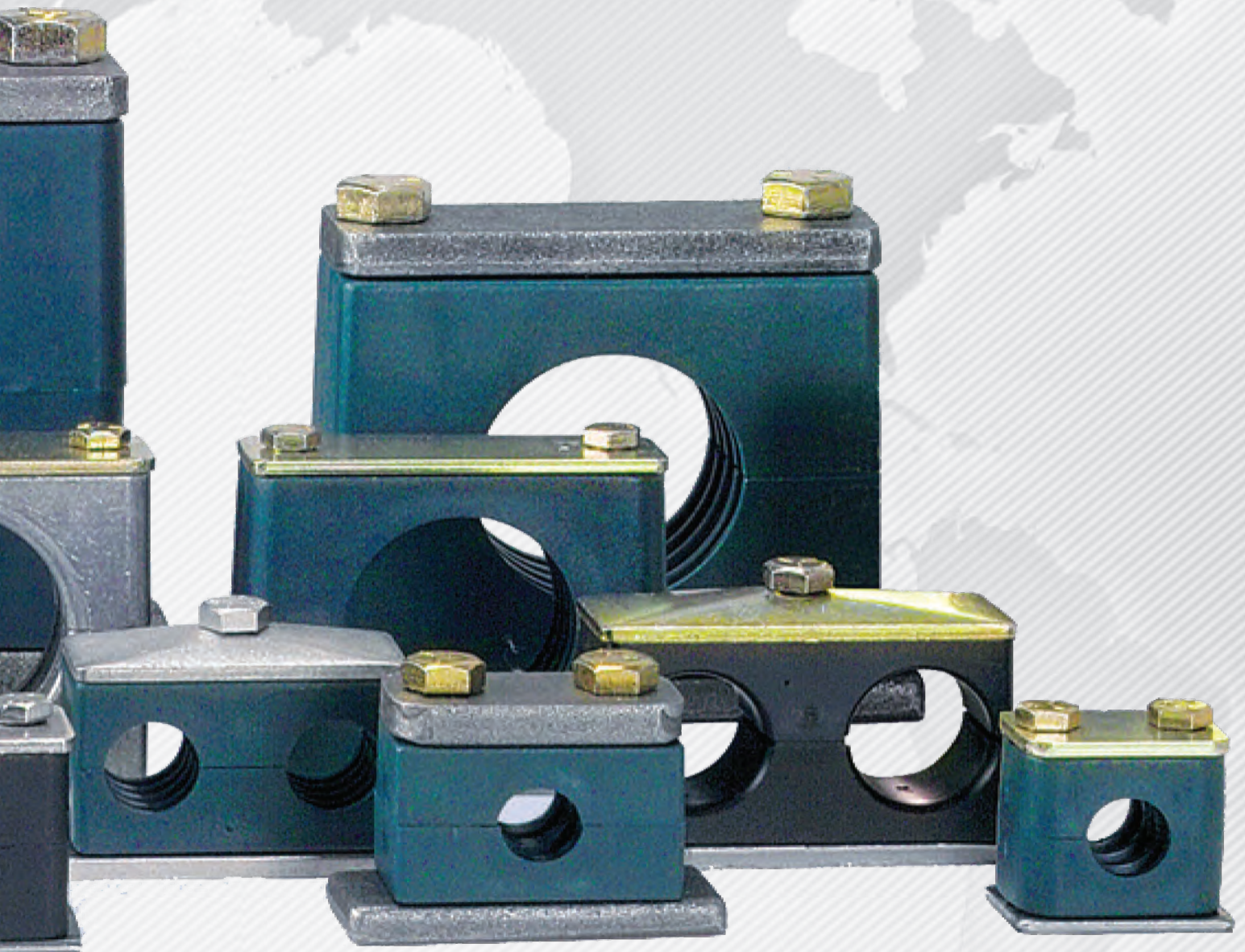


\$3.00 U.S.

# ***PRESSURE CONNECTIONS CORP.***

*Your Quality Connection*



## **Cushion Clamps**

For Hose, Tubing, and Piping

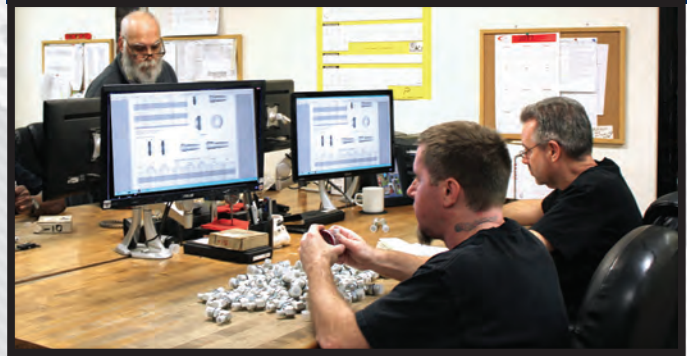






Our trained Quality Assurance Personnel follow a rigid inspection program to ensure that our fittings meet or surpass the strictest requirements of SAE.

## Quality Assurance Lab



We design our products to the strictest requirements of SAE, and improve our designs as we solve problems or reflect the latest changes in SAE design. We can also design custom fittings to fit your needs.

## Engineering



## Optical Comparator



## Pressure Test Stand



Our Glastonbury Southern Gage trained personnel use only certified instrumentation and equipment in the quality process giving you leak free performance.

## Precision Instruments



All equipment is calibrated at regularly scheduled intervals. Records and instrument serial numbers are kept on file to guarantee the accuracy of every inspection.



ISO 9001:2000  
Audit

*"The Corrective Preventive Action program you've setup at Pressure Connections is top notch. It is one of the best I've seen."*

ISO Auditor  
W.J. Davis  
Quality Assurance Systems Inc.

## Coordinate Measuring Machine (CMM)



Only a CMM can verify that an OFS groove is manufactured to exact SAE J1453 specifications. We use a state-of-the-art CMM to measure the latest OFS "dovetail" and standard OFS groove designs.

## "How can an OFS fitting leak?"

The Answer: Grooves that are too small or too large don't apply the correct pressure on the O-ring to seal properly.



Quality Symbol



# Quality Assurance Points



## Coordinate Measuring Machine - CMM

**Male O-Ring Face Seal Groove Diameters:** The CMM is the only way to identify and discard out of spec OFS grooves that will not give the correct *Fill & Squeeze* (1) for the O-ring to seal properly.

**Internal Flares like Female JIC and Female JIC Swivel:** The CMM enables us to identify and discard parts that have incorrect sealing angles.

**Female O-Ring Boss Counter Bore Angles:** The CMM identifies and discards the angles that will not give the proper *Fill & Squeeze* (1) of the O-ring for a proper seal.

## Optical Comparator

The **QUADRA-CHEK 2000** is used to identify and discard out of spec JIC nose diameters and 37° angles.

**Male JIC Nose Diameters:** We discard small diameters that will distort the sealing surface and prevent a proper seal.

**Male JIC 37° Angles:** We reject the sealing angles that won't seal properly.

## Fixed Pitch *Glastonbury Southern Gage* Thread Gauges



**Third-Party Calibration** on a regular, computer-scheduled basis.

**Long-Form Certifications** for each newly purchased gauge & recalibration.

**No-Go Gauges:** No-Go gauges enable us to identify parts that have insufficient thread material. Insufficient threaded parts cannot reliably handle the PSI ratings set forth by SAE.

**Go Gauges:** Go gauges enable us to inspect and eliminate parts that would be difficult to install properly.

**L1 / L2 Gauges:** These gauges allow us to examine and discard male pipe threads that can bottom out and cause a spiral leak path.

**6-Step Gauges:** The 6-Step gauge facilitates inspecting and discarding parts that have flat threads that will not seal.

**Calipers:** Calipers assist in inspecting & discarding incorrect male O-ring diameters that can allow an improper *Fill & Squeeze* (1) or percentage of rubber in the hole.

## Pressure Test Stand • Rockwell Hardness Tester • Profilometer

**Profilometer - Electronically Measures Surface Finish or Smoothness**

Male and Female JIC Flare, Female OFS Flat-Face, Female O-Ring Boss, and 30° chamfers.

**Rockwell Hardness Tester**

Tests the hardness of the steel to ensure tensile strength, which is needed to keep the connection tight.

**Pressure Test Stand**

Verifies burst pressure ratings.

To **Guarantee the Accuracy** of each inspection, all gauges and equipment are regularly calibrated to the strictest of ISO 9001:2008 specifications.

Our **Quality Assurance Lab** gauges and tests the parts both before and after they are plated. This ensures uniformity in the plating process. Finally, our shipping department carefully packages your order, to avoid thread damage in transit.

Should a problem arise, we will put in place a **Preventive Action** to resolve the problem. Our Quality Manager will solve it quickly, even if that means flying out to you or your customer. We won't just tell you to ship the parts back and try another batch.

**Your Quality Connection**



# PRESSURE CONNECTIONS CORP.

*Your Quality Connection*

Pressure Connections has been in business since 1981 and is a certified ISO 9001:2008 Registered firm. We are dedicated to long-term customer relationships through **Our Business Philosophy, Our Vision, and Our Mission.**



## Mission

To ship every order every day with **quality parts** and **quality packaging**; right parts, on time, every time.



## Vision

To provide our customers with the highest **value** from excellent **service**, superior **quality**, and a competitive **price**.

## We Support Urban Ministry

You support responsible urban ministries with every purchase from Pressure Connections, including Urban Concern, and Youth for Christ - City Life Center. Check them out on the web at [www.urbanconcern.org](http://www.urbanconcern.org) and [www.coyfc.org](http://www.coyfc.org).



## Quality Assurance Department

We will provide a Certificate of Conformance upon request. We are confident that our Quality Assurance program and personnel will be able to satisfy any quality concerns you or your customers may have.

Furthermore, we have established a Performance Team to handle written customer evaluations of our overall performance. This team is ready to respond to customer quality and service issues.

## Certified ISO 9000



We are a certified ISO 9001:2008 Registered firm. Our Quality Assurance program is able to provide high quality fittings and service according to ISO 9000 principles. All of the documentation needed to satisfy your quality system requirements is on hand. At your request we will provide a Corrective Action Report and Evaluation. We also have Initial Sample Inspection, In-Process, and Final Inspection Reports.



