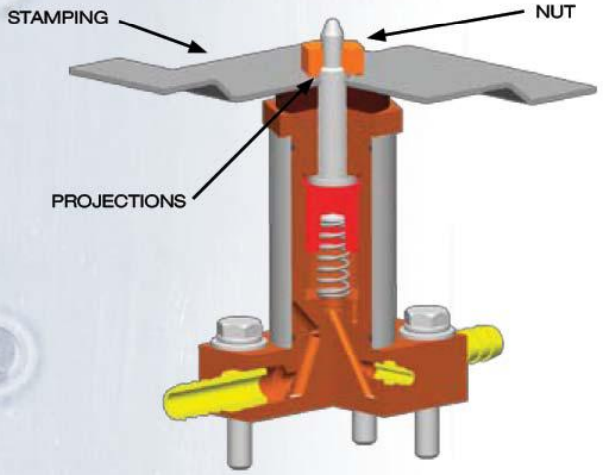
centerline®

STUD & WELD NUT ELECTRODES

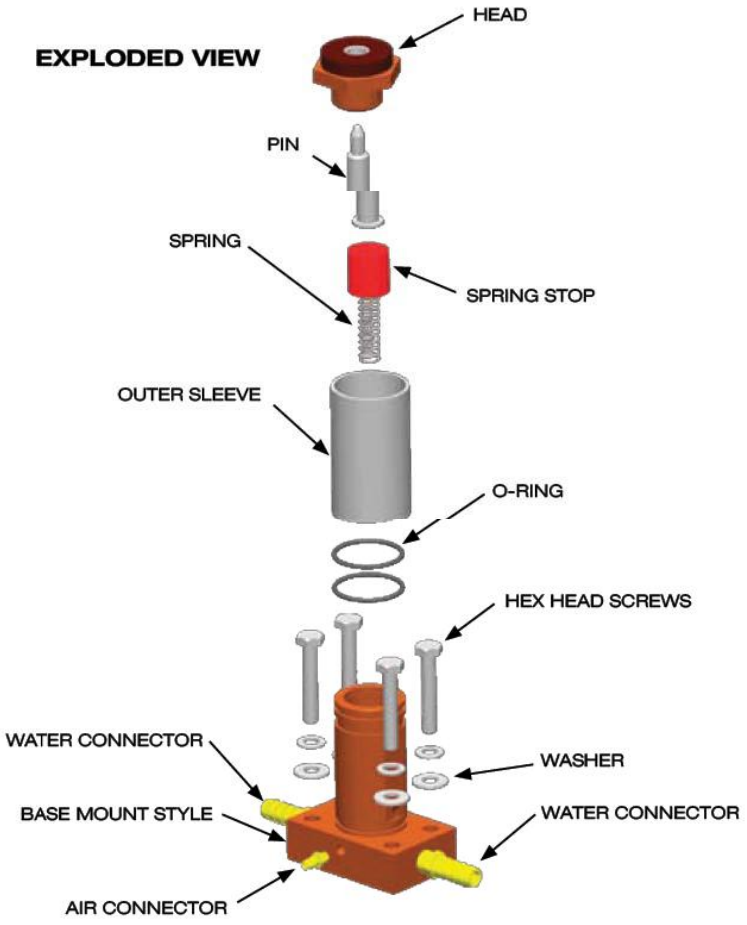
CenterLine manufactures a wide variety of stud & nut welding electrodes. The high quality design and assembly provides a number of features, and benefits including:

- Accurate on center positioning of pilotless nuts provded automatically.
- Insulated pin and sleeve prevents pin arcing in the threads.
- Unit converts from welding nuts to studs in secondsby removal of pilot pin and/or welding head.
- Used by automotive, mass transit, farm implement, stamping and appliance manufacturers.
- Internal water cooling reduces heat build-up.
- Minimum maintenance.

