-HARDENED, BLACK OXIDE FINISH
 KNOB: 1215 STEEL, BLACK OXIDE FINISH
 SPRING: MUSIC WIRE OR STAINLESS STEEL 302



Knurled-head thumb screw that exerts positive, repeatable force. Clockwise, the knob declutches and turns freely when you reach the desired torque. Counterclockwise, the knob locks for positive retraction. Adjustable-Torque Thumb Screws are furnished with your choice of swivel foot, and a Knurled Check Nut.

To set desired force, first remove the outer cover screw at the side of the knob, to expose the adjustment screw. Next, insert a hex wrench to turn the adjustment screw until desired torque is achieved. Reinstall the outer cover screw when finished. Torque can be adjusted from 3 to 6 inch-lbs, resulting in a contact force of 10 to 125 lbs, but these values are approximate. Force can vary +/- 30% depending on lubrication and other operating conditions.

Choice of four foot types. Adjustable-Torque Thumb Screws use our patented left-hand-thread swivel-foot system. The ball end of the body screws into the foot for easy installation and removal. Once the ball threads pass beyond the foot threads, the foot can rotate and pivot freely (20° total angle). Foot threads are left-hand to positively prevent accidental backout during use. Delrin® feet are optional for types A and B. To order with a Delrin® foot, add "N" to the part number, e.g. CL-415-TSAN. Note: Delrin® feet are not threaded – they snap on and off.



INCH

PART NO.				A	B	C	D DIA	ADJUSTMENT RANGE	
DOG POINT	A FOOT	B FOOT	D FOOT					TORQUE (IN.-LBS.)	END FORCE (LBS)*
CL-312-TS	—	—	—	#10-24	1-1/4	21/32	15/16	3-6	10-125
CL-312A-TS	—	—	—	#10-32					
—	CL-415-TSA	CL-415-TSB	CL-415-TSD	1/4-20	1-1/2				
—	CL-425-TSA	CL-425-TSB	CL-425-TSD		2-1/2				
—	CL-517-TSA	CL-517-TSB	CL-517-TSD	5/16-18	1-3/4				
—	CL-527-TSA	CL-527-TSB	CL-527-TSD		2-3/4				
—	CL-620-TSA	CL-620-TSB	CL-620-TSD	3/8-16	2		1-3/16		
—	CL-630-TSA	CL-630-TSB	CL-630-TSD		3				
—	CL-820-TSA	CL-820-TSB	CL-820-TSD	1/2-13	2				
—	CL-830-TSA	CL-830-TSB	CL-830-TSD		3				
—	CL-1020-TSA	CL-1020-TSB	CL-1020-TSD	5/8-11	2				
—	CL-1030-TSA	CL-1030-TSB	CL-1030-TSD		3				

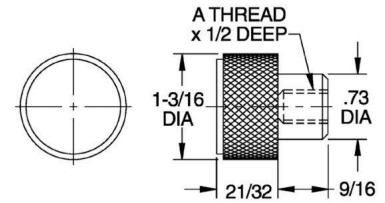
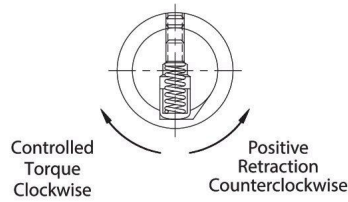
METRIC

PART NO.				A THREAD	THREAD PITCH (mm)	B (mm)	C (mm)	D DIA (mm)	ADJUSTMENT RANGE	
DOG POINT	A FOOT	B FOOT	D FOOT						TORQUE (Nm)	END FORCE (N)
CLM-5-TS	—	—	—	M5	.8	30	16.5	24	.3 - .7	50 - 550
—	CLM-6-TSA	CLM-6-TSB	CLM-6-TSD	M6	1	64				
—	CLM-8-TSA	CLM-8-TSB	CLM-8-TSD	M8	1.25	69				
—	CLM-10-TSA	CLM-10-TSB	CLM-10-TSD	M10	1.5	74		30		
—	CLM-12-TSA	CLM-12-TSB	CLM-12-TSD	M12	1.75	73				
—	CLM-16-TSA	CLM-16-TSB	CLM-16-TSD	M16	2					

* End force can vary +/-30% depending on lubrication and other operating conditions.