We strive to provide you with the best value. Our Business Philosophy and personal convictions drive our commitment to excellence. We guarantee that you will be completely satisfied with the quality of our product(s). With an industry low PPM, our products are leak-free guaranteed and our excellent service makes us easy to do business with.

## 1-Year Warranty

PCC warrants to the customer that the equipment and parts (excluding wear parts) will be free from defects in material and workmanship under normal use and service for a period of three hundred sixty-five (365) days after delivery to customer, or **2,000 hours** of normal use. Any warranty claims not submitted in writing by customer to PCC within the applicable warranty period and within thirty (30) days of discovery of defect will be deemed waived. The obligation of PCC shall be limited to the repair or replacement ex works facility designated by PCC (excluding shipping costs, to be paid by customer), of the equipment or such parts which PCC determines were defective in material or workmanship under normal storage, use and service. This warranty applies only to new equipment and parts and expressly excludes wear parts. This warranty shall not apply to items manufactured by others attached to or incorporated in the equipment and/or parts, or to which the equipment and/or parts are attached or incorporated, and customer's recourse for defects in such equipment and/or parts of others shall be exclusively against the manufacturer of the equipment and/or parts under the terms of the PCC's warranty. This limited warranty does not apply to failures or defects of the equipment components, and/or parts (including wear parts) due to ordinary wear and tear, neglect (including but not limited to improper maintenance and storage), accident, improper installation or operation, or modification not authorized in writing by PCC (including but not limited to use of unauthorized parts or attachments). Any alteration or modification of the equipment or parts, or attaching of any parts or equipment not manufactured by PCC or not intended to be attached to the equipment or parts, or maintenance, use or operation of the equipment or parts contrary to PCC's or the manufacturer's instructions, shall at PCC's election void this warranty. This limited warranty shall extend only to the customer and is not assignable. The exclusive remedy of customer under this warranty or otherwise in connection with the equipment and for parts, shall be repair or replacement of the equipment and/or parts in accordance with this paragraph, PCC's sole and absolute discretion

From Page 37: Section 7



# Frequently Asked Questions

## Need to Return Parts?

Just call and ask for a **Returned Goods Authorization (RGA)** form. We ask that the parts be securely packaged as they'll need to be in original condition upon our inspection.

A credit will be issued toward your next order minus a 20% processing and restocking fee. We cannot fulfill return requests for damaged items, special orders, unusually high demand orders, Price On Request (POR) orders, items purchased over one year, or items not originally purchased from us. Also, we are not able to accept returns larger than 5% of your total sales.

## Need Parts Urgently?

We ship all orders received by **4:30 pm E.S.T.** the same day.

All orders ship F.O.B. (Freight on Board) Columbus, OH & Houston, TX

## No Time to Compare Prices?

We'll compare our prices with your other source for you. Before placing your next order with someone else, fax it to us. We'll compare prices, check stock, and fax it back ASAP to show you the difference.

## Need A Special Fitting?

We are competitive on special steel adapters. Our **Engineering Department** can design fittings to meet your needs. Special Order and Made to Order (MTO) runs have a 10% over-run or under-run variance, which is standard in manufacturing. The invoice will be adjusted accordingly.

## Have A Shipment Problem?

Call, Fax, or Email us and we'll ship your replacement parts the very same day. If you need to return parts, we'll issue an RGA to make sure you receive a credit for the parts and reimburse you for the return shipping costs. We ask that all claims be made within 5 (FIVE) days of the receipt of the material.

## Need to Cancel an Order?

All we ask is that you put it in writing. Special orders, unusually high demand orders, volume priced orders, Made to Order (MTO) and Price on Request (POR) orders are considered non-cancelable, but don't worry, we'll notify you in writing before we accept an order for a non-cancelable part.

# Ordering Process

## Use Your Own Part Numbers

To assist our customers we show the following in our Catalogs and Website.

- Pictures / Drawings
- Reference Numbers
- Crossover Charts

If you need assistance we're here to help so please call us for any inquiries regarding your order.

Descriptions, pictures, and crossover numbers are for reference only. We'll be glad to provide detailed information upon request. Pressure Connections cannot be held responsible for typographical or pictorial errors.

**Pressure Connections Reserves the Right to Update Information Without Notice.**  
**Images of Parts are Shown in Callout Order.**

## Simplified Ordering Process

Save time by ordering from us

- Large Inventory
- Use Your Own Part Numbers
- Same Day Shipping
- Trained and Certified Team
- Live Person Answering the Phone
- 24-Hour Fax and Email

*(Business Hours: 8:00 am - 6:00 pm EST. M-F)*

## Discounted Terms

Our terms are 1/2% 10 / Net 30 Days. Invoices are dated the day your parts are shipped. Remember, discounts apply to 'product only' for non-C.O.D. shipments.

***We're Easy to do Business With!***

# ***Index - Cushion Clamps*** For Hose, Tubing, and Piping

## ***Clamps***

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### **NOTICE:**

**Add "CC-" Prefix for All Part Numbers**



## ***Featured Products***

### ***Cush-A-Claw®***

**Cush-A-Claw®** grabs on to your Tube, Pipe, or Hose and holds it in place. The unique one piece patent pending design allows for quick, simple, and easy installation. It will not rust because it's molded from the same choice TPE material of some of our other products that you've come to know and trust. Available for surface mount, or strut mount.

### ***Cush-A-Clamp®***

**Cush-A-Clamp®** is a channel mounted clamping system that is ideal for multiple line runs. It absorbs shock and vibration, reducing unwanted noise and it prevents galvanic corrosion.

### ***Cush-A-Nator®***

The **Cush-A-Nator®** is the newest breakthrough in cushioned clamping. It offers the user with an option for the highest temperature range of any cushion clamp on the market -65°F to 340°F (-53°C to 170°C), or just the advanced features of the superior new design.

The new **Cush-A-Nator®** features a "thumb drive" tab that simplifies installation. It is also a perfect solution for retrofit since the clamp can be installed on a pipe that is already resting on the channel support.

### ***Beta Hydraulic Clamps®***

**Beta Hydraulic Clamps®** are ideal for clamping hose, tubing, and piping. They are an economical and easy way of securing them in all types of terrestrial, marine, O.E.M. and Industrial applications. Thanks to the advanced features and the breadth and depth of our product offering, **Beta Hydraulic Clamps®** are used in all areas of industrial, mobile and marine hydraulics, general industrial pipe construction, the field of press technology, instrumentation and control technology and many more.



NOTICE: Add "CC-" Prefix for All Part Numbers



Strut Mounted

Insert	Twist & Lock	Position Pipe	Snap In



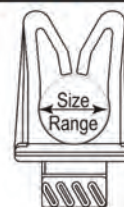
Surface Mounted

Position	Mount w/Screw	Position Pipe	Snap In
Side grooves provide Centering guide	Counter-sunk hole allows tightening of any type of #10 fastener		

The Cush-A-Claw Grabs on to your Tube, Pipe, or Hose and holds it in place. The unique one piece patent pending design allows for quick, simple, and easy installation. It will not rust because it's molded from the same choice TPE Material of some of our other products that you've come to know and trust.

- Easy Snap-in Installation of Tube, Pipe, or Hose
- Sure Grip Strut Base easily rotates into strut
- Will not Rust
- Non Conducting
- Saves Time and Money
- Temp Range: -50° to 275° F
- Works Great Indoors or Outdoors
- Six Sizes of Tube and Three Sizes of EMT
- Designed for Light Duty Loads and Applications
- Prevents Galvanic Corrosion of Dissimilar Metals
- An Excellent Alternative to Steel, Stainless Steel, or Galvanized Clamps.

O.D. Tube Size				EMTS Conduit Sizes			
Strut Mount Part #	Surface Mount Part #	Size		Strut Mount Part #	Surface Mount Part #	Size	
		O.D.	In.			O.D.	In.
CL-04	CLS-04	1/4"	0.250	EMT-1/2	EMTS-1/2	1/2"	0.706
CL-06	CLS-06	3/8"	0.375	EMT-3/4	EMTS-3/4	3/4"	0.922
CL-08	CLS-08	1/2"	0.500	EMT-1	EMTS-1	1"	1.163
CL-10	CLS-10	5/8"	0.625				
CL-12	CLS-12	3/4"	0.750				
CL-14	CLS-14	7/8"	0.875				
CL-18	CLS-18	1 1/8"	1.125				



75 Lbs. Load  
(safety Factor 3)



Cush-A-Claw® is manufactured under U.S. patent D631739

NOTICE: Add "CC-" Prefix for All Part Numbers



Gold Electro-Galvanized Steel

Stainless Steel

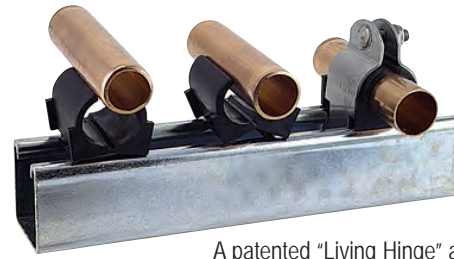
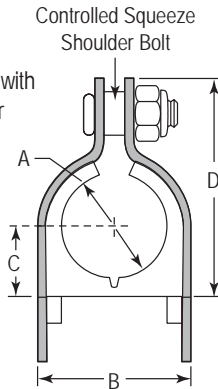
**CUSH-A-CLAMP®** — Channel mounted clamping systems are ideal for multiple line runs, while absorbing shock and vibration, reducing unwanted noise and preventing galvanic corrosion. Cush-A-Clamp® fits any standard 1-5/8" wide channel.

Assembly consisting of steel clamp with locknut and thermoplastic elastomer cushion. All parts are marked for easy identification and packaged for small lot or bulk use. When specified, Cush-A-Clamp® assemblies up to 2", are available individually packaged.

**THE CLAMP** — Features a unique shoulder stud which is securely fastened to one clamp half. Steel clamps for tube sizes up to 1-3/8" have the "Controlled Squeeze"™ design which eliminates over-tightening and rotation while a nylon-insert nut assures a positive lock. Clamps are available in steel (with electro-dichromate finish), and stainless steel type 304. (Contact factory for type 316).

