

KEYSTONE

FASTENING TECHNOLOGIES, INC



OBO BETTERMANN

STUD WELDING PRODUCTS

Stud Welding Technology
Systems • Studs • Application Engineering

CAPACITOR DISCHARGE

SHORT CYCLE

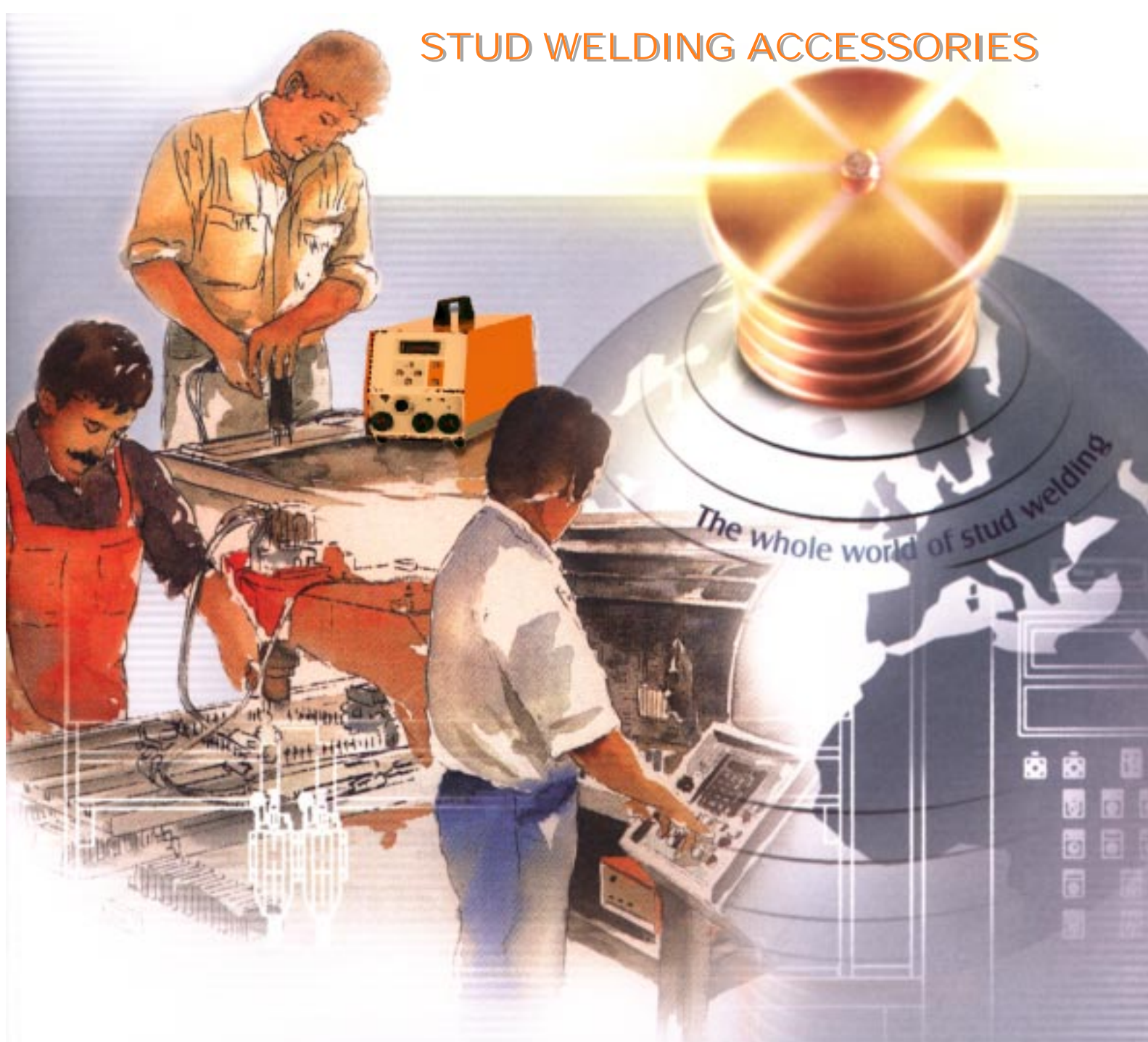
DRAWN ARC

WELD STUDS

PRODUCTION EQUIPMENT

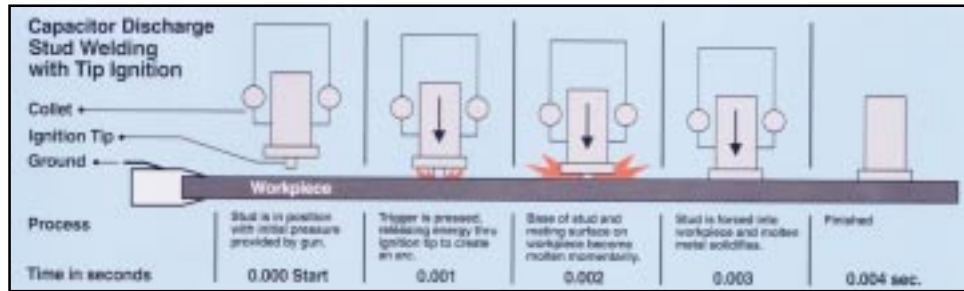
PORTABLE EQUIPMENT

STUD WELDING ACCESSORIES



CAPACITOR DISCHARGE

The Process



CAPACITOR DISCHARGE STUD WELDING

Capacitor Discharge (CD) stud welding is an extremely efficient method of welding fasteners to a wide variety of metals like mild steel, stainless steel, aluminum, brass, copper, titanium, etc. The process utilizes a powerful bank of capacitors to store energy at a specific voltage determined by stud size and material. When a weld is initiated, this energy is “discharged” through a special “ignition tip” at the base of the stud, creating an instantaneous arc which melts both the base of the stud and the adjoining surface on the workpiece. At the same time, the welding gun forces the stud into the workpiece, resulting in a permanent bond as the molten material solidifies.....all in 0.004 seconds!

Capacitor Discharge stud welding eliminates drilling, tapping, punching, riveting, gluing, and screwing, and is especially beneficial when working with thin gauge materials due to the absence of reverse-side marring or discoloration. This process is suitable for studs ranging in size from #4-40 (M3) thru 3/8-16 (M10).

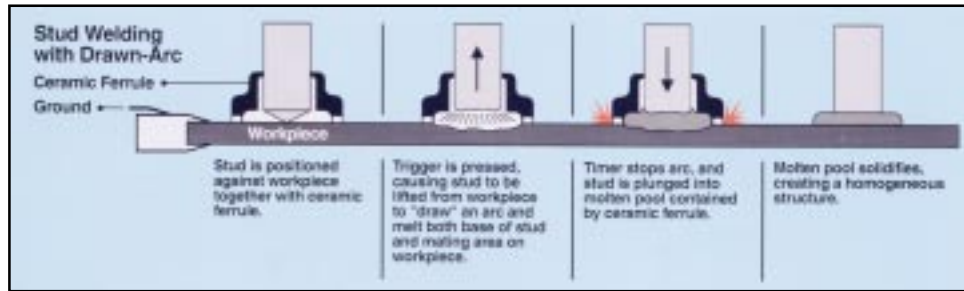
Several standard handgun models are available from stock to accommodate routine applications, while automated production systems are available on a custom-designed basis for high-volume applications.

Additionally, a complete range of standard US and Metric studs is readily available from stock in mild steel, stainless steel, and aluminum, while non-standard stud designs and alloys are available upon request.



DRAWN ARC & SHORT CYCLE

The Process



DRAWN-ARC STUD WELDING

