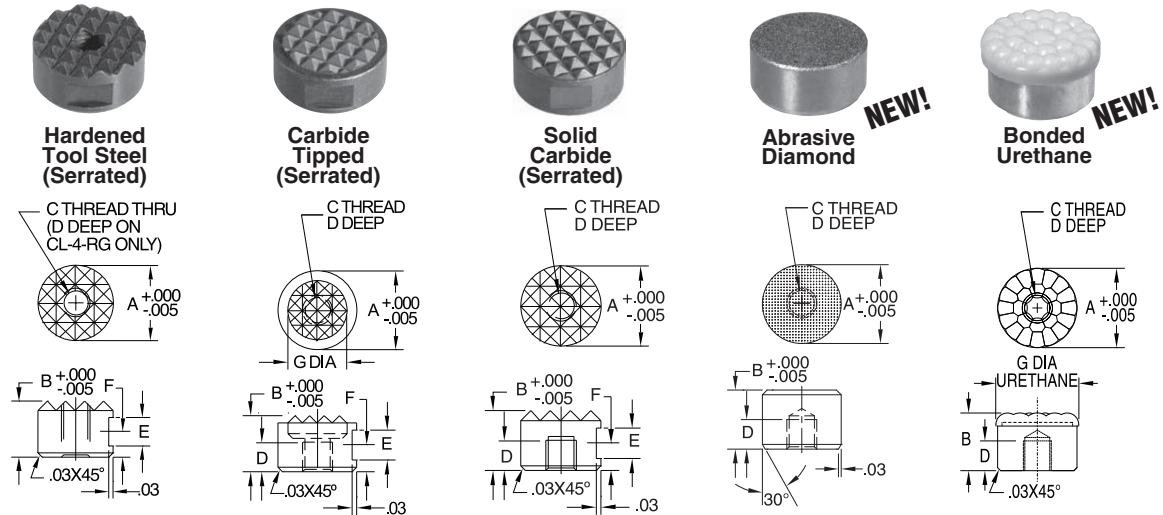


ROUND GRIPPERS

HARDENED TOOL STEEL: M-2 TOOL STEEL, HEAT TREATED RC 60-62, BLACK OXIDE FINISH
CARBIDE TIPPED: ALLOY STEEL, HEAT TREATED, WITH BRAZED CARBIDE INSERT, BLACK OXIDE FINISH
SOLID CARBIDE: CARBIDE WITH STEEL THREAD INSERT
ABRASIVE DIAMOND: 17-4PH STAINLESS STEEL, HEAT TREATED RC 43-46, WITH FUSED ABRASIVE DIAMOND SURFACE
BONDED URETHANE: 300-SERIES STAINLESS STEEL WITH BONDED URETHANE SURFACE



Round Grippers are replaceable inserts that provide additional holding force and/or wear resistance when installed in a fixture. Fasten from behind with a socket-head cap screw, or clamp with a setscrew on the O.D. locking flat (where provided). Grippers can be recess-mounted in a flat-bottom hole, or surface mounted to use as a rest pad. Round Grippers can also be installed in Gripper Swivel Pads and Gripper Swivel Contact Bolts.

Abrasive-diamond grippers have an abrasive-diamond surface permanently fused to a hardened stainless steel pad. This abrasive surface, comparable to a 100-grit abrasive, provides significant holding force with relatively low clamping pressure and minimal surface marring. This diamond-particle surface also offers excellent wear resistance.

Serrated grippers are designed to slightly penetrate the workpiece to significantly increase gripping force, rather than relying on static friction alone. The hardened-tool-steel version is the most economical and impact resistant. The carbide-tipped version is still economical and impact resistant while providing extra durability. The solid-carbide version is the most durable.

Bonded-urethane grippers have a urethane surface permanently bonded to a stainless steel pad. This non-marking, non-staining urethane provides excellent protection against damage to finished workpieces. The bubbled texture of the urethane surface offers firm gripping, yet allows air to escape so that no suction is created under load. Urethane also provides excellent wear resistance, and is available in three firmnesses to suit a wide variety of applications.

USA

PART NO. HARDENED TOOL STEEL (SERRATED)	PART NO. CARBIDE TIPPED (SERRATED)	PART NO. SOLID CARBIDE (SERRATED)	PART NO. ABRASIVE DIAMOND	A DIA	B	C	D	E	F	G DIA	SERRATIONS	PART NO. BONDED URETHANE	URETHANE		
													B	D	G DIA
CL-4-RG	—	—	—	1/4	3/8	#8-32	3/16	—	—	—	Extra Fine	—	—	—	
CL-6-RG	CL-6-RGT	—	CL-6-RGD	3/8		5/16		.125x90°	CL-6-RGU-1*	1/2	3/8	Fine	CL-10-RGU-1*	3/8	.39
CL-8-RG	CL-8-RGT	CL-8-RGC	CL-8-RGD	1/2	3/8	CL-10-RGU-1*	1/2		5/8						
CL-10-RG	CL-10-RGT	CL-10-RGC	CL-10-RGD	5/8	1/2			CL-12-RGU-1*		3/8	3/4	.83			
CL-12-RG	CL-12-RGT	CL-12-RGC	CL-12-RGD	3/4	5/8	CL-16-RGU-1*	1.06		3/4				1.06		
CL-16-RG	CL-16-RGT	—	CL-16-RGD	1	3/4			—		—	—	—			