**THE CUSHION** — Made from a thermoplastic elastomer, it's built tough to withstand the effects of most oils, chemicals and industrial cleaning compounds, in temperatures from -50°F to 275°F. Interlock edges and channel locator legs ensure that the cushion remains in place.

**INSTALLATION** — One man, one tool time savings. Retrofits can be added without disassembly. A patented "Living Hinge" allows the cushion to be spread apart for quick, easy installation on sizes from 1/4" through 1-3/4".



A patented "Living Hinge" allows the cushion to be spread apart for quick, easy installation.

Steel Part No.	Stainless-Steel Part No.	Dimension "A"			Dimensions (inches)			
		*Copper and Steel Tubing	Copper Water Pipe (Nom.)	Nom. Pipe Size	A	B	C	D
004T008	004NS008	1/4"	-	-	0.25	0.62	0.27	0.98
006T010	006NS010	3/8"	1/4"	-	0.37	0.82	0.33	1.13
008T012	008NS012	1/2"	3/8"	-	0.50	0.94	0.40	1.34
009N012	009NS012	-	-	1/4"	0.54	0.98	0.43	1.34
010T014	010NS014	5/8"	1/2"	-	0.62	1.06	0.46	1.54
011N014	011NS014	-	-	3/8"	0.67	1.13	0.49	1.54
012T016	012NS016	3/4"	5/8"	-	0.75	1.20	0.52	1.68
014N018	014NS018	-	-	1/2"	0.84	1.29	0.58	1.82
014T018	014NS018	7/8"	3/4"	-	0.87	1.31	0.58	1.82
016T020	016NS020	1"	-	-	1.00	1.44	0.65	1.95
017N022	017NS022	-	-	3/4"	1.05	1.57	0.70	2.08
018T022	018NS022	1-1/8"	1"	-	1.12	1.57	0.70	2.08
020T024	020NS024	1-1/4"	-	-	1.25	1.70	0.77	2.21
021N026	021NS026	-	-	1"	1.31	1.76	0.81	2.34
022T026	022NS026	1-3/8"	1-1/4"	-	1.37	1.82	0.83	2.34
024N028	024NS028	1-1/2"	-	-	1.50	1.95	0.90	2.47
026N030	026NS030	1-5/8"	1-1/2"	-	1.62	2.07	0.96	2.60
027N032	027NS032	-	-	1-1/4"	1.66	2.17	0.99	2.73
028N032	028NS032	1-3/4"	-	-	1.75	2.2	1.02	2.73
030N034	030NS034	1-7/8"	-	1-1/2"	1.90	2.32	1.09	2.86
032N036	032NS036	2"	-	-	2.00	2.45	1.15	3.04
034N040	034NS040	2-1/8"	2"	-	2.12	2.57	1.27	3.23
038N042	038NS042	2-1/4"	-	-	2.37	2.82	1.41	3.67
038N044	038NS044	2-3/8"	-	2"	2.37	2.82	1.41	3.67
040N046	040NS046	2-1/2"	-	-	2.50	2.94	1.46	3.79
042N048	042NS048	2-5/8"	2-1/2"	-	2.62	3.07	1.53	3.92
046N052	046NS052	2-7/8"	-	2-1/2"	2.87	3.32	1.66	4.17
050N054	050NS054	3"	-	-	3.00	3.57	1.78	4.42
050N056	050NS056	3-1/8"	3"	-	3.12	3.57	1.78	4.42
053N060	053NS060	3-5/16"	-	-	3.31	3.96	1.90	4.75
056N062	056NS062	3-1/2"	-	3"	3.50	3.95	1.97	4.79
058N064	058NS064	3-5/8"	3-1/2"	-	3.62	4.20	2.03	5.11
064N072	064NS072	4"	-	3-1/2"	4.00	4.45	2.28	5.11
066N074	066NS074	4-1/8"	4"	-	4.12	4.57	2.34	5.54
069N076	069NS076	4-5/16"	-	-	4.34	4.96	2.40	5.84
072N080	072NS080	4-1/2"	-	4"	4.50	4.95	2.53	5.92
082N090	082NS090	5-1/8"	5"	-	5.12	5.57	2.84	6.54
089N096	089NS096	-	-	5"	5.56	6.01	3.06	6.92
096N106	096NS106	6"	-	-	6.00	6.57	3.34	7.54
098N106	098NS106	6-1/8"	6"	-	6.12	6.57	3.34	7.54
106N114	106NS114	-	-	6"	6.62	7.07	3.59	8.23

\*Tube O.D. is Cushion I.D. ; Design load deflection data available on request.

Loading Values Mounted in Standard 12 Gage Channel.

Nut	Torque (in-lbs)	Products	Pullout (lbs)	Slip (lbs)	
				Along	Through
1/4"	40	004T008 - 022T026	1,000	100	100
5/16"	60	024T028 - 050N056	2,200	200	200
3/8"	150	053N050 - 106N114	3,600	600	350

Loads are the same for Stainless Steel Clamps (Example 024NS028)



NOTICE: Add "CC-" Prefix for All Part Numbers

### A NEW BREAKTHROUGH IN CUSHIONED CLAMPING

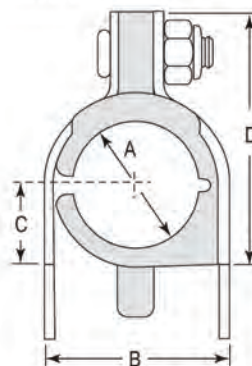


Cush-A-Nator  
"Cool Blue"

Cush-A-Nator  
Standard

Patent Pending

The Cush-A-Nator® cushion is manufactured in the United States and made from a new incredibly durable thermoplastic rubber that resists high heat and provides longer life against vibration fatigue. The Cush-A-Nator is made from a proprietary thermoplastic vulcanized material cross-linked with high performance rubber and thermoplastic elastomers, which produces the highest operating temperature range in the industry.



The Cush-A-Nator® is designed to provide the user with a choice of the highest heat range resistance of any cushion on the market or simply the advanced features of a superior design.

*The Cush-A-Nator® is designed and manufactured in Michigan.*



#### Features

##### A Thumb Drive

The Cush-A-Nator® has the exclusive "Thumb Drive" that provides the installer a gripping point to easily open the cushion with the help of leverage tabs and a living hinge. Easy and effortlessly to install.

##### B Self-Alignment

Cushion can be opened and placed over the pipe or tube and rotated into place while on the channel and automatically aligned with the channel opening ready for clamping.

##### C Pressure Control

The Cush-A-Nator® cushion has a built in squeeze control as part of the cushion design. The side opening and the squeeze control tab provides evenly distributed pressure around the tube or pipe.

##### D Complete Clamping Unit

The Cush-A-Nator® is the only strut mounted cushion that is mechanically connected to the supporting steel clamp because the bolt passes through the squeeze control tab forming the single unit connection. This design helps prevent the cushion from excess vibration by being attached directly to the clamp.

Installation examples shown on page 11

NOTICE: Add "CC-" Prefix for All Part Numbers



Cush-A-Nator® "Cool Blue" has service temperatures of -65°F to 340°F (-53°C to 170°C).



Cush-A-Nator® standard has an operating range of -50°F to 275°F (-45°C to 135°C).

Cush-A-Nator® "Cool Blue" - Tube							
Part No.			O.D. Tube Size	Dimensions (inches)			
Steel	SS304	SS316		A	B	C	D
HT04	HT04SS	HT04S6	1/4"	0.25	0.62	0.27	0.98
HT06	HT06SS	HT06S6	3/8"	0.37	0.82	0.33	1.13
HT08	HT08SS	HT08S6	1/2"	0.50	0.94	0.40	1.34
HT10	HT10SS	HT10S6	5/8"	0.62	1.06	0.46	1.54
HT12	HT12SS	HT12S6	3/4"	0.75	1.20	0.52	1.68
HT14	HT14SS	HT14S6	7/8"	0.87	1.31	0.58	1.82
HT16	HT16SS	HT16S6	1"	1.00	1.44	0.65	1.95
HT18	HT18SS	HT18S6	1 1/8"	1.12	1.57	0.70	2.08
HT20	HT20SS	HT20S6	1 1/4"	1.25	1.70	0.77	2.21
HT22	HT22SS	HT22S6	1 3/8"	1.37	1.82	0.83	2.34
HT24	HT24SS	HT24S6	1 1/2"	1.50	1.95	0.90	2.47
HT26	HT26SS	HT26S6	1 5/8"	1.62	2.07	0.96	2.60
HT28	HT28SS	HT28S6	1 3/4"	1.75	2.20	1.02	2.73
HT30	HT30SS	HT30S6	1 7/8"	1.87	2.32	1.09	2.86
HT32	HT32SS	HT32S6	2"	2.00	2.45	1.15	3.04
HT34	HT34SS	HT34S6	2 1/8"	2.12	2.57	1.27	3.23
HT36	HT36SS	HT36S6	2 1/4"	2.25	2.82	1.41	3.67
HT38	HT38SS	HT38S6	2 3/8"	2.37	2.82	1.41	3.67
HT40	HT40SS	HT40S6	2 1/2"	2.50	2.94	1.46	3.79
HT42	HT42SS	HT42S6	2 5/8"	2.62	3.07	1.53	3.92
HT46	HT46SS	HT46S6	2 7/8"	2.87	3.32	1.66	4.17
HT48	HT48SS	HT48S6	3"	3.00	3.57	1.78	4.42
HT50	HT50SS	HT50S6	3 1/8"	3.12	3.57	1.78	4.42
HT56	HT56SS	HT56S6	3 1/2"	3.50	3.95	1.97	4.79
HT64	HT64SS	HT64S6	4"	4.00	4.45	2.28	5.11
HT66	HT66SS	HT66S6	4 1/8"	4.12	4.57	2.34	5.54
HT72	HT72SS	HT72S6	4 1/2"	4.50	4.95	2.53	5.92