ADJUSTABLE-TORQUE KNOBS

KNOB: 1215 STEEL, BLACK OXIDE FINISH
SPRING: 17-7 PH STAINLESS STEEL



Knurled knob that exerts positive, repeatable force. Clockwise, the knob declutches and turns freely when you reach the desired torque. Counterclockwise, the knob locks for positive retraction. Can be used as a controlled-torque nut, or as a thumb screw by installing a custom-made screw in the tapped hole.

To set desired force, first remove the outer cover screw at the side of the knob, to expose the adjustment screw. Next, insert a hex wrench to turn the adjustment screw until desired torque is achieved. Reinstall the outer cover screw when finished. Torque can be adjusted from 3 to 6 inch-lbs, resulting in a contact force of 10 to 125 lbs, but these values are approximate. Force can vary +/- 30% depending on lubrication and other operating conditions.

INCH

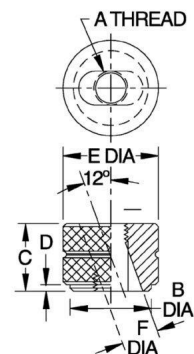
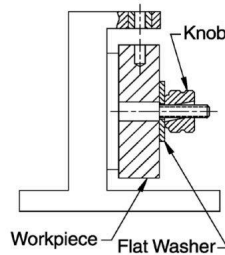
PART NO.	A	ADJUSTMENT RANGE	
		TORQUE (IN.-LBS)	END FORCE (LBS)*
CL-4-ATK	1/4-20	3-6	10-125
CL-5-ATK	5/16-18		10-125
CL-6-ATK	3/8-16		10-125
CL-8-ATK	1/2-13		10-125

METRIC

PART NO.	A THREAD	THREAD PITCH (mm)	ADJUSTMENT RANGE	
			TORQUE (Nm)	END-FORCE (N)
CLM-6-ATK	M6	1	.3 - .7	50 - 550
CLM-8-ATK	M8	1.25	.3 - .7	50 - 550
CLM-10-ATK	M10	1.5	.3 - .7	50 - 550
CLM-12-ATK	M12	1.75	.3 - .7	50 - 550

QUICK-ACTING KNURLED KNOBS

1215 STEEL, BLACK OXIDE FINISH



INCH

PART NO.	A	B DIA	C	D	E DIA	F DIA
CL-1-QKK	#10-24	1/2	7/16	1/16	5/8	7/32
CL-2-QKK	1/4-20	5/8	9/16		3/4	9/32
CL-3-QKK	5/16-18	3/4	5/8	1/8	7/8	11/32
CL-4-QKK	3/8-16	7/8	3/4		1	13/32
CL-5-QKK	1/2-13	1			1-1/8	17/32

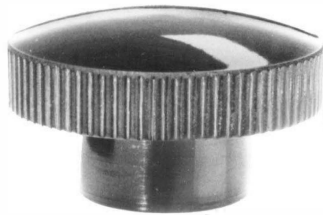
METRIC

PART NO.	A THREAD	THREAD PITCH (mm)	B DIA (mm)	C (mm)	D (mm)	E DIA (mm)	F DIA (mm)
CLM-5-QKK	M5	.8	13	11	2	16	6
CLM-6-QKK	M6	1	16	14		19	7
CLM-8-QKK	M8	1.25	19	16	3	22	9
CLM-10-QKK	M10	1.5	22			25.5	10.5

Quick-acting knob that slides in and out of clamping position, ideal when the knob must be completely removed for loading. Tilt knob to slide in, then straighten to engage threads and tighten. To remove, loosen knob, then tilt to slide out. For full strength, use a stud that extends slightly beyond the knob, to engage all threads.