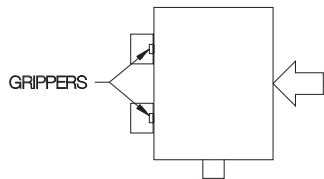
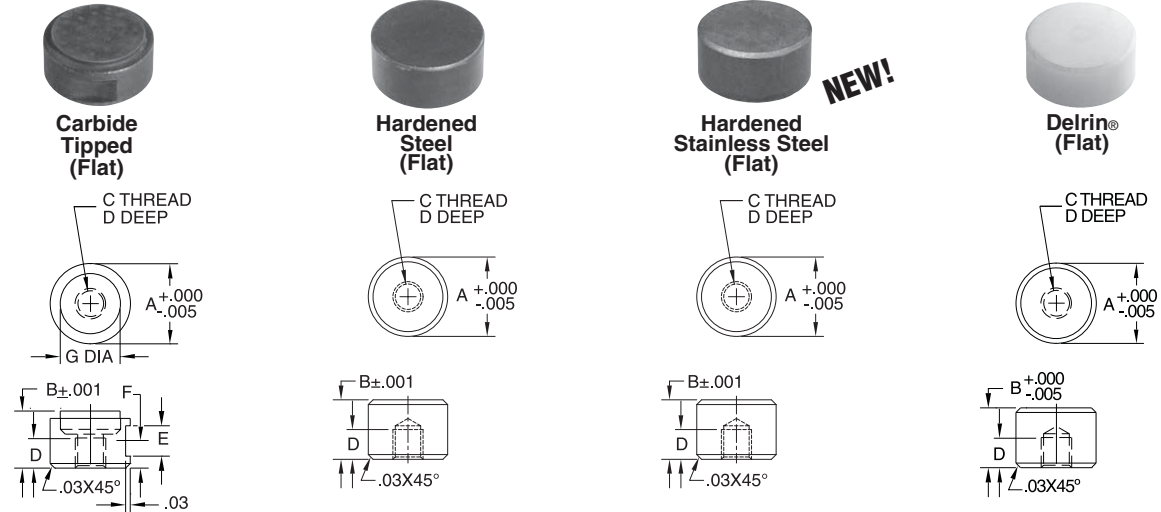
METRIC

CLM-10-RG	CLM-10-RGT	—	CLM-10-RGD	.394 (10mm)	.3937 (10mm)	M5	.18	.185	.177	—	Extra Fine	CLM-10-RGU-1*	.24	.39
CLM-12-RG	CLM-12-RGT	—	CLM-12-RGD	.472 (12mm)										
CLM-16-RG	CLM-16-RGT	—	CLM-16-RGD	.630 (16mm)	.125x90°	Fine	CLM-16-RGU-1*	.37	.63					
CLM-20-RG	CLM-20-RGT	—	CLM-20-RGD	.787 (20mm)						CLM-20-RGU-1*	.83			
CLM-25-RG	CLM-25-RGT	—	CLM-25-RGD	.984 (25mm)	CLM-25-RGU-1*	1.06								

* -1=35 Durometer, -2=60 Durometer, -3=80 Durometer

ROUND GRIPPERS

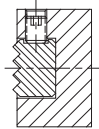
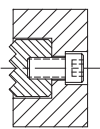
CARBIDE TIPPED: ALLOY STEEL, HEAT TREATED, WITH BRAZED CARBIDE INSERT, BLACK OXIDE FINISH
HARDENED STEEL: 8620 STEEL, CARBURIZED-HARDENED, BLACK OXIDE FINISH
HARDENED STAINLESS STEEL: 17-4 STAINLESS STEEL, HEAT TREATED RC 43-46
DELRIN®: WHITE DELRIN® 500



Serrated grippers recessed into a fixture's locating surfaces dramatically increase resistance to movement by embedding themselves in the workpiece.

Flat grippers can be used to provide additional wear resistance, or as precision rest pads. The carbide-tipped version is the most durable. The hardened-steel version is the most economical and impact resistant. The hardened-stainless-steel version provides high strength and excellent corrosion resistance. The Delrin version helps avoid marring finished workpieces.

USA



PART NO. CARBIDE TIPPED (FLAT)	PART NO. HARDENED STEEL (FLAT)	PART NO. HARDENED STAINLESS (FLAT)	PART NO. DELRIN (FLAT)	A DIA	B	C	D	E	F	G DIA
CL-6-RGFT	CL-6-RGF	CL-6-RGF-S	CL-6-RGFN	3/8	3/8	#10-32	3/8	3/16	11/64	5/16
CL-8-RGFT	CL-8-RGF	CL-8-RGF-S	CL-8-RGFN	1/2		3/8				3/8
CL-10-RGFT	CL-10-RGF	CL-10-RGF-S	CL-10-RGFN	5/8	1/4-28	3/8	3/16	11/64	5/8	1/2
CL-12-RGFT	CL-12-RGF	CL-12-RGF-S	CL-12-RGFN	3/4						3/4
CL-16-RGFT	CL-16-RGF	CL-16-RGF-S	CL-16-RGFN	1						3/4

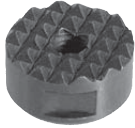
METRIC

Round Grippers can be fastened from behind with a socket-head cap screw. Some gripper types also have an O.D. locking flat for fastening with a set screw.

	CLM-10-RGF	CLM-10-RGF-S	CLM-10-RGFN	.394 (10mm)	.3937 (10mm)	M5	.18	.185	.177	—
—	CLM-12-RGF	CLM-12-RGF-S	CLM-12-RGFN	.472 (12mm)		M6				
—	CLM-16-RGF	CLM-16-RGF-S	CLM-16-RGFN	.630 (16mm)						
—	CLM-20-RGF	CLM-20-RGF-S	CLM-20-RGFN	.787 (20mm)						
—	CLM-25-RGF	CLM-25-RGF-S	CLM-25-RGFN	.984 (25mm)						

ROUND GRIPPERS (COUNTERBORED)

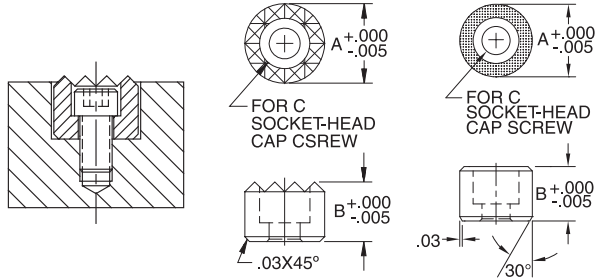
HARDENED TOOL STEEL: M-2 TOOL STEEL, HEAT TREATED RC 60-62, BLACK OXIDE FINISH
ABRASIVE DIAMOND: 17-4 STAINLESS STEEL, HEAT TREATED RC 43-46, WITH ABRASIVE DIAMOND SURFACE



**Hardened Tool Steel
(Serrated)**



Diamond Abrasive



Counterbored Round Grippers are ideal for blind-hole installation and surface mounting. Fasten with a standard socket-head cap screw. The serrated version, made of hardened tool steel, is designed to slightly penetrate the workpiece to significantly increase gripping force. The abrasive-diamond version has an abrasive-diamond surface permanently fused to a hardened stainless steel pad. This abrasive surface, comparable to a 100-grit abrasive, provides significant holding force with relatively low clamping pressure and minimal surface marring. This diamond-particle surface also offers excellent wear resistance.