Drawn-arc stud welding is an extremely efficient method of attaching fasteners primarily to mild steel and stainless steel by utilizing a constant-current DC power supply, typically a 3-phase transformer-rectifier, equipped with integral controls to operate a special drawn-arc stud welding gun. When a weld is initiated, current begins to flow through the stud while the weld gun simultaneously lifts the stud to “draw an arc”, which melts the base of the stud and adjoining surface on the workpiece. Upon completion of the weld time, the gun plunges the stud back to the workpiece, resulting in a permanent bond as the molten material solidifies.....all in less than one second.

In general, the drawn-arc process is capable of welding a broad range of stud diameters (up thru 1-¼” or 32 mm) and to almost any material thickness above 0.040” (1 mm). To accommodate such a broad range, the process is actually split into two categories: Standard Drawn-Arc and Short-Cycle.

Standard drawn-arc is used with studs ¼” (6 mm) diameter and larger, and base material thicknesses at least 1/3 the stud diameter. This process requires the use of flux-loaded studs and ceramic ferrules, included with the studs, to contain the molten material during the weld and form a fillet around the stud base.

Short-cycle is an abbreviated version of drawn-arc for studs 3/8” (10 mm) and smaller, especially when welding to base materials as thin as 1/5 the stud diameter. With this method, the weld current is usually much higher and weld time much shorter (short-cycle), resulting in lighter penetration and less molten material, thereby eliminating the need for ceramic ferrules and flux-loaded studs, though shielding gas is often recommended.

Several standard handgun models are available from stock to accommodate routine applications, while automated production systems are available on a custom-designed basis for high-volume applications.

Additionally, a complete range of standard US and Metric studs is readily available from stock in mild steel and stainless steel, while non-standard stud designs and alloys are available upon request.