Cush-A-Nator® Standard - Tube							
Part No.			O.D. Tube Size	Dimensions (inches)			
Steel	SS304	SS316		A	B	C	D
CN04	CN04SS	CN04S6	1/4"	0.25	0.62	0.27	0.98
CN06	CN06SS	CN06S6	3/8"	0.37	0.82	0.33	1.13
CN08	CN08SS	CN08S6	1/2"	0.50	0.94	0.40	1.34
CN10	CN10SS	CN10S6	5/8"	0.62	1.06	0.46	1.54
CN12	CN12SS	CN12S6	3/4"	0.75	1.20	0.52	1.68
CN14	CN14SS	CN14S6	7/8"	0.87	1.31	0.58	1.82
CN16	CN16SS	CN16S6	1"	1.00	1.44	0.65	1.95
CN18	CN18SS	CN18S6	1 1/8"	1.12	1.57	0.70	2.08
CN20	CN20SS	CN20S6	1 1/4"	1.25	1.70	0.77	2.21
CN22	CN22SS	CN22S6	1 3/8"	1.37	1.82	0.83	2.34
CN24	CN24SS	CN24S6	1 1/2"	1.50	1.95	0.90	2.47
CN26	CN26SS	CN26S6	1 5/8"	1.62	2.07	0.96	2.60
CN28	CN28SS	CN28S6	1 3/4"	1.75	2.20	1.02	2.73
CN30	CN30SS	CN30S6	1 7/8"	1.87	2.32	1.09	2.86
CN32	CN32SS	CN32S6	2"	2.00	2.45	1.15	3.04
CN34	CN34SS	CN34S6	2 1/8"	2.12	2.57	1.27	3.23
CN36	CN36SS	CN36S6	2 1/4"	2.25	2.82	1.41	3.67
CN38	CN38SS	CN38S6	2 3/8"	2.37	2.82	1.41	3.67
CN40	CN40SS	CN40S6	2 1/2"	2.50	2.94	1.46	3.79
CN42	CN42SS	CN42S6	2 5/8"	2.62	3.07	1.53	3.92
CN46	CN46SS	CN46S6	2 7/8"	2.87	3.32	1.66	4.17
CN48	CN48SS	CN48S6	3"	3.00	3.57	1.78	4.42
CN50	CN50SS	CN50S6	3 1/8"	3.12	3.57	1.78	4.42
CN56	CN56SS	CN56S6	3 1/2"	3.50	3.95	1.97	4.79
CN64	CN64SS	CN64S6	4"	4.00	4.45	2.28	5.11
CN66	CN66SS	CN66S6	4 1/8"	4.12	4.57	2.34	5.54
CN72	CN72SS	CN72S6	4 1/2"	4.50	4.95	2.53	5.92

Cush-A-Nator® "Cool Blue" - Pipe							
Part No.			Pipe Size	Dimensions (inches)			
Steel	SS304	SS316		A	B	C	D
HT14P	HT14PSS	HT14PS6	1/2"	0.840	1.29	0.58	1.82
HT17P	HT17PSS	HT17PS6	3/4"	1.050	1.57	0.70	2.08
HT21P	HT21PSS	HT21PS6	1"	1.315	1.76	0.81	2.34
HT30P	HT30PSS	HT30PS6	1 1/2"	1.900	2.32	1.09	2.86
HT38P	HT38PSS	HT38PS6	2"	2.375	2.82	1.41	3.67
HT46P	HT46PSS	HT46PS6	2 1/2"	2.875	3.32	1.66	4.17
HT56P	HT56PSS	HT56PS6	3"	3.500	3.95	1.97	4.79
HT64P	HT64PSS	HT64PS6	3 1/2"	4.000	4.45	2.28	5.11
HT72P	HT72PSS	HT72PS6	4"	4.500	4.95	2.53	5.92

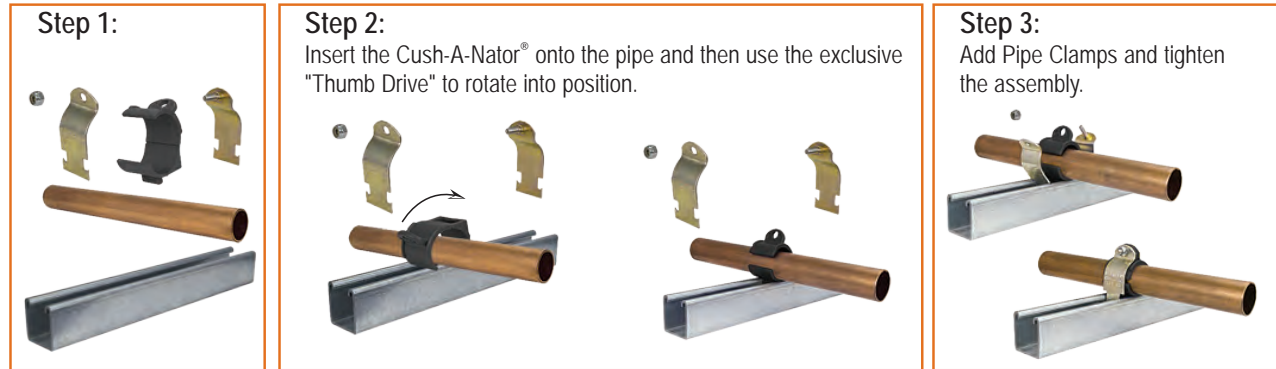
Cush-A-Nator® Standard - Pipe							
Part No.			Pipe Size	Dimensions (inches)			
Steel	SS304	SS316		A	B	C	D
CN14P	CN14PSS	CN14PS6	1/2"	0.840	1.29	0.58	1.82
CN17P	CN17PSS	CN17PS6	3/4"	1.050	1.57	0.70	2.08
CN21P	CN21PSS	CN21PS6	1"	1.315	1.76	0.81	2.34
CN30P	CN30PSS	CN30PS6	1 1/2"	1.900	2.32	1.09	2.86
CN38P	CN38PSS	CN38PS6	2"	2.375	2.82	1.41	3.67
CN46P	CN46PSS	CN46PS6	2 1/2"	2.875	3.32	1.66	4.17
CN56P	CN56PSS	CN56PS6	3"	3.500	3.95	1.97	4.79
CN64P	CN64PSS	CN64PS6	3 1/2"	4.000	4.45	2.28	5.11
CN72P	CN72PSS	CN72PS6	4"	4.500	4.95	2.53	5.92

Contact Factory for Additional Sizes

Contact Factory for Additional Sizes



### Cush-A-Nator® – New Installations



### Cush-A-Nator® – Retrofit / Replacement Applications

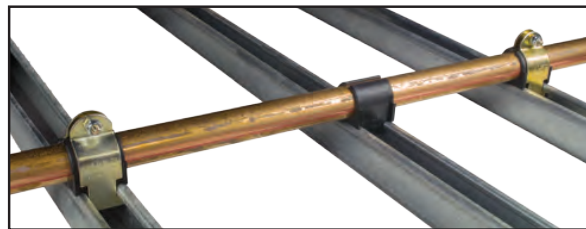
A key feature of the Cush-A-Nator® is this ability to place the cushion and rotate into position. **Perfect for retrofit applications!**

#### Retrofit - The Common Problem

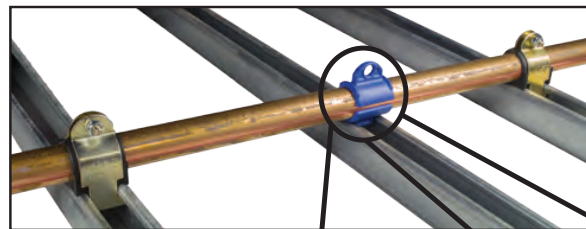
Replacing a cushion-a-clamp within a long pipe run poses a problem. Clamps before and after the one to be replaced prohibit the pipe from being raised so that the new cushion can be installed correctly. All too often a work-around is used which compromises the connection.

#### Retrofit - The Perfect Solution

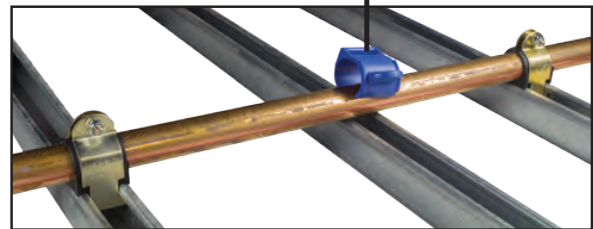
**Step 1:** Remove Bad Cushion.



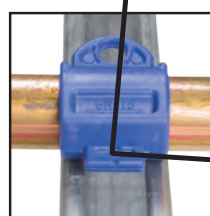
**Step 3:** Rotated into place while on the channel and the Self-Alignment tab automatically aligns with the channel opening ready for clamping.



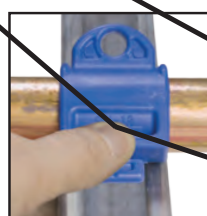
**Step 2:** The Cush-A-Nator can be installed without raising the pipe. The unique "Thumb Drive" allows you to rotate the Cush-A-Nator into position.



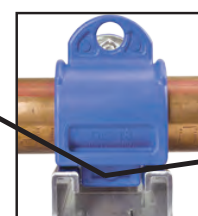
**Step 3:** Add Pipe Clamps and tighten the assembly.



Rotate into  
Position



Thumb Drive



"Self-Alignment"

# Beta Hydraulic Clamps™

## Overview Cushion Clamps

NOTICE: Add "CC-" Prefix for All Part Numbers



**Beta Clamps** are ideal for clamping pipe, tube, hose, and electric cables. They are an economical and easy way of securing them in all types of terrestrial, marine, O.E.M. and Industrial applications. Thanks to the advanced features and the breadth and depth of our product offering, Beta Clamps are used in all areas of industrial, mobile and marine hydraulics, general industrial pipe construction, the field of press technology, instrumentation and control technology and many more.

- Beta Clamps offer shock-absorption, vibration dampening and noise reducing properties.
- Beta Clamps feature a practical and economical design which make for quick, easy pipe installation and layout.
- Using weldable plates, it's easy to anchor the clamps to machinery and steel work.
- Fast, safe, economic installation and service in piping system.
- Upper and lower clamp half are identical.
- Ribs in clamp bore are designed to absorb shock and vibration in the direction of the tube axis.
- Due to their design the clamps can be easily cleaned.