USA

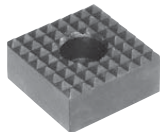
PART NO. HARDENED TOOL STEEL (SERRATED)	PART NO. DIAMOND ABRASIVE	A DIA	B	C	SERRATIONS (HARDENED TOOL STEEL VERSION)	
CL-8-RGB	CL-8-RGBD	1/2	3/8	#8	Fine	.125x90°
CL-10-RGB	CL-10-RGBD	5/8				
CL-12-RGB	CL-12-RGBD	3/4	1/2	#10	Fine	.125x90°
CL-16-RGB	CL-16-RGBD	1				

METRIC

CLM-12-RGB	CLM-12-RGBD	.472 (12mm)	.394	M4	Fine	.125x90°
CLM-16-RGB	CLM-16-RGBD	.630 (16mm)	(10mm)			
CLM-20-RGB	CLM-20-RGBD	.787 (20mm)	.472	M5	Fine	.125x90°
CLM-25-RGB	CLM-25-RGBD	.984 (25mm)	(12mm)	M6		

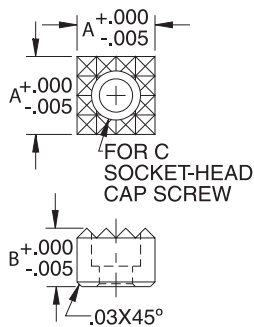
SQUARE GRIPPERS (COUNTERBORED)

M-2 TOOL STEEL, HEAT TREATED RC 60-62, BLACK OXIDE FINISH



**Hardened Tool Steel
(Serrated)**

Counterbored Round Grippers are ideal for blind-hole installation and surface mounting. Fasten with a standard socket-head cap screw.



COUNTERBORED (USA)

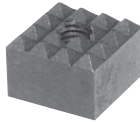
PART NO. HARDENED TOOL STEEL (SERRATED)	A	B	C	SERRATIONS	
CL-8-SGB	1/2	1/2	#10	Fine	.125x90°
CL-12-SGB	3/4				
CL-16-SGB	1				

COUNTERBORED (METRIC)

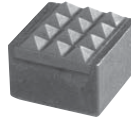
CLM-12-SGB	.472 (12mm)	.472 (12mm)	M4	Fine	.125x90°
CLM-20-SGB	.787 (20mm)		M5		
CLM-25-SGB	.984 (25mm)		M6		

SQUARE GRIPPERS

HARDENED TOOL STEEL: M-2 TOOL STEEL, HEAT TREATED RC 60-62, BLACK OXIDE FINISH
CARBIDE TIPPED: ALLOY STEEL, HEAT TREATED, WITH BRAZED CARBIDE INSERT, BLACK OXIDE FINISH
SOLID CARBIDE: CARBIDE WITH STEEL THREAD INSERT



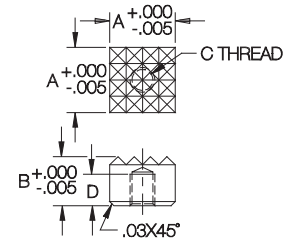
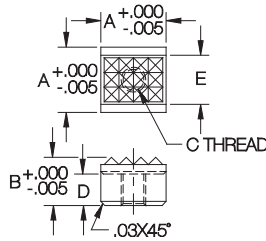
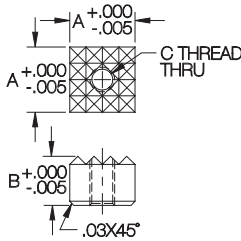
Hardened Tool Steel (Serrated)



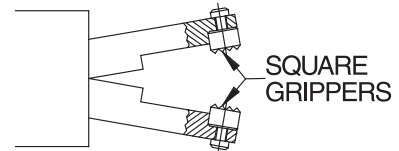
Carbide Tipped (Serrated)



Solid Carbide (Serrated)



Square Grippers are similar to Round Grippers, but their shape is useful when positive resistance to rotation is required (they can be mounted against a step to prevent rotation). These serrated grippers are hard, replaceable inserts that provide additional holding force and/or wear resistance when installed in a fixture. They are designed to slightly penetrate the workpiece to significantly increase gripping force, rather than relying on static friction alone. The hardened-tool-steel version is the most economical and impact resistant. The carbide-tipped version is still economical and impact resistant while providing extra durability. The solid-carbide version is the most durable.



Square Grippers can be mounted against a step for positive resistance to rotation.

USA

PART NO. HARDENED TOOL STEEL (SERRATED)	PART NO. CARBIDE TIPPED (SERRATED)	PART NO. SOLID CARBIDE (SERRATED)	A	B	C	D	E	SERRATIONS
CL-6-SG	—	—	3/8	3/8	#10-32	—	—	XFine .094x90°
CL-8-SG	CL-8-SGT	CL-8-SGC	1/2			3/16	13/32	Fine .125x90°
CL-12-SG	—	—	3/4			—	—	—
CL-16-SG	—	—	1			1/4-28	—	—

METRIC

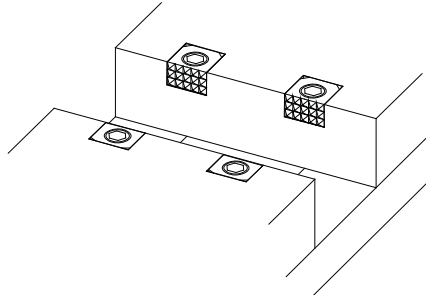
PART NO. HARDENED TOOL STEEL (SERRATED)	PART NO. CARBIDE TIPPED (SERRATED)	PART NO. SOLID CARBIDE (SERRATED)	A	B	C	D	E	SERRATIONS
CLM-10-SG	—	—	.394(10mm)	.394(10mm)	M5	—	—	XFine .094x90°
CLM-12-SG	CLM-12-SGT	—	.472(12mm)			3/16	13/32	Fine .125x90°
CLM-20-SG	—	—	.787(20mm)			—	—	—
CLM-25-SG	—	—	.984(25mm)			M6	—	—