CAPACITOR DISCHARGE
Equipment



DIGITAL
BS 308/318 CD Stud Welder



ANALOG
TS 308/318 CD Stud Welder



Stud Welding Systems Include:
Twin "Quick Adjust" Ground Clamps
& Precision Handgun

TS/BS 308 SYSTEM

Welding Range: 4-40 thru 5/16-18 (M2.5 thru M8)
 Weld Rate: Up to 30 Studs/min.
 Recommended Materials: Mild Steel, Stainless Steel, & Aluminum (thru 1/4-20)
 Dimensions: 7-1/2" x 11-3/8" x 17" (19.2 x 22.8 x 43) CM
 Weight: 22 lbs. (10 kg)
 Input Power: 110 thru 230 VAC 50 thru 100 Hz
 Output Power: 40 thru 200 VDC, Stepless
 Capacitance: 66,000 Mfd.
 Weld Gun: TSK 310 with 15 ft. cable

TS/BS 318 SYSTEM

Welding Range: 4-40 thru 3/8-16 (M2.5 thru M10)
 Weld Rate: Up to 30 Studs/min.
 Recommended Materials: Mild Steel, Stainless Steel, & Aluminum (thru 1/4-20)
 Dimensions: 7-1/2" x 11-3/8" x 17" (19.2 x 22.8 x 43) CM
 Weight: 26 lbs. (12 kg)
 Input Power: 110 thru 230 VAC 50 thru 100 Hz
 Output Power: 40 thru 200 VDC, Stepless
 Capacitance: 110,000 Mfd.
 Weld Gun: TSK 310 with 15 ft. cable



CAPACITOR DISCHARGE Weld Chucks & Accessories







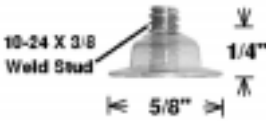


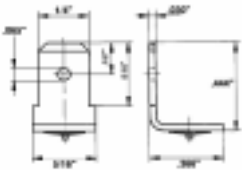

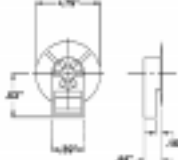
Weld Chucks, Collets & Accessories	Size	Part Number
<p>Tapered Base Chuck</p> 	<p>4-40 (12 SWG) 6-32 (10 SWG) 8-32 #10 1/4 5/16 3/8</p>	<p>4181101 4181351 4181601 4181871 4182501 4183121 4183751</p>
<p>B-Collet</p>  <p>B-Stop</p> 	<p>4-40 (12 SWG) 6-32 (10 SWG) 8-32 #10 1/4 5/16 3/8 Universal B-Stop</p>	<p>4181103 4181353 4181603 4181873 4182503 4183123 4183753 418STOP</p>
<p>B-Collet Long (Nelson)</p> 	<p>4-40 (12 SWG) 6-32 (10 SWG) 8-32 #10 1/4 5/16 3/8</p>	<p>4181104 4181354 4181604 4181874 4182504 4183124 4183754</p>
<p>COLLET INSERTS</p> 	<p>6-32 x 1/4" 6-32 x 3/8" 6-32 x 1/2" 6-32 x 5/8" 6-32 x 3/4" 6-32 x 1" 8-32 x 1/4" 8-32 x 3/8" 8-32 x 1/2" 8-32 x 5/8" 8-32 x 3/4" 8-32 x 1" #10 x 1/4" #10 x 3/8" #10 x 1/2" #10 x 5/8" #10 x 3/4" #10 x 1" 1/4-20 x 1/4" 1/4-20 x 3/8" 1/4-20 x 1/2" 1/4-20 x 5/8" 1/4-20 x 3/4" 1/4-20 x 1"</p>	<p>418135A 418135B 418135C 418135D 418135E 418135F 418160A 418160B 418160C 418160D 418160E 418160F 418187A 418187B 418187C 418187D 418187E 418187F 418250A 418250B 418250C 418250D 418250E 418250F</p>

CAPACITOR DISCHARGE
Weld Chucks & Accessories

Weld Chucks, Collets & Accessories	Size	Part Number
<p>Ground Spade Terminal Chuck</p> 	One Size	4016718
<p>Spark Shield</p> 	1.16" Dia.	4170203
<p>HP TSK 310 Template Adapter</p> 	30 mm Dia.	4019792
<p>TriPod Leg Set w/ Ring</p> 	30 mm Dia. Single Leg Only	4019938 4019946
<p>Med. Twin Leg w/ FootPiece</p> 	Footpiece Med. 5/16" X 7'	4170301 4170001
<p>B-Collet Adapter</p>  <p>Internal External</p>	Internal External	4170103 4170102
<p>Tapered Base Chuck Adapter</p> 	External	4170101