KNURLED KNOBS

KNOB: BLACK PHENOLIC PLASTIC OR THERMOPLASTIC, WITH BRASS INSERT
STUD: MILD STEEL, ZINC PLATED CLEAR CHROMATE



5/16-18 CL-642-KTK
3/8-16 CL-652-KTK
M8 CLM-642-KTK
M10 CLM-652-KTK



1/4-20 CL-532-KTK
5/16-18 CL-542-KTK
M6 CLM-532-KTK
M8 CLM-542-KTK



#10-32 CL-424-KTK
1/4-20 CL-432-KTK
M5 CLM-422-KTK
M6 CLM-432-KTK



#10-32 CL-324-KTK
1/4-20 CL-332-KTK
M5 CLM-322-KTK



#10-32 CL-124-KTK



#6-32 CL-202-KTK
#8-32 CL-212-KTK

Thermoplastic — Tapped

Phenolic — Tapped



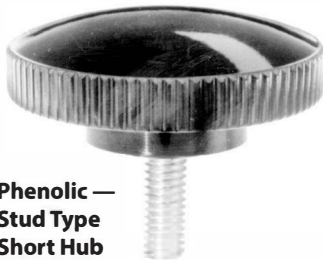
#8-32 X 1/2 CL-312-KTK-8
#10-32 X 1/2 CL-324-KTK-8
#10-32 X 1 CL-324-KTK-16
1/4-20 X 1/2 CL-332-KTK-8
M5 X 20mm CLM-322-KTK-20

1/4-20 X 1 CL-432-KTK-16
M6 X 25mm CLM-432-KTK-25

Phenolic — Stud Type



3/8-16 X 1 CL-652-KTK-16
M10 X 25mm CLM-652-KTK-25

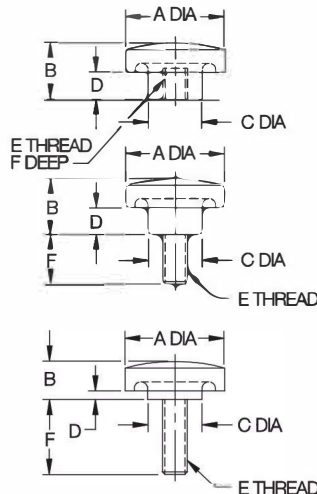


Phenolic — Stud Type Short Hub

3/8-16 X 1 CL-656-KTK-16



#6-32 X 3/4 CL-406-KTK-12
1/4-20 X 3/4 CL-436-KTK-12



Knurled head provides a positive grip for finger tightening in light clamping applications. Choice of six knob sizes. Molded-in brass insert provides superior thread strength. Also available with a molded-in clamping stud. Non-standard thread sizes, or other lengths of molded-in studs are available in quantities of 500 and above.

THERMOPLASTIC — TAPPED (INCH)

PART NO.	A DIA	B	C DIA	D	E	F
CL-202-KTK	3/4	15/32	5/8	1/4	#6-32	5/16

PHENOLIC — TAPPED (INCH & METRIC)

CL-124-KTK	5/8	9/16	1/2	—	#10-32	5/16
CL-324-KTK	3/4	19/32	7/16	5/16	#10-32	
CL-332-KTK	3/4	17/32	7/16	5/16	1/4-20	5/16
CLM-322-KTK					M5	
CL-424-KTK	1	21/32	5/8	5/16	#10-32	5/16
CL-432-KTK					1/4-20	
CLM-432-KTK					M6	3/8
CL-542-KTK	1-3/8	25/32	3/4	3/8	5/16-18	7/16
CLM-532-KTK					M6	
CL-642-KTK	1-7/8	1	1	1/2	5/16-18	7/16
CL-652-KTK					3/8-16	1/2

PHENOLIC — STUD TYPE (INCH & METRIC)

CL-312-KTK-8					#8-32	1/2
CL-324-KTK-8	3/4	17/32	7/16	1/16	#10-32	1
CL-324-KTK-16					1/4-20	1/2
CL-332-KTK-8					1/4-20	1
CL-432-KTK-16	1	21/32	5/8	5/16	M6	.98
CLM-432-KTK-25						
CL-532-KTK-8	1-3/8	25/32	3/4	3/8	1/4-20	1/2
CL-652-KTK-16	1-7/8	1	1	1/2	3/8-16	1

PHENOLIC — STUD TYPE, SHORT HUB (INCH)

CL-436-KTK-12	1	13/32	1/2	1/16	1/4-20	3/4
CL-656-KTK-16	1-7/8	3/4	1	1/4	3/8-16	1