EDGE GRIPPERS

M-2 TOOL STEEL, HEAT TREATED RC 60-62, BLACK OXIDE FINISH



**Serrated
Hardened Tool Steel**

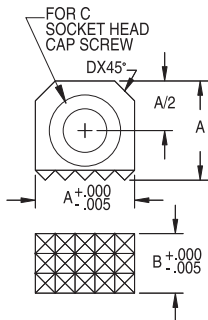


Edge Grippers are ideal for mounting at the top edge of a clamping face such as a vise jaw.

Edge Grippers are helpful for applications where traditional face-mounted grippers are difficult to install. They have a useful flat profile because the mounting screw is parallel to the serrated face. These serrated grippers are hard, replaceable inserts used to provide additional holding force and/or wear resistance when installed in a fixture. They are designed to slightly penetrate the work-piece to significantly increase gripping force, rather than relying on static friction alone. Edge Grippers should be mounted in a flat-bottom recess that provides support behind the gripper. Fasten with a standard socket-head cap screw (on the largest three sizes, a low-head cap screw can be used to keep the screw head below the top surface). The serrated face should project 50 to 100% of serration height for maximum effectiveness (serration height is .062" on grippers with fine serrations, .047" on grippers with extra-fine serrations, and .031" on grippers with super-fine serrations).

USA

PART NO.	A	B	SERRATIONS	C	COUNTERBORE DEPTH	D
CL-6-EG-4	3/8	1/4	Extra Fine .094x90°	#6	.146	1/16
CL-6-EG-4-SF			Super Fine .062x90°			
CL-6-EG-6		3/8	Extra Fine .094x90°			
CL-6-EG-6-SF			Super Fine .062x90°			
CL-8-EG-4	1/2	1/4	Fine .125x90°	#8	.170	3/32
CL-8-EG-4-EF			Extra Fine .094x90°			
CL-8-EG-6		3/8	Fine .125x90°			
CL-8-EG-6-EF			Extra Fine .094x90°		.175	
CL-8-EG-8	1/2	Fine .125x90°				
CL-8-EG-8-EF			Extra Fine .094x90°			
CL-10-EG-4	5/8	1/4	Fine .125x90°	1/4	.130	1/8
CL-10-EG-4-EF			Extra Fine .094x90°			
CL-10-EG-6		3/8	Fine .125x90°			
CL-10-EG-6-EF			Extra Fine .094x90°			
CL-10-EG-8	1/2	Fine .125x90°				
CL-10-EG-8-EF			Extra Fine .094x90°			
CL-12-EG-4	3/4	1/4	Fine .125x90°	5/16	.161	1/8
CL-12-EG-4-EF			Extra Fine .094x90°			
CL-12-EG-6		3/8	Fine .125x90°			
CL-12-EG-6-EF			Extra Fine .094x90°			
CL-12-EG-8	1/2	Fine .125x90°				
CL-12-EG-8-EF			Extra Fine .094x90°			
CL-16-EG-6	1	3/8	Fine .125x90°	3/8	.194	1/8
CL-16-EG-6-EF			Extra Fine .094x90°			
CL-16-EG-8		1/2	Fine .125x90°			
CL-16-EG-8-EF			Extra Fine .094x90°			



METRIC

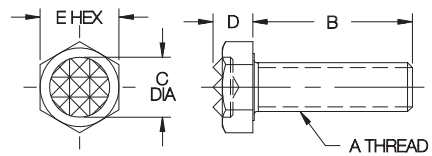
CLM-10-EG-6	.394(10mm)	.236(6mm)	Extra Fine .094x90°	M3 or #6	.148	.06
CLM-10-EG-10		.394(10mm)				
CLM-12-EG-6		.236(6mm)				
CLM-12-EG-10	.472(12mm)	.394(10mm)	Fine .125x90°	M4 or #8	.160	.09
CLM-12-EG-12		.472(12mm)				
CLM-16-EG-6		.236(6mm)				
CLM-16-EG-10	.630(16mm)	.394(10mm)	Fine .125x90°	M6 or 1/4	.165	.13
CLM-16-EG-12		.472(12mm)				
CLM-20-EG-6		.236(6mm)				
CLM-20-EG-10	.787(20mm)	.394(10mm)	Fine .125x90°	M8 or 5/16	.200	.13
CLM-20-EG-12		.472(12mm)				
CLM-25-EG-10	.984(25mm)	.394(10mm)	Fine .125x90°	M10 or 3/8	.260	.13
CLM-25-EG-12		.472(12mm)				

GRIPPER CONTACT BOLTS

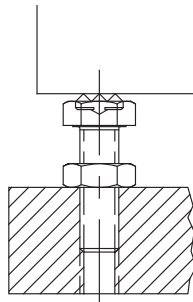
STEEL, CARBURIZED-HARDENED, BLACK OXIDE FINISH, WITH BRAZED CARBIDE GRIPPER



**Carbide Tipped
(Serrated)**



Fully threaded contact bolt with a carbide-tipped gripper head. Can be used as an adjustable support, or as a contact bolt in a clamp. Available in thread sizes from 1/4-20 to 5/8-11 (M6 to M16 in metric) each in a choice of lengths.