Miscellaneous Accessories

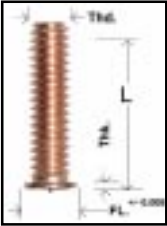
Description	Size	Part Number
<p>Non-Flanged CD Pins</p> 	<p>3/16 Dia. X 1/2" & 1/4 Dia. X 1/2" Stainless Steel</p>	<p>NTS1875000 NTS2505000</p>
<p>Stainless Steel Keyhole Stud</p> 		<p>NTS4370250</p>
<p>Dome CapNuts</p> 		<p>Zinc Plated DCNZ625562 Nickel Plated DCNN625562 Nickel Plated w/ Rubber Seal DCNNR625562</p>
<p>Cap Nuts</p> 		<p>Zinc Plated CNC62505562</p>
<p>CD Insulation Pins & Speed Washer</p> 	<p>CD Insulation Pins 12 Ga. (.104 Dia.) & 10 Ga. (.135 Dia.) up to 10" In Length Mild Steel & Stainless Steel</p> <p>Speed Washers 12 Ga. Mild Steel Gavanized</p>	<p>Call For Part Number on Pins</p> <p>IPW12 IPW10</p>
<p>Grounding Stud/ Spade Terminal</p>  <p>Installed with Stud Welder</p>		<p>4200314</p>
<p>Wire Tie Clips</p>  <p>Press on/Screw off #10-24 X3/8 Weld Stud</p>		<p>4016963</p>

CAPACITOR DISCHARGE

Weld Studs (UNC & UNF)

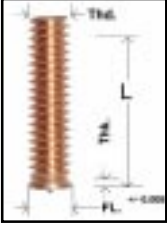
Flanged CD Weld Studs

Thread Size (in.)	Length (in.)	Flanged Mild Steel (copper plated) (1008-1010)		Flanged Stainless Steel (304/305)		Flanged Aluminum (5754)	
		Order Number	Price	Order Number	Price	Order Number	Price
4-40	1/4	4082605		4082710			
4-40	3/8	4082613		4082729			
4-40	1/2	4082621		4082737			
4-40	5/8	4082648		4082745			
4-40	3/4	4082656		4082753			
4-40	7/8	4082664		4082761			
4-40	1"	4082672		4082788			
6-32	1/4	4082990		4083490			
6-32	3/8	4083008		4083504		4084004	
6-32	1/2	4083016		4083512		4084012	
6-32	5/8	4083024		4083520		4084020	
6-32	3/4	4083040		4083547		4084047	
6-32	7/8	4083032		4083539		4084039	
6-32	1"	4083059		4083555		4084055	
6-32	1-1/4	4083067		4083563			
6-32	1-1/2	4083075		4083571			
8-32	1/4	4083091		4083598		4084098	
8-32	3/8	4083105		4083601		4084101	
8-32	1/2	4083113		4083628		4084128	
8-32	5/8	4083121		4083636		4084136	
8-32	3/4	4083156		4083652		4084152	
8-32	7/8	4083148		4083644		4084144	
8-32	1"	4083164		4083660		4084160	
8-32	1-1/4	4084500		4085570		4086503	
8-32	1-1/2	4084519		4085515		4086511	
10-24	1/4	4083199		4083695		4084195	
10-24	3/8	4083202		4083709		4084209	
10-24	1/2	4083210		4083717		4084217	
10-24	5/8	4083229		4083725		4084225	
10-24	3/4	4083245		4083741		4084241	
10-24	7/8	4083237		4083733		4084233	
10-24	1"	4083253		4083768		4084268	
10-24	1-1/4	4083318		4083776		4084284	
10-24	1-1/2	4083326		4083784		4084292	
10-24	1-3/4	4084578		4085582		4086600	
10-24	2"	4084586		4085590		4086619	
10-32	1/4	4085000		4086007		4087003	
10-32	3/8	4085019		4086015		4087011	
10-32	1/2	4085027		4086023		4087038	
10-32	5/8	4085035		4086031		4087046	
10-32	3/4	4085043		4086058		4087054	
10-32	7/8	4085051		4086066		4087062	
10-32	1"	4085078		4086074		4087070	
10-32	1-1/4	4085086		4086082		4087086	
10-32	1-1/2	4085094		4086090		4087097	
10-32	1-3/4	4085108		4086104		4087100	
10-32	2"	4085116		4086112		4087119	
1/4-20	1/4	4084624		4083792		4088414	
1/4-20	3/8	4084632		4083806		4084322	
1/4-20	1/2	4083334		4083814		4084330	
1/4-20	5/8	4083342		4083822		4084349	
1/4-20	3/4	4083350		4083830		4084357	
1/4-20	7/8	4083369		4083857		4084365	
1/4-20	1"	4083377		4083865		4084373	
1/4-20	1-1/4	4083385		4083873		4084381	
1/4-20	1-1/2	4083393		4083881		4084403	
1/4-20	1-3/4	4083415		4083903		4084411	
1/4-20	2"	4083423		4083911		4084438	
5/16-18	1/2	4085213		4086228			
5/16-18	5/8	4085221		4086236			
5/16-18	3/4	4085248		4086244			
5/16-18	7/8	4085256		4086252			
5/16-18	1"	4085264		4086260			
5/16-18	1-1/4	4085272		4086279			
5/16-18	1-1/2	4085280		4086287			
5/16-18	1-3/4	4085299		4086295			
5/16-18	2"	4085302		4086309			