SECTION ASSEMBLY VIEW



EXPLODED VIEW



Spare Parts List (Not including Pin or Head)

Spring Stop

U2	SPRINGSTOP-U2
X2	SPRINGSTOP-X2
U3	SPRINGSTOP-U3
X3	SPRINGSTOP-X3
U4	SPRINGSTOP-U4
X4	SPRINGSTOP-X4

Spring

U2	SPRING037013050
U3 & U4	SPRING037025075
X2	SPRING037032100
X3 & X4	SPRING037034125

Screw Insulator
230-012

O-Ring Set
CL-206, CL-306, CL-406

Screw Insulator Washer
W-203NP

Water Tube
CLT-308-32
(1/4-28 thread; 4" long, 1/8" increments)

Water Connector
RW-1015

Air Connector
BF1

STUD & WELD NUT ELECTRODES

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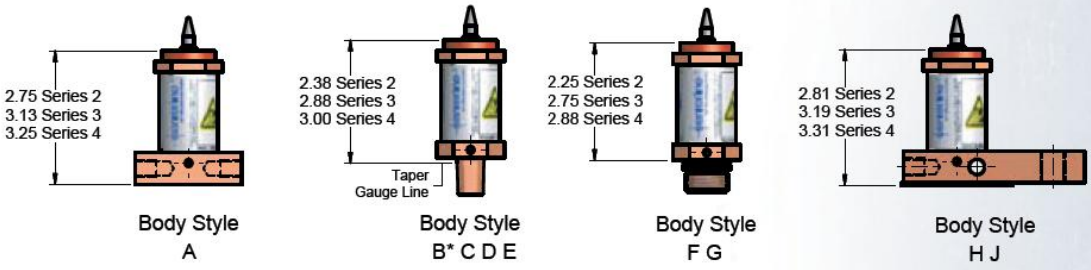
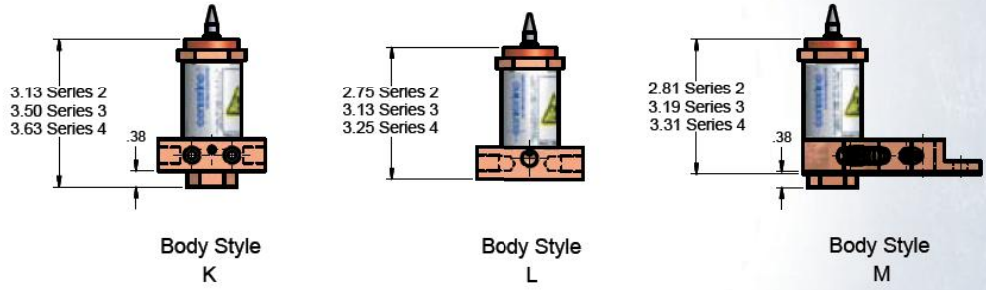
Stud & Weld Nut Model Number Breakdown

CODING EXAMPLE

			LENGTH	USE **U** FOR STANDARD LENGTH (SHOWN BELOW) USE X FOR EXTENDED LENGTH (.50 (12.70) LONGER THAN STANDARD LENGTH)
			BODY STYLE	USE A FOR BASE MOUNT USE B FOR 4 RW TAPER USE **C** FOR 5 RW TAPER USE D FOR 6 RW TAPER USE E FOR 7 RW TAPER USE F FOR 7/8-14 THREAD USE G FOR 1-12 THREAD USE H FOR BASE MOUNT WITH CABLE LUG (17/32" clearance hole for 1/2 screw) USE J FOR BASE MOUNT WITH CABLE LUG (Tapped hole for 1/2-13 screw) USE K FOR BASE MOUNT WITH CONTACT (CL-200-37) USE L FOR BASE MOUNT WITH LARGER AIR PORT (1/8 NPT USE M FOR MODIFIED BASE MOUNT (Allows close mounting of mulitiple units)
			SERIES	USE 2 FOR SERIES 2 (.88" WELD FACE) USE **3** FOR SERIES 3 (1.25" WELD FACE) USE 4 FOR SERIES 4 (1.50" WELD FACE) USE R2 FOR RETRACTABLE PIN SERIES 2 (.88" WELD FACE) USE R3 FOR RETRACTABLE PIN SERIES 3 (1.25" WELD FACE) USE R4 FOR RETRACTABLE PIN SERIES 4 (1.50" WELD FACE) **Note:** *Leave blank if generating a complete nut or stud welding unit because information is contained in the pin or head number.*
			COMPONENTS	USE **NHP** FOR UNIT WITH NO HEAD OR PIN USE GENERATED PIN # FOR COMPLETE NUT WELDING UNIT USE GENERATED HEAD # FOR COMPLETE STUD WELDING UNIT
U	C	3	NHP	Standard Length with 5 RW Body Style Retractable Series 3 with no Head or Pin.
X	A		GH3050T125417	Extended Length, Base Mount Style, head #. This describes a complete stud welding unit.
U	G		P2A3482700525	Standard Length, 1-12 Threaded Body Style, pin #. This describes a complete nut welding unit.