USA

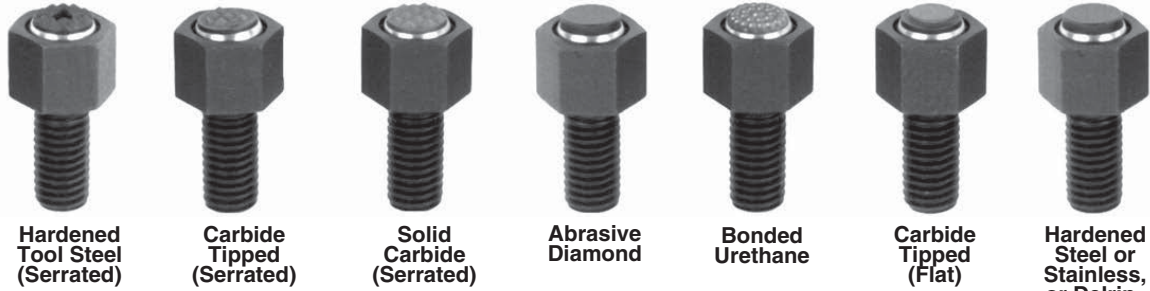
PART NO.	A	B	C DIA	D	E	SERRATIONS	
CL-405-GCB	1/4-20	1/2	5/16	13/64	7/16	Extra Fine	.094x90°
CL-410-GCB		1					
CL-505-GCB	5/16-18	1/2	3/8	1/4	1/2	Fine	.125x90°
CL-510-GCB		1					
CL-515-GCB		1-1/2					
CL-605-GCB	3/8-16	1/2	1/2	9/32	9/16	Fine	.125x90°
CL-610-GCB		1					
CL-615-GCB	1/2-13	1-1/2	5/8	23/64	3/4	Fine	.125x90°
CL-810-GCB		1					
CL-815-GCB		1-1/2					
CL-1010-GCB	5/8-11	1	3/4	7/16	15/16	Fine	.125x90°
CL-1020-GCB		2					

METRIC

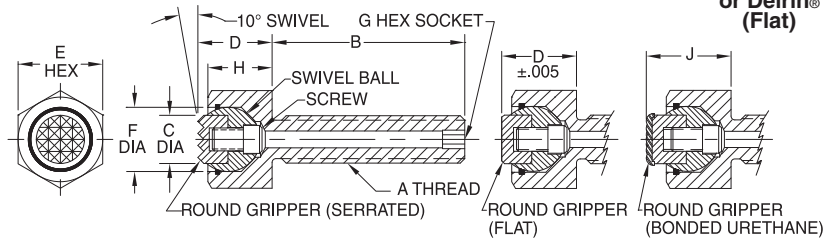
PART NO.	A	B	C DIA	D	E	SERRATIONS	
CLM-612-GCB	M6	.47	5/16	.20	10mm	Extra Fine	.094x90°
CLM-625-GCB		.98					
CLM-812-GCB	M8	.47	3/8	.25	13mm	Fine	.125x90°
CLM-825-GCB		.98					
CLM-835-GCB		1.38					
CLM-1012-GCB	M10	.47	1/2	.30	17mm	Fine	.125x90°
CLM-1025-GCB		.98					
CLM-1040-GCB	M12	1.57	5/8	.34	19mm	Fine	.125x90°
CLM-1225-GCB		.98					
CLM-1240-GCB		1.57					
CLM-1635-GCB	M16	1.38	3/4	.43	24mm	Fine	.125x90°
CLM-1650-GCB		1.97					

GRIPPER SWIVEL CONTACT BOLTS

BODY AND GRIPPER SCREW: STEEL, CARBURIZED-HARDENED, BLACK OXIDE FINISH
SWIVEL BALL: 440C STAINLESS STEEL, HEAT TREATED. O-RING: RUBBER
SEE PAGES 178-179 FOR ROUND GRIPPER MATERIAL SPECIFICATIONS



Threaded contact bolt with a built-in swivel ball to hold a Round Gripper. This swivel ball, held by a retaining ring, is removable to allow installing any of the eleven different gripper types (order gripper separately). A fastening screw is furnished with the contact bolt. This screw serves as a positive stop to prevent the ball from swiveling too far. Can be used as a contact bolt, or as a support. Available in thread sizes from 3/8-16 to 1"-8 (M10 to M24 in metric), most in a choice of several lengths.



BODY AND GRIPPER — ORDER SEPARATELY (USA)

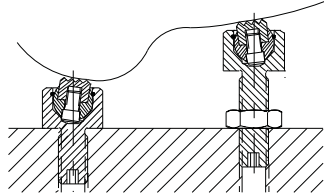
PART NO. BODY WITHOUT GRIPPER	PART NO. — ROUND GRIPPER							A	B	C DIA	D	E	F DIA	G	H	J	SERRATIONS	
	HARDENED TOOL STEEL (SERRATED)	CARBIDE TIPPED (SERRATED)	SOLID CARBIDE (SERRATED)	ABRASIVE DIAMOND	BONDED URETHANE	CARBIDE TIPPED (FLAT)	STEEL, SS, OR DELRIN (FLAT)											
CL-605-GSB					CL-6-RGU-1	CL-6-RGFT	CL-6-RGF	3/8-16	1/2	3/8	5/8	5/8	1/2	1/8	1/2	3/4	Extra Fine	.094x90°
CL-610-GSB	CL-6-RG	CL-6-RGT	—	CL-6-RGD	CL-6-RGU-2	CL-6-RGF-S	1											
CL-615-GSB					CL-6-RGU-3	CL-6-RGFN	1-1/2											
CL-810-GSB	CL-8-RG	CL-8-RGT	CL-8-RGC	CL-8-RGD	CL-8-RGU-1	CL-8-RGFT	CL-8-RGF	1/2-13	1	1/2	3/4	13/16	5/8	3/16	5/8	7/8		
CL-815-GSB					CL-8-RGU-2	CL-8-RGF-S	1-1/2											
					CL-8-RGU-3	CL-8-RGFN	1-1/2											
CL-1010-GSB	CL-10-RG	CL-10-RGT	CL-10-RGC	CL-10-RGD	CL-10-RGU-1	CL-10-RGFT	CL-10-RGF	5/8-11	1	5/8	13/16	15/16	3/4	1/4	11/16	15/16		
CL-1020-GSB					CL-10-RGU-2	CL-10-RGF-S	2											
					CL-10-RGU-3	CL-10-RGFN	2											
CL-1210-GSB	CL-12-RG	CL-12-RGT	CL-12-RGC	CL-12-RGD	CL-12-RGU-1	CL-12-RGFT	CL-12-RGF	3/4-10	1	3/4	7/8	1-1/8	7/8	5/16	3/4	1	Fine	.125x90°
CL-1225-GSB					CL-12-RGU-2	CL-12-RGF-S	2-1/2											
					CL-12-RGU-3	CL-12-RGFN	2-1/2											
CL-1620-GSB	CL-16-RG	CL-16-RGT	—	CL-16-RGD	CL-16-RGU-1	CL-16-RGFT	CL-16-RGF	1"-8	2	1	1	1-1/2	1-1/8	3/8	1	1-1/4		