Technical Specifications Flanged CD Weld Studs

Thd.	FL.	Thk.
4-40	.172	.030
6-32	.197	.030
8-32	.218	.030
10-24	.250	.030
10-32	.250	.030
1/4-20	.312	.030
5/16-18	.350	.035



Technical Specifications Non-Flanged CD Weld Studs

Thd.	FL.	Thk.
6-32	.145	.030
8-32	.171	.030
10-24	.194	.030
10-32	.194	.030
1/4-20	.253	.030

Non-Flanged CD Weld Studs

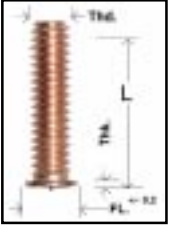
Thread Size (in.)	Length (in.)	Non-Flanged Mild Steel (copper plated) (1008-1010)		Non-Flanged Stainless Steel (304/305)	
		Order Number	Net Price Per Box	Order Number	Net Price Per Box
6-32	1/4	4088506		4087704	
6-32	3/8	4088514		4087712	
6-32	1/2	4088522		4087720	
6-32	5/8	4088530		4087739	
6-32	3/4	4088549		4087747	
6-32	7/8	4088557		4087755	
6-32	1"	4088565		4087763	
8-32	1/4	4088603		4087801	
8-32	3/8	4088611		4087828	
8-32	1/2	4088638		4087836	
8-32	5/8	4088646		4087844	
8-32	3/4	4088654		4087852	
8-32	7/8	4088662		4087860	
8-32	1"	4088670		4087879	
10-24	1/4	4088700		4087984	
10-24	3/8	4088719		4087992	
10-24	1/2	4088727		4088018	
10-24	5/8	4088735		4088026	
10-24	3/4	4088743		4088034	
10-24	7/8	4088751		4088042	
10-24	1"	4088778		4088050	
10-32	1/4	4088808		4088107	
10-32	3/8	4088816		4088115	
10-32	1/2	4088824		4088123	
10-32	5/8	4088832		4088131	
10-32	3/4	4088840		4088158	
10-32	7/8	4088859		4088166	
10-32	1"	4088867		4088174	
1/4-20	1/4	4089006		4088301	
1/4-20	3/8	4089014		4088328	
1/4-20	1/2	4089022		4088336	
1/4-20	5/8	4089030		4088344	
1/4-20	3/4	4089049		4088352	
1/4-20	7/8	4089057		4088360	
1/4-20	1"	4089065		4088379	

Note: Other sizes, lengths, no-thread pins, and materials are available upon request. Contact Nationwide Sales at 800-659-5972.



CAPACITOR DISCHARGE Weld Studs (Metric)

PRODUCTION EQUIPMENT



Technical Specifications
Metric Flanged CD Weld Studs

Thd.	FL.	Thk.
M3	4.5 mm	.7 mm
M4	5.5 mm	.7 mm
M5	6.5 mm	.8 mm
M6	7.5 mm	1.0 mm
M8	9.0 mm	1.0 mm

Metric Flanged CD Weld Studs

Thread Size (MM)	Length (MM)	Flanged Mild Steel (copper plated) (1008-1010)		Flanged Stainless Steel (304/305)		Flanged Aluminum (5754)	
		Order Number	Net Price Per 1000	Order Number	Net Price Per 1000	Order Number	Net Price Per 1000
M3	6	4028104		4030109		4034104	
M3	8	4028112		4030117		4034112	
M3	10	4028120		4030125		4034120	
M3	12	4028139		4030133		4034139	
M3	16	4028813		4030826		4034813	
M3	20	4028155		4030168		4034155	
M3	25	4028163		4030176		4034163	
M3	30	4028171		4030087		4034171	
M4	6	4028198		4030281		4034295	
M4	8	4028201		4030206		4034201	
M4	10	4028228		4030214		4034228	
M4	12	4028236		4030222		4034236	
M4	16	4028821		4030834		4034821	
M4	20	4028252		4030249		4034252	
M4	25	4028260		4030257		4034260	
M4	30	4028279		4030265		4034279	
M4	35	4028287		4030273		4034287	
M5	8	4028309		4030303		4034309	
M5	10	4028317		4030311		4034317	
M5	12	4028325		4030338		4034325	
M5	16	4028848		4030842		4034848	
M5	20	4028341		4030354		4034341	
M5	25	4028368		4030362		4034368	
M5	30	4028376		4030370		4034376	
M5	35	4028384		4030389		4034384	
M5	40	4028392		4030397		4034392	
M6	8	4028406		4030400		4034406	
M6	10	4028414		4030419		4034414	
M6	12	4028422		4030427		4034422	
M6	16	4028856		4030850		4034856	
M6	20	4028449		4030443		4034449	
M6	25	4028457		4030451		4034457	
M6	30	4028465		4030478		4034465	
M6	35	4028473		4030486		4034473	
M6	40	4028481		4030494		4034481	
M6	45	4028503		4030508		4034503	
M6	50	4028503		4030516		4034511	
M8	12	4028937		4030907			
M8	16	4028872		4030869			
M8	20	4028627		4030621			
M8	25	4028635		4030648			
M8	30	4028643		4030656			
M8	35	4028651		4030664			
M8	40	4028678		4030672			
M8	45	4028686		4030680			
M8	50	4028694		4030702			