STANDARD LENGTH OF SERIES BODY STYLES





***Note: On Body Style 'B' add .25 to length shown.**

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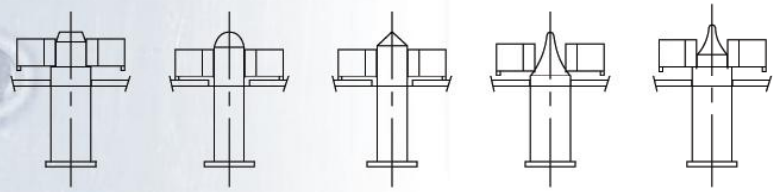
STUD & WELD NUT ELECTRODES

Manual Load Weld Nut Pins

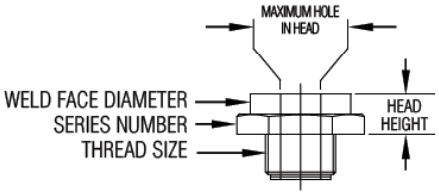
PinType	Description
GP	Stainless Steel Pin, Supported by spring and/or air
CP	Coated, D2 Steel Pin, Supported by spring and/or air
RP	Retractable, Stainless Steel Pin, Movement controlled by Air Pressure only, Special Application please contact CenterLine
KP	Coated Retractable, D2 Steel Pin, Movement controlled by Air Pressure only, Special Application please contact CenterLine

Series	Thread Size	Weld Face Diameter	Hex Size	Maximum Hole in Head*	Head Height
2	5/8-18	7/8 Standard	1	0.427 (10.85) ID	0.500
3	7/8-14	1-1/4 Standard	1-3/8	0.642 (16.31) ID	0.500
4	1-1/8-12	1-1/2 Standard	1-5/8	0.852 (21.64) ID	0.625
*Special weld nut electrodes are available for larger IDs and areas with clearance restrictions.					

Nose Type	Description
A	Preferred when locating nut and stamping, no stamping contact during weld, no hole in upper electrode
B	Preferred when locating nut only, no stamping contact, no hole in upper electrode
C	Preferred when locating nut only, no stamping contact, no hole in upper electrode
D	Locates nut at a point on the pin nose. upper electrode requires clearance hole for pin tip
E	Preferred when locating nut and stamping, no hole in upper, good for hard to load applications

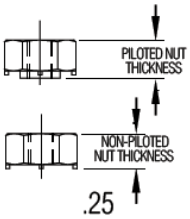


NOSE TYPE A NOSE TYPE B NOSE TYPE C NOSE TYPE D NOSE TYPE E

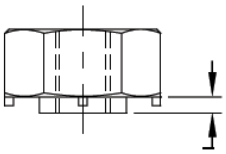


APPLICATION SIZES

EXAMPLE



CAUTION



DO NOT SELECT B & C NOSE TYPES WHEN PILOT THICKNESS EXCEEDS STAMPING THICKNESS.

Generate Your Own Number (Total 14 Characters)

Example	GP	2	A	348	270	05	25
Breakdown	Pin Type	Series Number	Nose Type	Hole in Stamping -.005" (3 Dec.) - see note below	Hole in Nut -.005" (3 Dec.) - see note below	Stamping Thickness (2 Dec.)	Nut Thickness (2 Dec.)
NOTE: For B & C style pins, the "Hole in Stamping" value is the "Hole in Nut" value (i.e. GP2B2702700525)							
Part Number							

Contact CenterLine to obtain a pin number for a Smart Electrode unit.