BODY AND GRIPPER — ORDER SEPARATELY (METRIC)

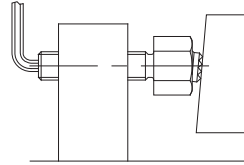
CLM-1015-GSB	CLM-10-RG	CLM-10-RGT	—	CLM-10-RGD	CLM-10-RGU-1	CLM-10-RGFT	CLM-10-RGF	M10	.59	.394	.669	17mm	.51	3mm	.51	.75	Extra Fine	.094x90°
CLM-1030-GSB					CLM-10-RGU-2	CLM-10-RGF-S	1.18											
					CLM-10-RGU-3	CLM-10-RGFN	1.18											
CLM-1220-GSB	CLM-12-RG	CLM-12-RGT	—	CLM-12-RGD	CLM-12-RGU-1	CLM-12-RGFT	CLM-12-RGF	M12	.79	.472	.748	19mm	.59	5mm	.59	.83		
CLM-1240-GSB					CLM-12-RGU-2	CLM-12-RGF-S	1.57											
					CLM-12-RGU-3	CLM-12-RGFN	1.57											
CLM-1625-GSB	CLM-16-RG	CLM-16-RGT	—	CLM-16-RGD	CLM-16-RGU-1	CLM-16-RGFT	CLM-16-RGF	M16	.98	.630	.906	24mm	.79	6mm	.75	.98		
CLM-1650-GSB					CLM-16-RGU-2	CLM-16-RGF-S	1.97											
					CLM-16-RGU-3	CLM-16-RGFN	1.97											
CLM-2030-GSB	CLM-20-RG	CLM-20-RGT	—	CLM-20-RGD	CLM-20-RGU-1	CLM-20-RGFT	CLM-20-RGF	M20	1.18	.787	.945	30mm	.91	8mm	.79	1.02	Fine	.125x90°
CLM-2060-GSB					CLM-20-RGU-2	CLM-20-RGF-S	2.36											
					CLM-20-RGU-3	CLM-20-RGFN	2.36											
CLM-2440-GSB	CLM-25-RG	CLM-25-RGT	—	CLM-25-RGD	CLM-25-RGU-1	CLM-25-RGFT	CLM-25-RGF	M24	1.57	.984	1.181	36mm	1.10	10mm	1.02	1.26		

GRIPPER SWIVEL CONTACT BOLTS

BODY: STEEL, CARBURIZED-HARDENED, BLACK OXIDE FINISH
O-RING: RUBBER
SERRATED SWIVEL BALL: HIGH-SPEED TOOL STEEL, BLACK OXIDE FINISH
FLAT SWIVEL BALL: STEEL, HARDENED, BLACK OXIDE FINISH
FLAT DELRIN® SWIVEL BALL: WHITE DELRIN® 500



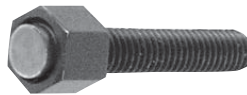
Gripper Swivel Contact Bolts are ideal as either fixed or adjustable supports under workpieces with curved or sloped surfaces.



Gripper Swivel Contact Bolts can also be used as screw clamps by turning them with a hex wrench (large sizes only).



**Hardened
Tool Steel
(Serrated)**



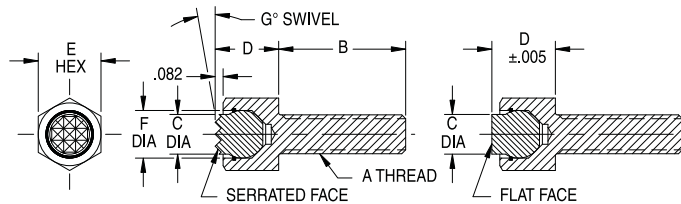
**Hardened
Steel
(Flat)**



**Delrin®
(Flat)**

Mini Sizes

Mini threaded contact bolt with a built-in swivel ball held by a retaining ring. Choose from the three gripper types shown, serrated or flat. The gripper face is machined directly on the swivel ball. A positive stop prevents the ball from swiveling too far. Can be used as a contact bolt, or as a support. Available in thread sizes from #10-32 to 5/16-18 (M6 to M8 in metric), most in a choice of several lengths.



MINI — COMPLETE ASSEMBLY (USA)

PART NO. — COMPLETE			A	B	C DIA	D	E	F DIA	G	SERRATIONS	
HARDENED TOOL STEEL (SERRATED)	HARDENED STEEL (FLAT)	DELRIN® (FLAT)									
CL-305-GSB	CL-305-GBF	CL-305-GBFN	#10-32	1/2	5/32	5/16	3/8	3/16	14°	Super Fine	.062x90°
CL-405-GSB	CL-405-GBF	CL-405-GBFN		1/2							
CL-410-GSB	CL-410-GBF	CL-410-GBFN	1/4-20	1	1/4	3/8	7/16	7/32			
CL-415-GSB	CL-415-GBF	CL-415-GBFN		1-1/2							
CL-505-GSB	CL-505-GBF	CL-505-GBFN	5/16-18	1/2	5/16	7/16	1/2	3/8		Extra Fine	.094x90°
CL-510-GSB	CL-510-GBF	CL-510-GBFN		1							
CL-515-GSB	CL-515-GBF	CL-515-GBFN		1-1/2							

MINI — COMPLETE ASSEMBLY (METRIC)