High volume stud welding with a portable system can be monotonous and time consuming where quality and accuracy is sometimes sacrificed due to operator fatigue.

All production stud welding systems are designed to save time and money producing consistent weld quality, repeatable locational accuracy at a fraction of the time. From a small Table-Top System to a fully integrated CNC controllable system, our technical sales staff can configure a system to suit your requirements.

The SIK-2 Stud Welding Head can be mounted in almost any position utilizing drop load or an ABZ Stud Feeding System at a welding rate of up to 50 stud/min. All systems utilize our standard, off the shelf components, with spare parts readily available minimizing any downtime.



DRAWN ARC/SHORT CYCLE
The Process/Equipment



DS 310



DS 312



HP 312

Stud Welding Systems Include:
"Quick Adjust" Ground Clamp
Precision Handgun

DS 310 Specifications

Welding Range: 4-40 thru 3/8-16
(M3 thru M12)
Weld Rate: Up to 15 Studs/min.
Recommended Materials: Mild Steel & Stainless Steel
Dimensions: 25-1/2" x 12" x 18"
(65 x 30 x 45) CM
Weight: 105 lbs. (48 kg)
Input Power: 208/230/460 VAC
Three-Phase 50/60 Hz
Fusing: 50/25/15 amps
Output Power: 100 thru 600 VDC, Stepless
Weld Gun: HP 312 with 25 ft. cable

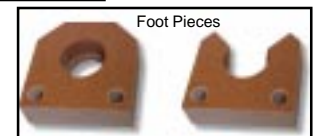
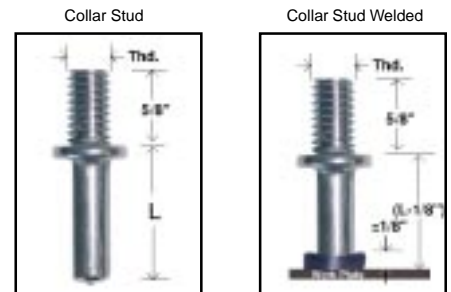
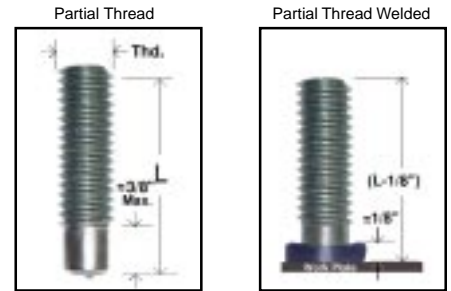
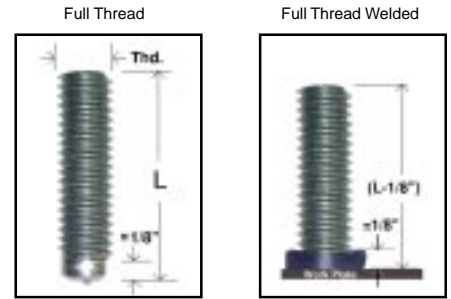
DS 312 Specifications

Welding Range: 4-40 thru 1/2-13
(M3 thru M14)
Weld Rate: Up to 15 Studs/min.
Recommended Materials: Mild Steel & Stainless Steel
Dimensions: 25-1/2" x 12" x 18"
(65 x 30 x 45) CM
Weight: 151 lbs. (69 kg)
Input Power: 208/230/460 VAC
Three-Phase 50/60 Hz
Fusing: 50/50/35 amps
Output Power: 100 thru 900 VDC, Stepless
Weld Gun: HP 312 with 25 ft. cable