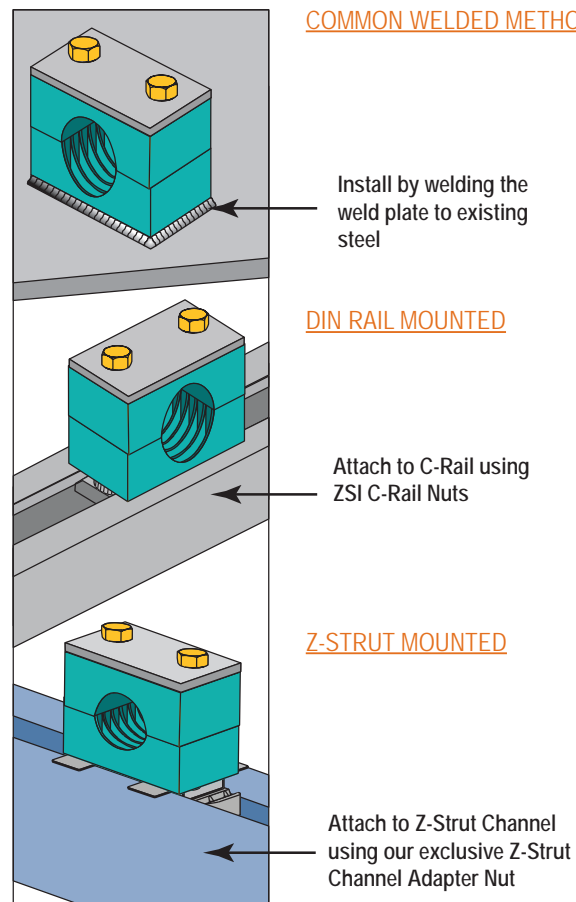
#### CLAMP BODY

- Standard – Polypropylene (Green Color)  
-22°F to 194°F (-30°C to +90°C)
- Aluminum is available for use in high heat applications

**CLAMP COMPONENTS** – The other metallic components of the clamps are manufactured in:

- Lower and upper plates: steel, stainless steel type 304
- Screw bolts: steel, S40C, stainless steel type 304
- Other metallic on request.

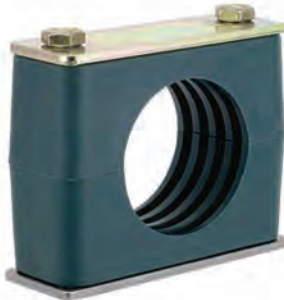
application needs.





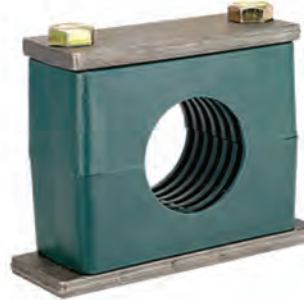
NOTICE: Add "CC-" Prefix for All Part Numbers

### BETA STANDARD (Pages 14-15)



- For standard hydraulics and systems with less than 1500 PSI without dynamic loads
- Polypropylene cushion
- Steel components

### BETA HEAVY (Pages 18-19)



- For systems with greater than 1500 PSI operating pressure, operations with pressure surges, and applications with wide temperature fluctuations.
- Absorbs high levels of shock, noise, and vibration
- Polypropylene cushion & steel components

### BETA TWIN (Pages 20-21)



- For standard hydraulics, general pipe construction and electrical cables
- Polypropylene cushion
- Steel components

### BETA SMOOTHIE (Pages 22)



- Reduces wear on hose connection caused by vibration and surge.
- Chamfered and smooth core protects hose cover and extends hose life.
- Uses Beta Standard hardware
- Polypropylene cushion
- Steel components

### BETA SMOOTHIE TWIN (Pages 23)



- Reduces wear on hose connection caused by vibration and surge.
- Chamfered and smooth core protects hose cover and extends hose life.
- Uses Beta Twin hardware
- Polypropylene cushion
- Steel components

### BETA SPECIAL METALS (Pages 14, 18) (ALUMINUM, STAINLESS STEEL)



- Aluminum cushions with steel components are used in high heat applications up to 500°F
- Stainless steel clamp hardware with polypropylene cushion are used in applications where external corrosion is a concern.

### BETA RUBBER INSERTS (Pages 24-25)



- Available in standard and heavy
- One cushion block provides flexible size range of cushioning.
- Smooth bore core can be used on hose, or for vibration reduction

### BETA ADAPTER (Page 16-17)



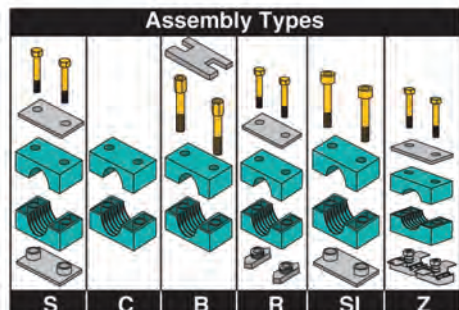
- Allows a clamping junction to be inserted into hydraulic lines.
- The adapter body is offered in two sizes for use with the Z-Clamp adapter inserts.



# Beta Hydraulic Clamps™

## Standard Series Cushion Clamps

NOTICE: Add "CC-" Prefix for All Part Numbers



Steel w/  
Polypropylene  
Cushion

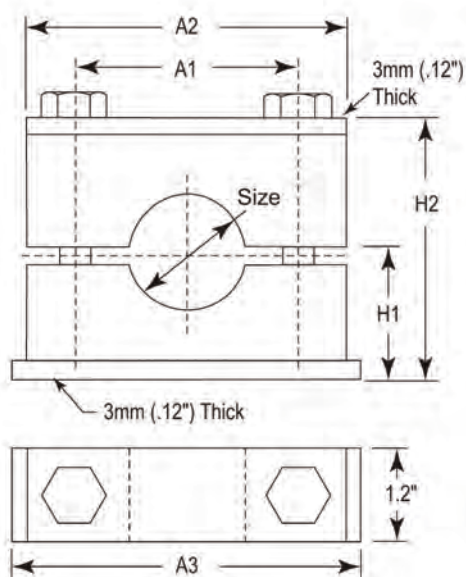


Steel w/  
Aluminum  
Cushion

### BETA STANDARD SERIES

- Cushions are Polypropylene (Green Color)
- Recommended for systems with less than 1500 PSI without dynamic loads.
- Use for standard hydraulics, general pipe construction, electrical cables, and general duty piping applications subject to moderate levels of shock and vibration.
- Aluminum cushions and are used in higher heat applications up to 500 Degrees.

### INSTALLATION - Refer to Pages 28-29



Group	Part No. *	Tube Size	Pipe Size	Metric Size	Dimensions - inch (mm)					Bolt
					A1	A2	A3	H1	H2	
S1	S1004	1/4" (0.250)	-	-	-	-	-	-	-	-
	S1006	3/8" (0.375)	-	-	-	-	-	-	-	-
	SM1006	-	-	6mm	0.78 (20)	1.34 (34)	1.41 (36)	0.62 (16)	1.25 (32)	1/4"-20 x 1 1/4"
	S1007	-	1/8" (0.405)	-	-	-	-	-	-	-
	SM1008	-	-	8mm	-	-	-	-	-	-
	SM1012	-	-	12mm	-	-	-	-	-	-
S2	S2008	1/2" (0.500)	-	-	-	-	-	-	-	-
	S2009	-	1/4" (0.540)	-	-	-	-	-	-	-
	S2010	5/8" (0.625)	-	-	1.02 (26)	1.57 (40)	1.65 (42)	0.76 (19.5)	1.54 (39)	1/4"-20 x 1 3/8"
	S2011	-	3/8" (0.675)	-	-	-	-	-	-	-
	SM2014	-	-	14mm	-	-	-	-	-	-
	SM2015	-	-	15mm	-	-	-	-	-	-
S3	S3012	3/4" (0.750)	-	-	-	-	-	-	-	-
	S3014	-	1/2" (0.840)	-	-	-	-	-	-	-
	S3015	7/8" (0.875)	-	-	1.29 (33)	1.96 (50)	2.04 (52)	0.80 (20.5)	1.61 (41)	1/4"-20 x 1 1/2"
	S3016	1" (1.000)	-	-	-	-	-	-	-	-
	SM3020	-	-	20mm	-	-	-	-	-	-
	SM3025	-	-	25mm	-	-	-	-	-	-
S4	S4017	-	3/4" (1.050)	-	-	-	-	-	-	-
	S4018	1 1/8" (1.125)	-	-	1.57 (40)	2.28 (58)	2.36 (60)	0.94 (24)	1.88 (48)	1/4"-20 x 1 3/4"
	SM4030	-	-	30mm	-	-	-	-	-	-
S5	S5020	1 1/4" (1.250)	-	-	-	-	-	-	-	-
	S5021	-	1" (1.315)	-	-	-	-	-	-	-
	S5024	1 1/2" (1.500)	-	-	2.04 (52)	2.75 (70)	2.83 (72)	1.25 (32)	2.52 (64)	1/4"-20 x 2 1/2"
	S5027	-	1 1/4" (1.660)	-	-	-	-	-	-	-
	SM5035	-	-	35mm	-	-	-	-	-	-
S6	S6028	1 3/4" (1.750)	-	-	2.59 (66)	3.38 (86)	3.46 (88)	1.41 (36)	2.83 (72)	1/4"-20 x 2 3/4"
	S6030	-	1 1/2" (1.900)	-	-	-	-	-	-	-
	S6032	2" (2.000)	-	-	-	-	-	-	-	-
S7	S7038	-	2" (2.375)	-	-	-	-	-	-	-
	S7036	2 1/4" (2.250)	-	-	-	-	-	-	-	-
	S7040	2 1/2" (2.500)	-	-	3.70 (94)	4.75 (121)	4.81 (122)	2.00 (51)	4.05 (103)	1/4"-20 x 4"
	S7044	2 3/4" (2.750)	-	-	-	-	-	-	-	-
	S7048	3" (3.000)	-	-	-	-	-	-	-	-
	SUFFIX	Note: Add assembly type to part number. Example: <b>S-1004S-SS</b> provides the complete assembly as shown with stainless steel components. NOTE: SM (metric) only available in Steel with Polypropylene (green) cushion.								
		Components	Cushion		Example					
		none	Steel	Polypropylene (green)		<b>S-1004S</b>				
		-AL	Steel	Aluminum		<b>S-1004S-AL</b>				
		-SS	Stainless Steel	Polypropylene (green)		<b>S-1004S-SS</b>				