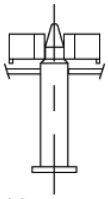
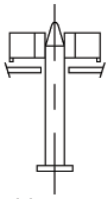
STUD & WELD NUT ELECTRODES

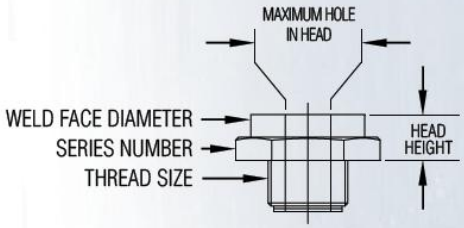
Auto Load Weld Nut Pins

PinType	Description
GA	Stainless Steel Pin, Supported by spring and/or air
CA	Coated, D2 Steel Pin, Supported by spring and/or air
RA	Retractable, Stainless Steel Pin, Movement controlled by Air Pressure only, Special Application contact CenterLine
KA	Coated Retractable, D2 Steel Pin, Movement controlled by Air Pressure only, Special Application contact CenterLine

Series	Thread Size	Weld Face Diameter	Hex Size	Maximum Hole in Head*	Head Height
2	5/8-18	7/8 Standard	1	0.427 (10.85) ID	0.500
3	7/8-14	1-1/4 Standard	1-3/8	0.642 (16.31) ID	0.500
4	1-1/8-12	1-1/2 Standard	1-5/8	0.852 (21.64) ID	0.625
*Special weld nut electrodes are available for larger IDs and areas with clearance restrictions.					

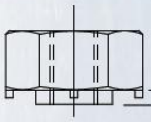
Nose Type

N	P
 NOSE TYPE N	 NOSE TYPE P
 STRAIGHT	 STRAIGHT
For auto loading nuts where the stamping is being located.	**For auto loading nuts where the stamping is not being located. Refer to caution note.**



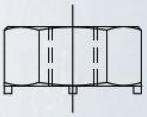
CAUTION
P Nose Types Only

PILOTED NUT

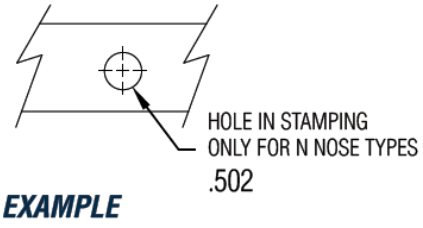


Caution: If pilot thickness exceeds stamping thickness, see special application sheet

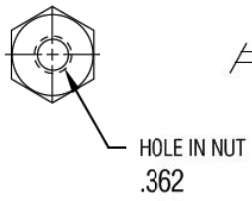
NON-PILOTED NUT

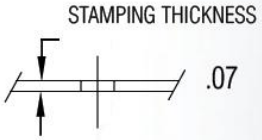


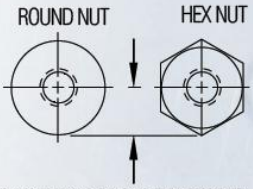
APPLICATION SIZES



EXAMPLE







Generate Your Own Number (Total 14 Characters)

Example	GA	3	N	497	357	07	47
Breakdown	Pin Type	Series Number	Nose Type	Hole in Stamping -.005" (3 Dec.) - see note below	Hole in Nut -.005" (3 Dec.) - see note below	Stamping Thickness (2 Dec.)	Measurement from Center to Outermost Edge (2 Dec.)
NOTE: For P style pins, the "Hole in Stamping" value is the "Hole in Nut" value (i.e. GA3P3573570747)							
Part Number							

Contact CenterLine to obtain a pin number for a Smart Electrode unit.

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STUD & WELD NUT ELECTRODES

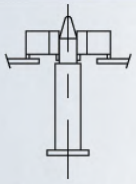
Special Application Auto Load Weld Nut Pins

PinType	Description
GA	Stainless Steel Pin, Supported by spring and/or air
CA	Coated, D2 Steel Pin, Supported by spring and/or air
RA	Retractable, Stainless Steel Pin, Movement controlled by Air Pressure only, Special Application please contact CenterLine
KA	Coated Retractable, D2 Steel Pin, Movement controlled by Air Pressure only, Special Application please contact CenterLine

Series	Thread Size	Weld Face Diameter	Hex Size	Maximum Hole in Head*	Head Height
2	5/8-18	7/8 Standard	1	0.427 (10.85) ID	0.500
3	7/8-14	1-1/4 Standard	1-3/8	0.642 (16.31) ID	0.500
4	1-1/8-12	1-1/2 Standard	1-5/8	0.852 (21.64) ID	0.625
*Special weld nut electrodes are available for larger IDs and areas with clearance restrictions.					