DRAWN ARC Weld Studs & Equipment Accessories

Mild Steel (1008-1018)							Stainless Steel (18-8)				
Thread Size (in.)	Length Before Weld	Order Number Full Thread	Order Number Partial Thread	Net Price 100 pcs Price/C	Net Price 500 pcs Price/C	Net Price 1000 pcs Price/M	Order Number Full Thread	Order Number Partial Thread	Net Price 100 pcs Price/C	Net Price 500 pcs Price/C	Net Price 1000 pcs Price/M
1/4-20	3/4	FTC2500750	PTC2500750				FTS2500750	PTS2500750			
1/4-20	7/8	FTC2500875	PTC2500875				FTS2500875	PTS2500875			
1/4-20	1"	FTC2501000	PTC2501000				FTS2501000	PTS2501000			
1/4-20	1-1/8	FTC2501125	PTC2501125				FTS2501125	PTS2501125			
1/4-20	1-3/8	FTC2501375	PTC2501375				FTS2501375	PTS2501375			
1/4-20	1-5/8	FTC2501625	PTC2501625				FTS2501625	PTS2501625			
1/4-20	1-7/8	FTC2501875	PTC2501875				FTS2501875	PTS2501875			
1/4-20	2-1/8	FTC2502125	PTC2502125				FTS2502125	PTS2502125			
1/4-20	2-1/4	FTC2502250	PTC2502250				FTS2502250	PTS2502250			
1/4-20	2-1/2	FTC2502500	PTC2502500				FTS2502500	PTS2502500			
5/16-18	3/4	FTC3120750	PTC3120750				FTS3120750	PTS3120750			
5/16-18	7/8	FTC3120875	PTC3120875				FTS3120875	PTS3120875			
5/16-18	1"	FTC3121000	PTC3121000				FTS3121000	PTS3121000			
5/16-18	1-1/8	FTC3121125	PTC3121125				FTS3121125	PTS3121125			
5/16-18	1-3/8	FTC3121375	PTC3121375				FTS3121375	PTS3121375			
5/16-18	1-5/8	FTC3121625	PTC3121625				FTS3121625	PTS3121625			
5/16-18	1-7/8	FTC3121875	PTC3121875				FTS3121875	PTS3121875			
5/16-18	2-1/8	FTC3122125	PTC3122125				FTS3122125	PTS3122125			
5/16-18	2-1/4	FTC3122250	PTC3122250				FTS3122250	PTS3122250			
5/16-18	2-1/2	FTC2502500	PTC3122500				FTS2502500	PTS3122500			
3/8-16	3/4	FTC3750750	PTC3750750				FTS3750750	PTS3750750			
3/8-16	7/8	FTC3750875	PTC3750875				FTS3750875	PTS3750875			
3/8-16	1"	FTC3751000	PTC3751000				FTS3751000	PTS3751000			
3/8-16	1-1/8	FTC3751125	PTC3751125				FTS3751125	PTS3751125			
3/8-16	1-3/8	FTC3751375	PTC3751375				FTS3751375	PTS3751375			
3/8-16	1-5/8	FTC3751625	PTC3751625				FTS3751625	PTS3751625			
3/8-16	1-7/8	FTC3751875	PTC3751875				FTS3751875	PTS3751875			
3/8-16	2-1/8	FTC3752125	PTC3752125				FTS3752125	PTS3752125			
3/8-16	2-3/8	FTC3752375	PTC3752375				FTS3752375	PTS3752375			
3/8-16	2-5/8	FTC3752625	PTC3752625				FTS3752625	PTS3752625			
3/8-16	2-3/4	FTC3752750	PTC3752750				FTS3752750	PTS3752750			
3/8-16	3"	FTC3753000	PTC3753000				FTS3753000	PTS3753000			
1/2-13	3/4	FTC5000750	PTC5000750				FTS5000750	PTS5000750			
1/2-13	1"	FTC5001000	PTC5001000				FTS5001000	PTS5001000			
1/2-13	1-1/8	FTC5001125	PTC5001125				FTS5001125	PTS5001125			
1/2-13	1-3/8	FTC5001375	PTC5001375				FTS5001375	PTS5001375			
1/2-13	1-5/8	FTC5001625	PTC5001625				FTS5001625	PTS5001625			
1/2-13	1-3/4	FTC5001750	PTC5001750				FTS5001750	PTS5001750			
1/2-13	2-1/8	FTC5002125	PTC5002125				FTS5002125	PTS5002125			
1/2-13	2-1/4	FTC5002250	PTC5002250				FTS5002250	PTS5002250			
1/2-13	2-5/8	FTC5002625	PTC5002625				FTS5002625	PTS5002625			
1/2-13	2-3/4	FTC5002750	PTC5002750				FTS5002750	PTS5002750			
1/2-13	3"	FTC5003000	PTC5003000				FTS5003000	PTS5003000			
5/8-11	1-1/8	FTC6251125	PTC6251125				FTS6251125	PTS6251125			
5/8-11	1-3/8	FTC6251375	PTC6251375				FTS6251375	PTS6251375			
5/8-11	1-5/8	FTC6251375	PTC6251375				FTS6251375	PTS6251375			
5/8-11	1-3/4	FTC6251750	PTC6251750				FTS6251750	PTS6251750			
5/8-11	2"	FTC6252000	PTC6252000				FTS6252000	PTS6252000			
5/8-11	2-1/4	FTC6252250	PTC6252250				FTS6252250	PTS6252250			
5/8-11	2-1/2	FTC6252500	PTC6252500				FTS6252500	PTS6252500			
5/8-11	2-3/4	FTC6252750	PTC6252750				FTS6252750	PTS6252750			
5/8-11	3"	FTC6253000	PTC6253000				FTS6253000	PTS6253000			