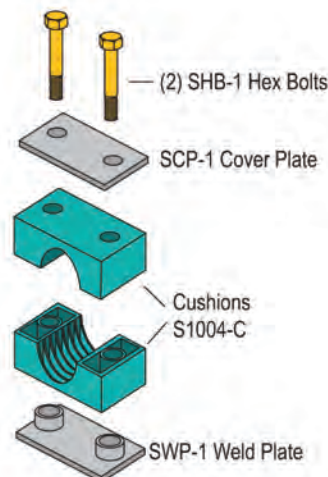
# Beta Hydraulic Clamps™

## Standard Series Cushion Clamps | Accessories

NOTICE: Add "CC-" Prefix for All Part Numbers

STANDARD SERIES COVER PLATE			STANDARD SERIES SAFETY PLATE		
	SCP1	Use with Group S1		SP1	Use with Group S1
	SCP2	Use with Group S2		SP2	Use with Group S2
	SCP3	Use with Group S3		SP3	Use with Group S3
	SCP4	Use with Group S4		SP4	Use with Group S4
	SCP5	Use with Group S5		SP5	Use with Group S5
	SCP6	Use with Group S6		SP6	Use with Group S6
	SCP7	Use with Group S7			
HEX BOLT (Two required per assembly)			STANDARD SERIES CAP SCREW (Two required per assembly)		
	SHB1	Use with Group S1		SC-1	Use with Group S1
	SHB2	Use with Group S2		SC-2	Use with Group S2
	SHB3	Use with Group S3		SC-3	Use with Group S3
	SHB4	Use with Group S4		SC-4	Use with Group S4
	SHB5	Use with Group S5		SC-5	Use with Group S5
	SHB6	Use with Group S6		SC-6	Use with Group S6
	SHB7	Use with Group S7			
STACKING BOLTS (Two required per assembly)			C-RAIL NUT (Two required per assembly)		
	SB1	Use with Group S1		SRN1-6	1/4" nut, Use with SCR Rail
	SB2	Use with Group S2			
	SB3	Use with Group S3			
	SB4	Use with Group S4			
	SB5	Use with Group S5			
	SB6	Use with Group S6			
STANDARD SERIES WELD PLATE			C-RAIL		
	SWP1	Use with Group S1		SCR1	39" (1 meter)
	SWP2	Use with Group S2		SCR2	78" (2 meter)
	SWP3	Use with Group S3			
	SWP4	Use with Group S4			
	SWP5	Use with Group S5			
	SWP6	Use with Group S6			
	SWP7	Use with Group S7			
STRUT NUT - For connection to Z-Strut Channel (Two required per assembly)			Z-Strut		
	ZSA1-8	Use with Groups S1-S8		Z1625	1 5/8" x 1 5/8"
				Z8125	1 5/8" x 1 3/16"
				Z1000	1 5/8" x 1"
				Z875	1 5/8" x 7/8"

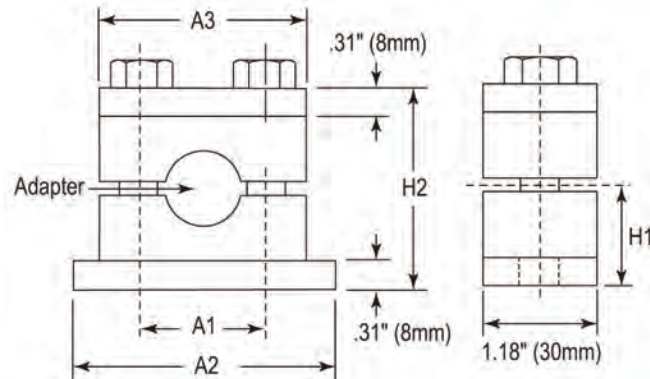
ORDERING EXAMPLE		
<b>S1004S</b>		
Assembly Includes		
Quantity	Part No.	Description
1 Each	SWP1	Weld Plate
1 Each	SCP1	Cover Plate
2 Each	SHB1	Hex Bolts
1 set	S1004C	Cushions



# Beta Hydraulic Clamps™

## Adapter Series Beta-Adapters

NOTICE: Add "CC-" Prefix for All Part Numbers




The **BETA-ADAPTER** allows a clamping junction to be inserted into virtually any hydraulic line. The exclusive square bodied junction adapter design can be used with metallic tubing or hydraulic hose ends. It provides a point of union for hydraulic runs which transition from one form of conveyance to another (i.e. hose to tubing). Once inserted into the customized Beta-Adapter clamp body, the junction point is securely clamped fighting the effects of vibration, insuring a leak-free system.

- Beta-Adapter cushions can also be used with rubber inserts.
- Z-Clamp split bushings from Group 1 can be utilized with the basic Beta-Adapter Group 4 cushion.
- Z-Clamp bushings from Group 2 coincide with Group 5 Beta-Adapter assemblies.
- The split bushings provide extra vibration absorption for delicate clamping surfaces.

**INSTALLATION** - Refer to Pages 28-29

Group	A1	A2	A3	H1	H2	Hex Bolt
Group 1 H4 BETA	45mm 1.77	85mm 3.34	70mm 2.75	32mm 1.25	64mm 2.51	3/8"-16 x 2-1/4"
Group 2 H5 BETA	60mm 2.36	100mm 3.93	84mm 3.30	38mm 1.49	76mm 2.99	3/8"-16 x 2-3/4"

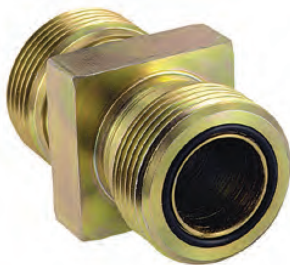
		Tube Size	Group 1 (H4) Part No.	Group 2 (H5) Part No.
	37° JIC	1/4"	H4MJA1-4-S	H5MJA2-4-S
		3/8"	H4MJA1-6-S	H5MJA2-6-S
		1/2"	H4MJA1-8-S	H5MJA2-8-S
		5/8"	H4MJA1-10S	H5MJA2-10S
		3/4"	—	H5MJA2-12S
		5/8"	—	H5MJA2-14S
	O-Ring Face Seal	1"	—	H5MJA2-16S
		3/8"	H4MJO1-6-S	H5MJO2-6-S
		1/2"	H4MJO1-8-S	H5MJO2-8-S
		5/8"	H4MJO1-10S	H5MJO2-10S
	Female Junction	3/4"	—	H5FJA2-12S
		1/2"	H4FJA1-8-S	—
	Female Pipe	3/8" NPT	H4FJA1-6P-S	H5FJA2-12P-S
	Beta Cushions Only (Set of Two)	—	H4JCN-C	H5JCN-C
	Z-Clamp Split Bushing	—	HAC-1 (1-1/2" SERIES) CAN BE USED	HAC-2 (2" SERIES) CAN BE USED





NOTICE: Add "CC-" Prefix for All Part Numbers

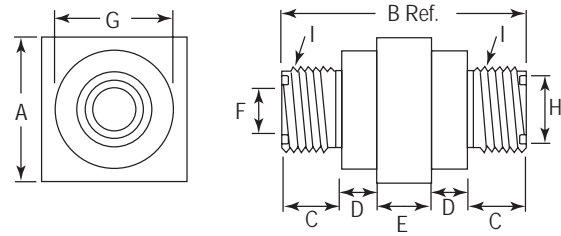
### O-RING FACE SEAL



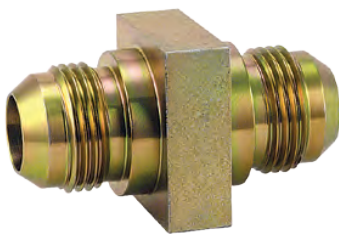
FOR USE with BETA  
ADAPTERS & Z-CLAMPS

Part No.	Tube Size	Dimensions – inches								
		A	B	C	D	E	F	G	I (Thread)	H
MJO-1-6	3/8"	1.00"	1.96"	0.43"	0.28"	0.54"	0.26"	0.84"	11/16"-16	0.496"
MJO-1-8	1/2"	1.00"	2.10"	0.50"	0.28"	0.54"	0.38"	0.84"	13/16"-16	0.621"
MJO-1-10	5/8"	1.00"	2.30"	0.60"	0.28"	0.54"	0.48"	0.84"	1"-14	0.748"
MJO-2-6	3/8"	1.50"	2.08"	0.43"	0.34"	0.54"	0.26"	1.20"	11/16"-16	0.496"
MJO-2-8	1/2"	1.50"	2.22"	0.50"	0.34"	0.54"	0.38"	1.20"	13/16"-16	0.621"
MJO-2-10	5/8"	1.50"	2.42"	0.60"	0.34"	0.54"	0.48"	1.20"	1"-14	0.748"
MJO-2-12	3/4"	1.50"	2.52"	0.65"	0.34"	0.54"	0.61"	1.20"	13/16"-12	0.873"
MJO-2-16	1"	1.50"	2.58"	0.68"	0.34"	0.54"	0.81"	1.20"	17/16"-12	1.058"
MJO-3-20	1 1/4"	2.25"	2.98"	0.68"	0.437"	0.75"	1.02"	2.12"	1 11/16"-12	1.309"
MJO-3-24	1 1/2"	2.25"	2.98"	0.68"	0.437"	0.75"	1.26"	2.12"	2"-12	1.621"

- Offered in a wide range of sizes in JIC, NPT, SAE, and ORFS thread configurations.
- Zinc plated to prevent corrosion
- Clamping at the fitting prevents loosening and other vibration related leaks