Nose Type

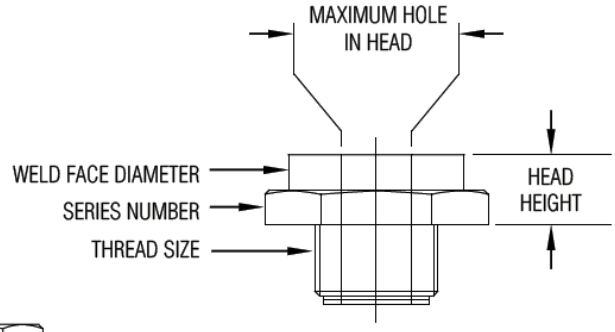
M



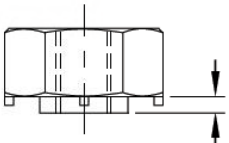
NOSE TYPE M

STRAIGHT

For auto loading nuts where the stamping is not being located and pilot thickness is greater than material thickness.



PILOTED NUT

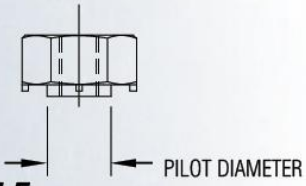


Use **M** nose type if pilot thickness exceeds stamping thickness, and pin is not used to locate stamping.

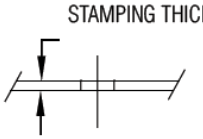
CAUTION

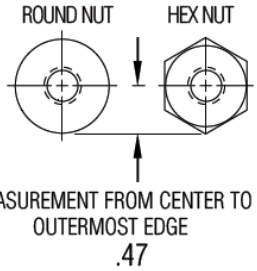
For M Nose Type pins ADD .005" to the pilot diameter.

APPLICATION SIZES



EXAMPLE





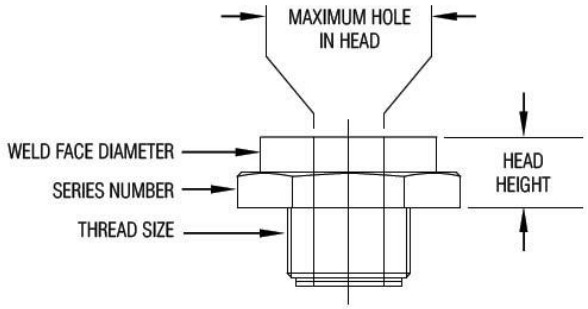
Generate Your Own Number (Total 14 Characters)

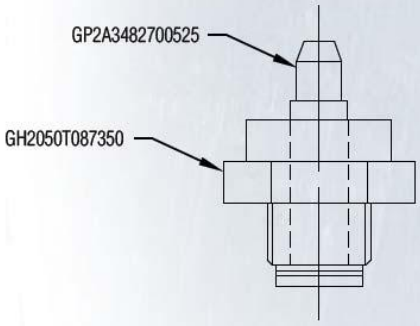
Example	GA	3	M	507	357	07	47
Breakdown	Pin Type	Series Number	Nose Type	Pilot Diameter + .005" (3 Dec.)	Hole in Nut -.005" (3 Dec.)	Stamping Thickness (2 Dec.)	Measurement from Center to Outermost Edge (2 Dec.)
Part Number							

Do not generate your own pin number for a Smart Electrode unit; contact CenterLine.