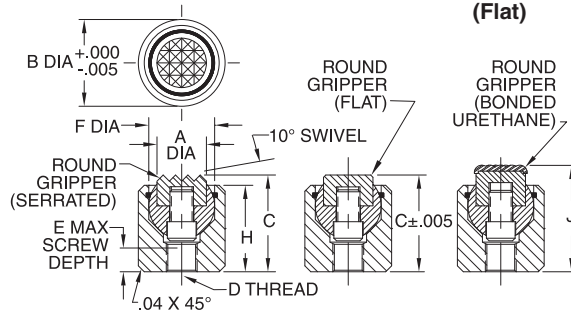
CLM-612-GSB	CLM-612-GBF	CLM-612-GBFN	M6	.47	.24	.374	10mm	.28	14°	Super Fine	.062x90°
CLM-625-GSB	CLM-625-GBF	CLM-625-GBFN		.98							
CLM-640-GSB	CLM-640-GBF	CLM-640-GBFN		1.57							
CLM-812-GSB	CLM-812-GBF	CLM-812-GBFN	M8	.47	.33	.512	13mm	.39	12°	Extra Fine	.094x90°
CLM-825-GSB	CLM-825-GBF	CLM-825-GBFN		.98							
CLM-840-GSB	CLM-840-GBF	CLM-840-GBFN		1.57							

GRIPPER SWIVEL PADS

BODY AND GRIPPER SCREW: STEEL, CARBURIZED-HARDENED, BLACK OXIDE FINISH. O-RING: RUBBER
SWIVEL BALL ON STANDARD SIZES: 440C STAINLESS STEEL, HEAT TREATED
SEE PAGES 178-179 FOR ROUND GRIPPER MATERIAL SPECIFICATIONS



Rest pad with a built-in swivel ball held by a retaining ring. A positive stop prevents the ball from swiveling too far. The swivel ball is removable to allow installing any of 11 different Round-Gripper types (order separately). Simply insert a hex wrench or rod to push the ball out from behind. Gripper Swivel Pads are available in a wide range of sizes. They can be surface-mounted or installed in a counterbored hole.



BODY AND GRIPPER — ORDER SEPARATELY (USA)

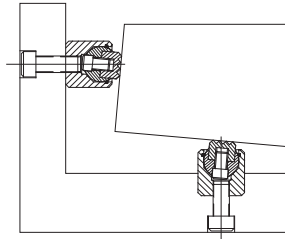
PART NO. BODY WITHOUT GRIPPER	PART NO. — ROUND GRIPPER							A DIA	B DIA	C	D	E	F DIA	H	J	SERRATIONS
	HARDENED TOOL STEEL (SERRATED)	CARBIDE TIPPED (SERRATED)	SOLID CARBIDE (SERRATED)	ABRASIVE DIAMOND	BONDED URETHANE	CARBIDE TIPPED (FLAT)	STEEL, SS, OR DELRIN® (FLAT)									
CL-6-GSP	CL-6-RG	CL-6-RGT	—	CL-6-RGD	CL-6-RGU-1 CL-6-RGU-2 CL-6-RGU-3	CL-6-RGFT	CL-6-RGF CL-6-RGF-S CL-6-RGFN	3/8	5/8	7/8	1/4-28	.24	1/2	3/4	1	XFine .094x90°
CL-8-GSP	CL-8-RG	CL-8-RGT	CL-8-RGC	CL-8-RGD	CL-8-RGU-1 CL-8-RGU-2 CL-8-RGU-3	CL-8-RGFT	CL-8-RGF CL-8-RGF-S CL-8-RGFN	1/2	13/16	1	5/16-24	.35	5/8	7/8	1-1/8	Fine .125x90°
CL-10-GSP	CL-10-RG	CL-10-RGT	CL-10-RGC	CL-10-RGD	CL-10-RGU-1 CL-10-RGU-2 CL-10-RGU-3	CL-10-RGFT	CL-10-RGF CL-10-RGF-S CL-10-RGFN	5/8	15/16	1	3/8-24	.28	3/4	7/8	1-1/8	
CL-12-GSP	CL-12-RG	CL-12-RGT	CL-12-RGC	CL-12-RGD	CL-12-RGU-1 CL-12-RGU-2 CL-12-RGU-3	CL-12-RGFT	CL-12-RGF CL-12-RGF-S CL-12-RGFN	3/4	1-1/8	1-1/16	1/2-20	.25	7/8	15/16	1-3/16	
CL-16-GSP	CL-16-RG	CL-16-RGT	—	CL-16-RGD	CL-16-RGU-1 CL-16-RGU-2 CL-16-RGU-3	CL-16-RGFT	CL-16-RGF CL-16-RGF-S CL-16-RGFN	1	1-1/2	1-3/8		.44	1-1/8	1-1/4	1-1/2	

BODY AND GRIPPER — ORDER SEPARATELY (METRIC)

CLM-10-GSP	CLM-10-RG	CLM-10-RGT	—	CLM-10-RGD	CLM-10-RGU-1 CLM-10-RGU-2 CLM-10-RGU-3	—	CLM-10-RGF CLM-10-RGF-S CLM-10-RGFN	10mm	.67	.866	M6	.29	.512	.71	.95	XFine .094x90°
CLM-12-GSP	CLM-12-RG	CLM-12-RGT	—	CLM-12-RGD	CLM-12-RGU-1 CLM-12-RGU-2 CLM-12-RGU-3	—	CLM-12-RGF CLM-12-RGF-S CLM-12-RGFN	12mm	.75	.945	M8	.33	.591	.79	1.02	Fine .125x90°
CLM-16-GSP	CLM-16-RG	CLM-16-RGT	—	CLM-16-RGD	CLM-16-RGU-1 CLM-16-RGU-2 CLM-16-RGU-3	—	CLM-16-RGF CLM-16-RGF-S CLM-16-RGFN	16mm	.94	1.102	M10	.35	.787	.95	1.18	
CLM-20-GSP	CLM-20-RG	CLM-20-RGT	—	CLM-20-RGD	CLM-20-RGU-1 CLM-20-RGU-2 CLM-20-RGU-3	—	CLM-20-RGF CLM-20-RGF-S CLM-20-RGFN	20mm	1.18	1.181	M12	.33	.906	1.02	1.26	
CLM-25-GSP	CLM-25-RG	CLM-25-RGT	—	CLM-25-RGD	CLM-25-RGU-1 CLM-25-RGU-2 CLM-25-RGU-3	—	CLM-25-RGF CLM-25-RGF-S CLM-25-RGFN	25mm	1.42	1.417	M12	.47	1.102	1.26	1.50	

GRIPPER SWIVEL PADS

BODY: STEEL, CARBURIZED-HARDENED, BLACK OXIDE FINISH
O-RING: RUBBER
SERRATED SWIVEL BALL: HIGH-SPEED TOOL STEEL, BLACK OXIDE FINISH
FLAT SWIVEL BALL: STEEL, HARDENED, BLACK OXIDE FINISH
FLAT DELRIN® SWIVEL BALL: WHITE DELRIN® 500



Gripper Swivel Pads can be surface mounted or installed in a counterbored hole.