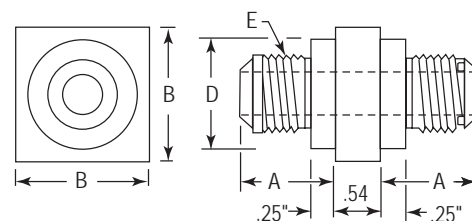
### 37° FLARE MALE JUNCTION ADAPTER



FOR USE with BETA  
ADAPTERS & Z-CLAMPS

Part No.	Tube Size	Dimensions – Inches			E (Thread)
		A	B	D	
1½" Series					
MJA-1-4	¼"	0.76"	1"	0.84"	7/16"-20
MJA-1-6	⅜"	0.76"	1"	0.84"	9/16"-18
MJA-1-8	½"	0.87"	1"	0.84"	¾"-16
MJA-1-10	⅝"	0.96"	1"	0.84"	7/8"-14
2" Series					
MJA-2-4	¼"	0.76"	1½"	1.20"	7/16"-20
MJA-2-6	⅜"	0.76"	1½"	1.20"	9/16"-18
MJA-2-8	½"	0.87"	1½"	1.20"	¾"-16
MJA-2-10	⅝"	0.96"	1½"	1.20"	7/8"-14
MJA-2-12	¾"	1.07"	1½"	1.20"	1⅛"-12
MJA-2-14	7/8"	1.10"	1½"	1.20"	1⅜"-12
MJA-2-16	1"	1.10"	1½"	1.20"	1⅝"-12

- Offered in a wide range of sizes in JIC, NPT, SAE, and ORFS thread configurations.
- Zinc plated to prevent corrosion
- Clamping at the fitting prevents loosening and other vibration related leaks

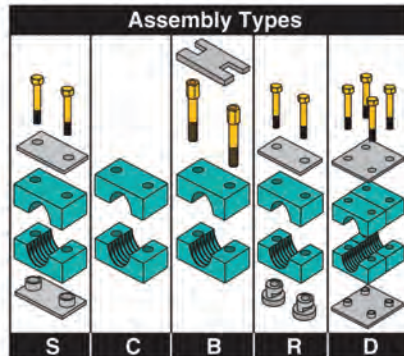


# Beta Hydraulic Clamps™

## Heavy Series Cushion Clamps

NOTICE: Add "CC-" Prefix for All Part Numbers

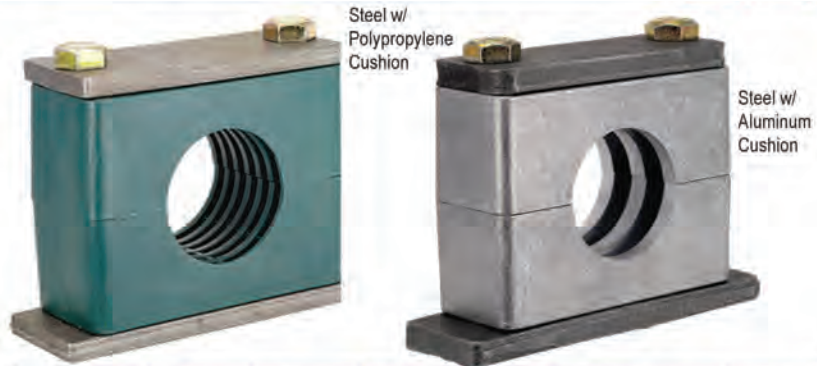
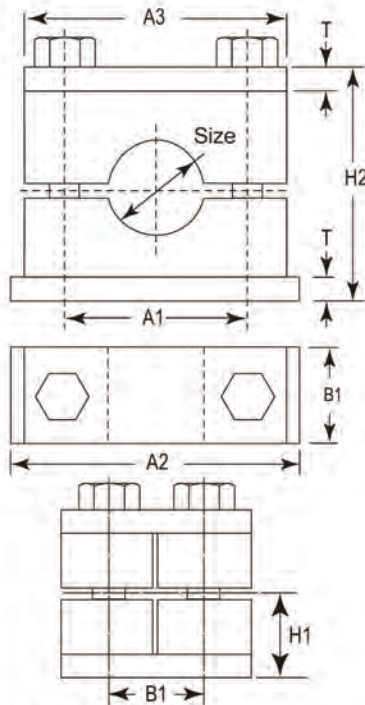
### HEAVY SERIES



#### BETA HEAVY SERIES

- Recommended systems with greater than 1500 PSI operating pressure, operations with pressure surges, and applications with wide temperature fluctuations.
- Absorbs high levels of shock, noise, and vibration
- Cushions are polypropylene (Green color) or Aluminum.
- Aluminum cushions and are used in higher heat applications up to 500 Degrees.

INSTALLATION- Refer to Pages 28-29



Group	Part No.	Tube Size	Pipe Size	Dimensions-inch(mm)							Hex Bolt
				A1	A2	A3	B1	H1	H2	T	
H3	H3004	1/4" (0.250)	-	1.29 (33)	2.87 (73)	2.16 (55)	1.18 (30)	0.94 (24)	1.88 (48)	0.31 (8)	3/8"-16 x 1 3/4"
	H3006	3/8" (0.375)	-								
	H3007	-	1/8" (0.405)								
	H3008	1/2" (0.500)	-								
	H3009	-	1/4" (0.540)								
	H3010	5/8" (0.625)	-								
H4	H4011	-	3/8" (0.675)	1.77 (45)	3.34 (85)	2.75 (70)	1.18 (30)	1.25 (32)	2.51 (64)	0.31 (8)	3/8"-16 x 2-1/4"
	H4012	3/4" (0.750)	-								
	H4014	-	1/2" (0.840)								
	H4015	7/8" (0.875)	-								
	H4016	1" (1.000)	-								
H5	H5020	1 1/4" (1.250)	-	2.36 (60)	3.93 (100)	3.30 (84)	1.18 (30)	1.49 (38)	2.99 (76)	0.31 (8)	3/8"-16 x 2-3/4"
	H5021	-	1" (1.315)								
	H5024	1 1/2" (1.500)	-								
	H5027	-	1 1/4" (1.660)								
H6	H6028	1 3/4" (1.750)	-	3.54 (90)	5.90 (150)	4.52 (115)	1.77 (45)	2.16 (55)	4.33 (110)	0.39 (10)	1/2"-13 x 4"
	H6030	-	1 1/2" (1.900)								
	H6032	2" (2.000)	-								
	H6034	2 1/4" (2.250)	-								
	H6038	2 3/8" (2.375)	2" (2.375)								
H7	H7044	2 3/4" (2.750)	-	4.80 (122)	7.08 (180)	5.98 (152)	2.36 (60)	2.75 (70)	5.51 (140)	0.39 (10)	5/8"-11x 5-1/4"
	H7046	-	2 1/2" (2.870)								
	H7050	3" (3.000)	-								
	H7056	-	3" (3.500)								
	H7057	3 1/2" (3.500)	-								
H8	H8072	-	4" (4.500)	6.61 (168)	8.86 (225)	8.07 (205)	3.15 (80)	3.94 (100)	7.87 (200)	0.59 (15)	3/4"-10 x 7 1/2"
H9	H9089	-	5" (5.563)	8.07 (221)	10.63 (270)	9.92 (252)	3.54 (90)	4.53 (115)	9.06 (230)	0.59 (15)	7/8"-9 x 8-1/4"
	H9106	-	6" (6.625)								
H10	H10137	-	8" (8.625)	10.43 (265)	13.39 (340)	12.60 (320)	4.72 (120)	6.30 (160)	12.60 (320)	0.98 (25)	M30 x300mm
H11	H11170	-	10" (10.750)	15.55 (395)	20.47 (520)	18.35 (466)	6.30 (160)	9.25 (235)	18.50 (470)	1.18 (30)	M30 x450mm
<p>Note: Add assembly type to part number. Example: <b>H-3004S-SS</b> provides the complete assembly as shown with stainless steel components.</p>											
<p>↓ <b>SUFFIX</b></p>		Components		Cushion		Example (complete assembly):					
NONE		Steel		Polypropylene (green)		H-3004S					
-AL		Steel		Aluminum		H-3004S-AL					
-SS		Stainless Steel		Polypropylene (green)		H-3004S-SS					



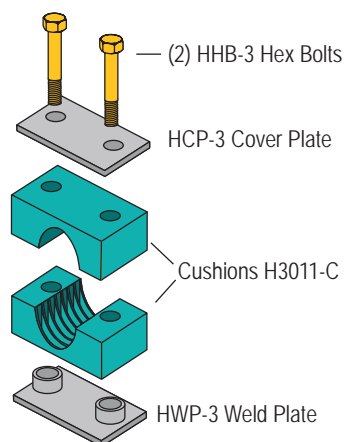
# Beta Hydraulic Clamps™

## Heavy Series Cushion Clamps | Accessories

**NOTICE: Add "CC-" Prefix for All Part Numbers**

HEAVY SERIES COVER PLATE			HEAVY SERIES SAFETY PLATE			C-RAIL NUTS (Two required per single assembly)		
	HCP3	Use w/Group H3		HSP3	Use w/Group H3		HRN-3-5	3/8" nut, Use w/ Groups H3-H5
	HCP4	Use w/Group H4		HSP4	Use w/Group H4		HRN6	7/1" nut, Use w/ Group H6
	HCP5	Use w/Group H5		HSP5	Use w/Group H5		Note: Rail mounted stacking kit is only available on groups H3, H4, and H5	
	HCP6	Use w/Group H6		HSP6	Use w/Group H6			
	HCP7	Use w/Group H7		HSP7	Use w/Group H7			
	HCP8	Use w/Group H8		HSP8	Use w/Group H8			
	HCP9	Use w/Group H9		HSP9	Use w/Group H9			
HEAVY SERIES HEX BOLTS (Two required per single assembly)			HEAVY SERIES STACKING BOLTS (Two required per single assembly)			C-RAIL		
	HHB3	Use w/Group H3		HSB3	Use w/Group H3		HCR-1	39" (1 meter)
	HHB4	Use w/Group H4		HSB4	Use w/Group H4		HCR-2	78" (2 meter)
	HHB5	Use w/Group H5		HSB5	Use w/Group H5		 40 mm 13 mm 5 mm 22 mm	
	HHB6	Use w/Group H6		HSB6	Use w/Group H6			
	HHB7	Use w/Group H7		HSB7	Use w/Group H7			
	HHB8	Use w/Group H8		HSB8	Use w/Group H8			
	HHB9	Use w/Group H9		HSB9	Use w/Group H9			
HEAVY SERIES WELD PLATE			HEAVY SERIES DOUBLE WELD PLATE			HEAVY SERIES DOUBLE COVER PLATE		
	HWP3	Use w/Group H3		HDP3	Use w/Group H3		DCP3	Use w/Group H3
	HWP4	Use w/Group H4		HDP4	Use w/Group H4		DCP4	Use w/Group H4
	HWP5	Use w/Group H5		HDP5	Use w/Group H5		DCP5	Use w/Group H5
	HWP6	Use w/Group H6		HDP6	Use w/Group H6		DCP6	Use w/Group H6
	HWP7	Use w/Group H7		HDP7	Use w/Group H7		DCP7	Use w/Group H7
	HWP8	Use w/Group H8						
	HWP9	Use w/Group H9						