STUD & WELD NUT ELECTRODES

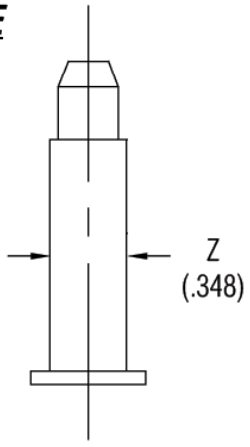
Nut Welding Heads





Series	Thread Size	Weld Face Diameter	Hex Size	Maximum Hole in Head*	Head Height
2	5/8-18	7/8 Standard	1	0.427 (10.85) ID	0.500
3	7/8-14	1-1/4 Standard	1-3/8	0.642 (16.31) ID	0.500
4	1-1/8-12	1-1/2 Standard	1-5/8	0.852 (21.64) ID	0.625
*Special weld nut electrodes are available for larger IDs and areas with clearance restrictions.					

EXAMPLE



Pin # GP**2**A**348**2700525

Series Number

Major Diameter of Pin (Z dimension)

PART NUMBER INSTRUCTIONS

Example: Z Dimension = .348

Step 1
Establish the major diameter of pin (Z dimension).

Step 2
The final 3 digits in the nut welding head # are represented by the following formula.
Z (.348) + .002 = .350

Step 3
Lastly, insert the result from Step 2 to the end of the series part number prefix below.

Final Nut Welding Head Number
Example Series 2 - GH2050T087**350**

Generate Your Own Number (Total 13 Characters)

Series	Part Number Prefix	Z + .002" Specify to 3 decimal places.
2	GH2050T087	
3	GH3050T125	
4	GH4062T150	

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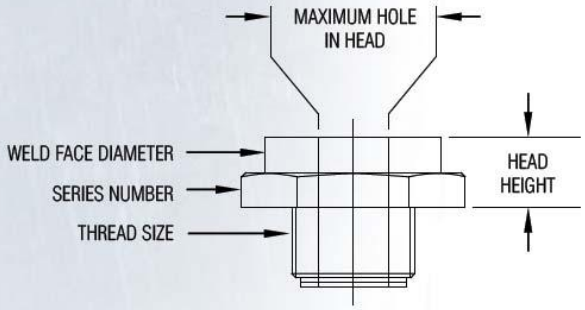
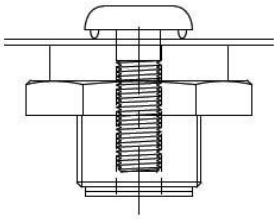
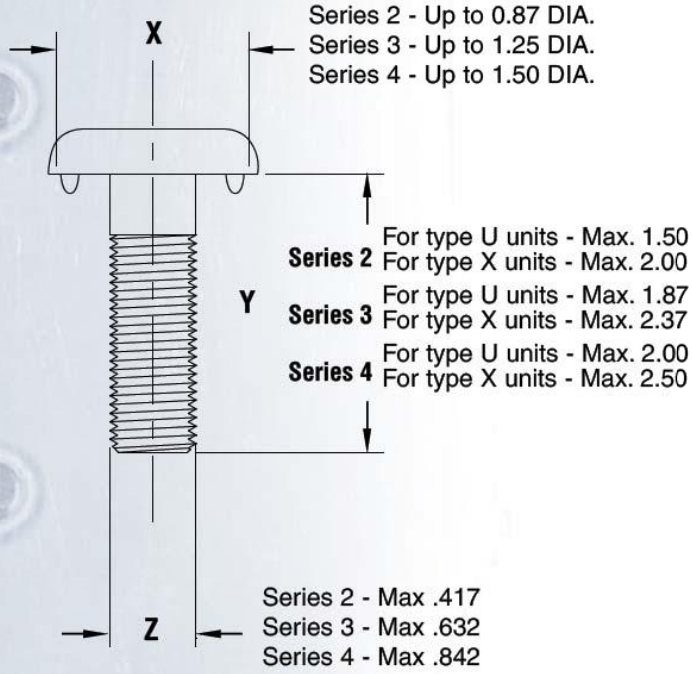
STUD & WELD NUT ELECTRODES

Stud Welding Heads





Series	Thread Size	Weld Face Diameter	Hex Size	Maximum Hole in Head*	Head Height
2	5/8-18	7/8 Standard	1	0.427 (10.85) ID	0.500
3	7/8-14	1-1/4 Standard	1-3/8	0.642 (16.31) ID	0.500
4	1-1/8-12	1-1/2 Standard	1-5/8	0.852 (21.64) ID	0.625
*Special weld nut electrodes are available for larger studs and areas with clearance restrictions.					