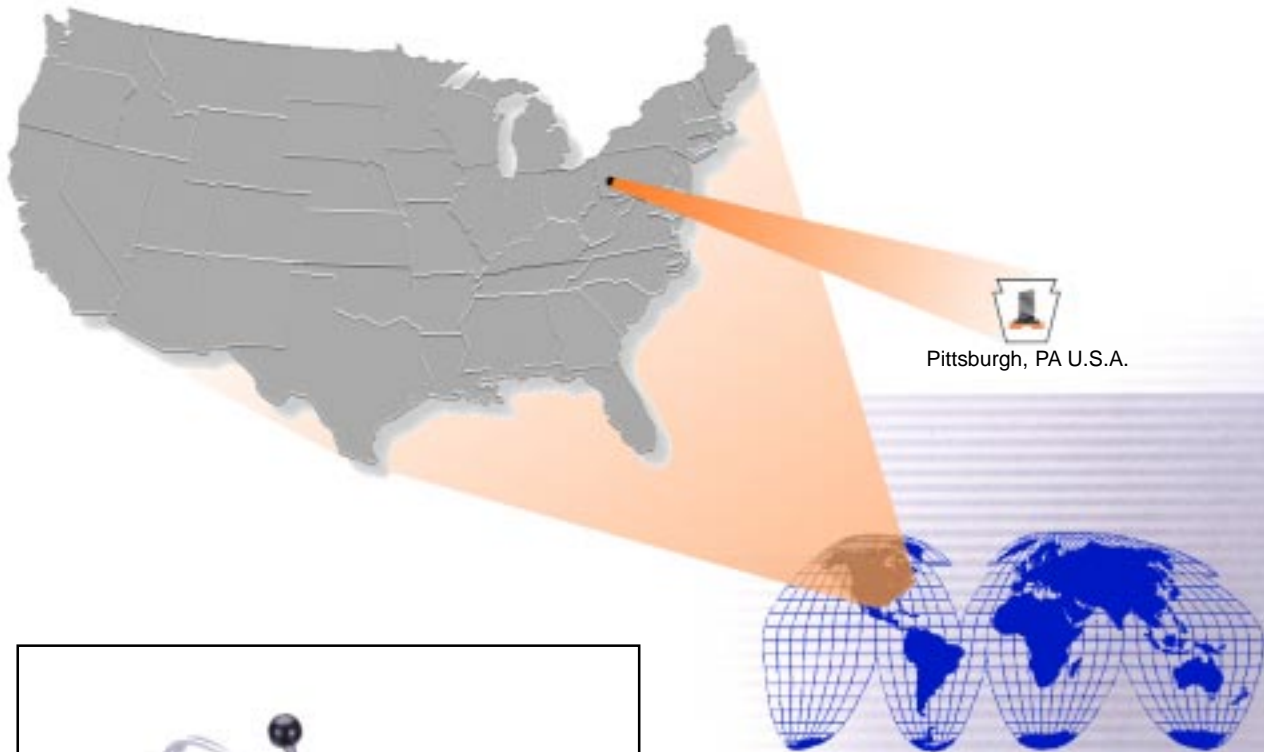


Collar Studs

				Mild Steel (1008-1018)			Stainless Steel (18-8)				
"Thd." Thread Size	Thread Length	Shank Diameter	"L" Length to Top of Collar	Order Number	Net Price 100 pcs Price/C	Net Price 500 pcs Price/C	Net Price 1000 pcs Price/M	Order Number	Net Price 100 pcs Price/C	Net Price 500 pcs Price/C	Net Price 1000 pcs Price/M
3/8-18	5/8	.330	5/8	CLC3300625				CLS3300625			
3/8-16	5/8	.330	1-1/8	CLC3301125				CLS3301125			
3/8-16	5/8	.330	19/32	CLC3300593				CLS3300593			
3/8-16	5/8	.330	1-3/32	CLC3301093				CLS3301093			

Short Cycle Only
Short Cycle Only

Note: All stud lengths are before weld. Typical burn off of 1/8" on studs up to 1/2 Dia. and 3/16" burn off on studs 5/8 Dia. and above. Other sizes are available upon request. Contact Nationwide Sales at 800-659-5972.



SPM Manual Support Column
TS310 or HP312 Weld Gun Sold Separately



CNC Custom Production Equipment

KEYSTONE FASTENING TECHNOLOGIES, INC
409 PARKWAY VIEW DRIVE • PITTSBURGH, PA 15205
Ph. 800-659-5972 • Ph. 412-787-5970 • Fax. 412-788-6627