Hardened Tool Steel (Serrated)



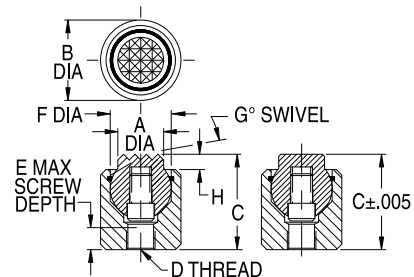
Hardened Steel (Flat)



Delrin® (Flat)

Mini sizes

Mini-size rest pad with a built-in swivel ball held by a retaining ring. Choose from the three gripper types shown, serrated or flat. The gripper face is machined directly on the swivel ball. A positive stop prevents the ball from swiveling too far. Gripper Swivel Pads can be surface mounted or installed in a counterbored hole. Available in the following body diameters from 3/8 to 5/8" (10 to 17mm in metric).



MINI — COMPLETE ASSEMBLY (USA)

PART NO. — COMPLETE			A DIA	B DIA	C	D	E	F BALL DIA	G	H	SERRATIONS	
HARDENED TOOL STEEL (SERRATED)	HARDENED STEEL (FLAT)	DELRIN® (FLAT)										
CL-3-GSPS	CL-3-GSPF	CL-3-GSPN	5/32	3/8	3/8	#4-40	1/4	3/16	14°	.062	Super Fine	.062x90°
CL-4-GSPS	CL-4-GSPF	CL-4-GSPN	1/4	7/16	7/16	#8-32	5/32	9/32	14°	.062	Extra Fine	.094x90°
CL-5-GSPS	CL-5-GSPF	CL-5-GSPN	5/16	1/2	9/16	#10-32	5/32	3/8	14°	.062	Extra Fine	.094x90°
CL-6-GSPS	CL-6-GSPF	CL-6-GSPN	3/8	5/8	15/16	1/4-28	1/4	1/2	17°	.125	Extra Fine	.094x90°

MINI — COMPLETE ASSEMBLY (METRIC)

CLM-6-GSPS	CLM-6-GSPF	CLM-6-GSPN	.24	.39	.472	M4	.14	.276	14°	.059	SFine	.062x90°
CLM-8-GSPS	CLM-8-GSPF	CLM-8-GSPN	.33	.51	.630	M5	.25	.394	12°	.059	Extra Fine	.094x90°
CLM-10-GSPS	CLM-10-GSPF	CLM-10-GSPN	.39	.67	.768	M6	.27	.512	21°	.059	Extra Fine	.094x90°

GRIPPER SWIVEL SCREWS

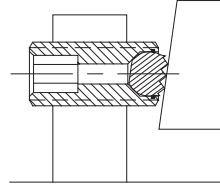
BODY: STEEL, CARBURIZED-HARDENED, BLACK OXIDE FINISH
SWIVEL BALL: HIGH-SPEED TOOL STEEL



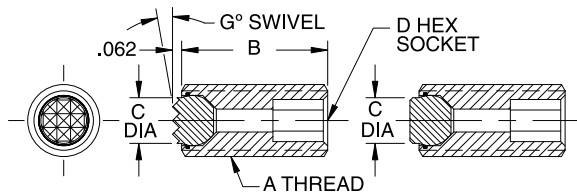
Hardened Tool Steel (Serrated)



Hardened Tool Steel (Flat)



Screw clamp with a hardened tool steel swivel ball, either serrated or flat. A positive stop prevents the ball from swiveling too far. Serrated grippers are designed to slightly penetrate the workpiece to significantly increase gripping force, rather than relying on static friction alone. Available in thread sizes from 3/8-16 to 5/8-11 (M10 to M16 in metric) each in a choice of several lengths.



COMPLETE ASSEMBLY (USA)

PART NO. — COMPLETE		A	B	C DIA	D	G	SERRATIONS	
HARDENED TOOL STEEL (SERRATED)	HARDENED TOOL STEEL (FLAT)							
CL-605-GSS	CL-605-GSF	3/8-16	1/2	5/32	3/16	14°	Super Fine	.062x90°
CL-610-GSS	CL-610-GSF		1					
CL-620-GSS	CL-620-GSF		2					
CL-810-GSS	CL-810-GSF	1/2-13	1	1/4	1/4			
CL-820-GSS	CL-820-GSF		2					
CL-830-GSS	CL-830-GSF		3					
CL-1010-GSS	CL-1010-GSF	5/8-11	1	5/16	5/16	Extra Fine	.094x90°	
CL-1020-GSS	CL-1020-GSF		2					
CL-1030-GSS	CL-1030-GSF		3					

COMPLETE ASSEMBLY (METRIC)

PART NO. — COMPLETE		A	B	C DIA	D	G	SERRATIONS	
HARDENED TOOL STEEL (SERRATED)	HARDENED TOOL STEEL (FLAT)							
CLM-1025-GSS	CLM-1025-GSF	M10	.98	.16	5mm	15°	Super Fine	.062x90°
CLM-1050-GSS	CLM-1050-GSF		1.97					
CLM-1225-GSS	CLM-1225-GSF	M12	.98	.24	6mm	14°		
CLM-1250-GSS	CLM-1250-GSF		1.97					
CLM-1625-GSS	CLM-1625-GSF	M16	.98	.33	8mm	12°	Extra Fine	.094x90°
CLM-1650-GSS	CLM-1650-GSF		1.97					