PART NUMBER INSTRUCTIONS

Example: X Dimension - .75
Y Dimension - 1.25
Z Dimension - .430

Step 1
In this case, X & Y indicates Series 2 however, Z dimension dictates Series 3 or larger.

Step 2
The final 3 digits in the stud welding head # is represented by the following formula.

Z (.430) + .010" = .440

Step 3
Lastly, insert the result from Step 2 to the end of the series part number.

Final Stud Welding Head Number
Example Series 3 - GH3050T125440

Generate Your Own Number (Total 13 Characters)

Series	Part Number Prefix	Z + .010" Specify to 3 decimal places.
2	GH2050T087	
3	GH3050T125	
4	GH4062T150	

STUD & WELD NUT ELECTRODES

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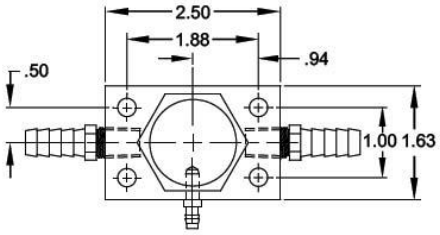
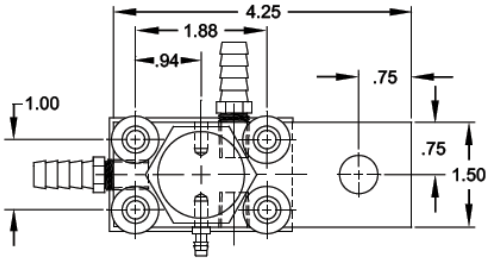
Mounting dimensions for base mount body styles

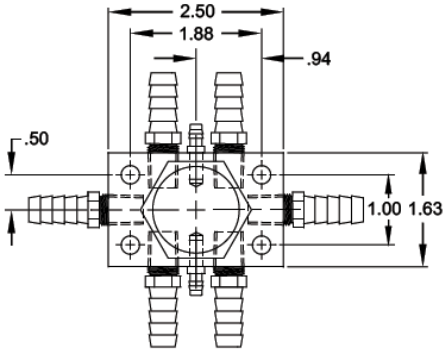
Body Style A



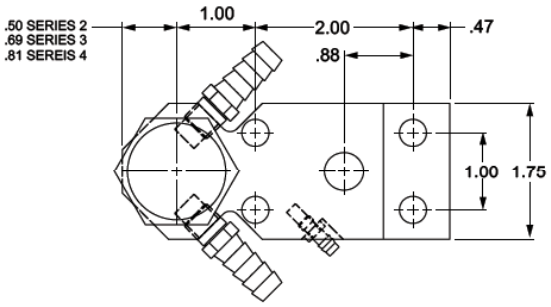
Body Style H&J



Body Style K



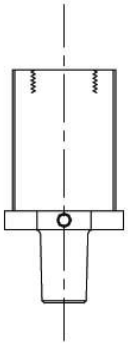
Body Style M



NOTE: Base units come with 1/4-20 screws for mounting & barb fittings.

Part number example

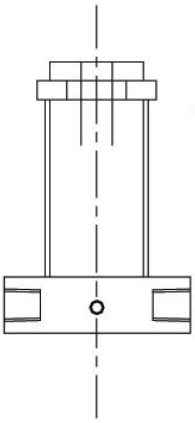
COMPLETE BODY REPLACEMENT UNIT



UCR3NHP

- **NHP -** No Head or Pin
- **R3 -** Retractable Pin series 3
- **C -** 5 RW Taper
- **U -** Standard Length

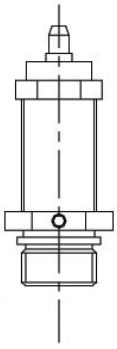
COMPLETE STUD WELDING UNIT



XAGH3050T125440

- **GH3050T125440** Head # created from Stud welding head page.
- **A -** Base Mount
- **X -** Extended Length

COMPLETE NUT WELDING UNIT



UGGP2A3482700525

- **GP2A3482700525** Pin # created from manual load weld nut page.
- **G -** 1" - 12 Thread
- **U -** Standard Length