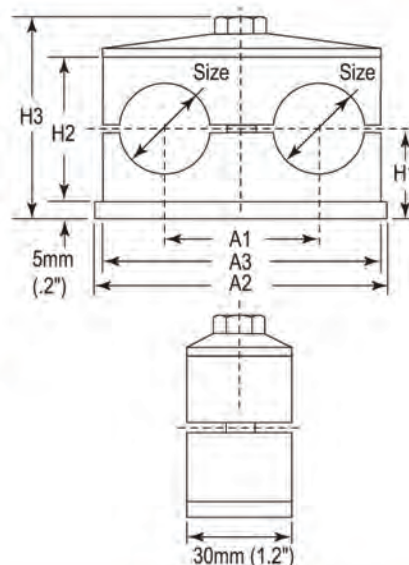
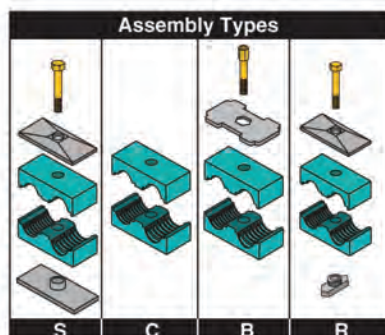
ORDERING EXAMPLE		
H3004S		
Assembly Includes		
Quantity	Part No.	Description
1 Each	HWP-3	Weld Plate
1 Each	HCP-3	Cover Plate
2 Each	HHB-3	Hex Bolts
1 set	H3011C	Cushions



# Beta Hydraulic Clamps™

## Twin Series Cushion Clamps


NOTICE: Add "CC-" Prefix for All Part Numbers



**BETA CLAMPS TWIN SERIES** are ideal for general-duty applications subject to moderate levels of shock and vibration. Cushions in this series are Polypropylene (Green Color).

Call factory for additional sizes and cushion materials

**INSTALLATION** - Refer to Pages 28-29

Group	Steel Part No.	Tube Size	Pipe Size	Dimensions - inch (mm)						WT/ 100	Hex Bolt
				A1	A2	A3	H1	H2	H3		
T1	T1004	1/4"		0.78 (20)	1.45 (37)	1.41 (36)	0.72 (18.5)	1.06 (27)	1.69 (43)	21	1/4"-20 x 1 3/8"
	T1006	3/8"								21	
	T1007		1/8"								
T2	T2008	1/2"		1.14 (29)	2.16 (55)	2.08 (53)	0.70 (18)	1.02 (26)	1.71 (43.5)	31	5/16"-18 x 1 3/8"
	T2009		1/4"							31	
	T2010	5/8"								31	
	T2011		3/8"							31	
T3	T3012	3/4"		1.41 (36)	2.75 (70)	2.63 (67)	0.92 (23.5)	1.45 (37)	2.14 (54.5)	40	5/16"-18 x 1 3/4"
	T3014		1/2"							39	
	T3015	7/8"								39	
	T3016	1"								38	
T4	T4017		3/4"	1.77 (45)	3.34 (85)	3.22 (82)	1.02 (26)	1.65 (42)	2.34 (59.5)	49	5/16"-18 x 2"
	T4018	1 1/8"								49	
T5	T5020	1 1/4"		2.20 (56)	4.33 (110)	4.17 (106)	1.25 (32)	2.12 (54)	2.81 (71.5)	65	5/16-18 x 2-3/8"
	T5021		1"							65	
	T5024	1 1/2"								64	
	T5027		1 1/4"							62	
		Note: Add assembly type to part number. Example: <b>T1004S-SS</b> provides the complete assembly as shown with stainless steel components.									
	SUFFIX	Components	Cushion				Example				
	none	Steel	Polypropylene (green)				T1004S				
	SS	Stainless Steel	Polypropylene (green)				T1004S-SS				



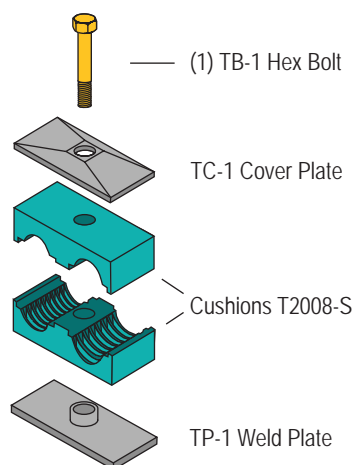
# Beta Hydraulic Clamps™

## Twin Series Cushion Clamps | Accessories

**NOTICE: Add "CC-" Prefix for All Part Numbers**

TWIN SERIES COVER PLATE			TWIN SERIES SAFETY PLATE		
	TC1	Use with Group T1		TSP1	Use with Group T1
	TC2	Use with Group T2		TSP2	Use with Group T2
	TC3	Use with Group T3		TSP3	Use with Group T3
	TC4	Use with Group T4		TSP4	Use with Group T4
	TC5	Use with Group T5		TSP5	Use with Group T5
TWIN HEX BOLT			C-RAIL NUT		
	TB1	Use with Group T1		SRN1-6	1/4" Nut, Use with Group T1
	TB2	Use with Group T2		TRN2-5	5/16" Nut, Use with Group T2 to T5
	TB3	Use with Group T3			
	TB4	Use with Group T4			
	TB5	Use with Group T5			
TWIN STACKING BOLT			C-RAIL		
	TSB1	Use with Group T1		SCR1	39" (1 meter)
	TSB2	Use with Group T2		SCR2	78" (2 meter)
	TSB3	Use with Group T3			
	TSB4	Use with Group T4			
	TSB5	Use with Group T5			
TWIN SERIES WELD PLATE					
	TP1	Use with Group T1			
	TP2	Use with Group T2			
	TP3	Use with Group T3			
	TP4	Use with Group T4			
	TP5	Use with Group T5			

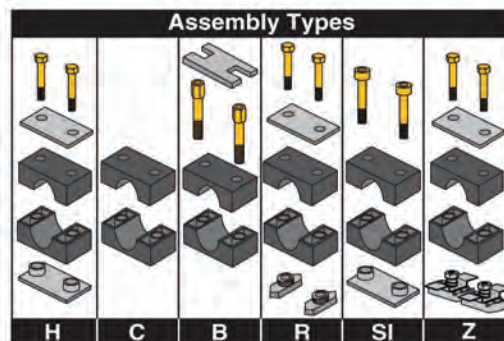
ORDERING EXAMPLE		
T2008S		
Assembly Includes		
Quantity	Part No.	Description
1 Each	TP1	Weld Plate
1 Each	TC1	Cover Plate
1 Each	TB1	Hex Bolts
1 set	T2008S	Cushions



# Beta Hydraulics Clamps™

## "Smoothie" Series Cushion Clamps

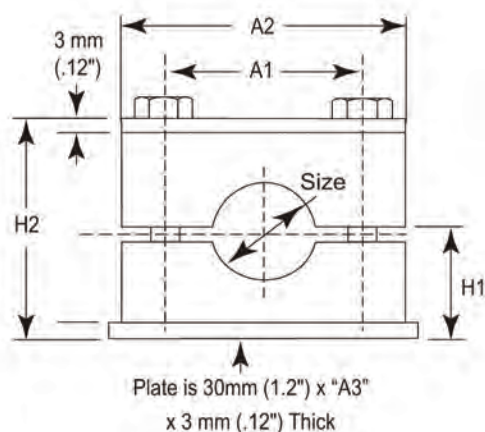
NOTICE: Add "CC-" Prefix for All Part Numbers



Beta "Smoothie" is ideal for general-duty applications where there is a need to reduce wear on hose connection caused by vibration and surge.

- Chamfered and smooth core protects hose cover and extends the life of the hose
- Uses Standard Beta hardware
- Reduces wear on hose connection caused by vibration and surge

**INSTALLATION** - Refer to Pages 28-29



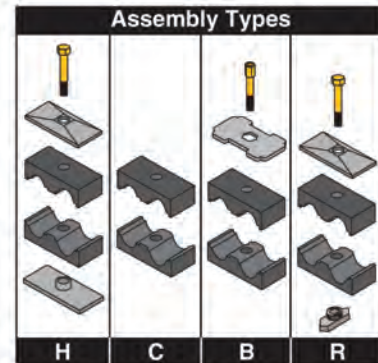
Group	Part No.	SAE 100R1 Hose Size	Dimensions (Inches)					WT/100	Bolt
			A1	A2	A3	H1	H2		
S2	S2004H	1/4" (0.53)	1.02	1.57	1.65	0.76	1.535	20	1/4 - 20 x 1 3/8
	S2006H	3/8" (0.69)	1.02	1.57	1.65	0.76	1.535	20	
S3	S3008H	1/2" (0.81)	1.29	1.96	2.04	0.80	1.61	25	1/4 - 20 x 1 1/2
	S3010H	5/8" (0.93)	1.29	1.96	2.04	0.80	1.61	25	
S4	S4012H	3/4" (1.10)	1.57	2.28	2.36	0.94	1.88	29	1/4 - 20 x 1 3/4
S5	S5016H	1" (1.42)	2.05	2.75	2.83	1.25	2.52	39	1/4 - 20 x 2 1/2

Note: For configurations other than "H", Add Assembly type to Part No.

Example: S2004H provides the complete assembly as shown and S2004H-Z provides the "Z" assembly as shown



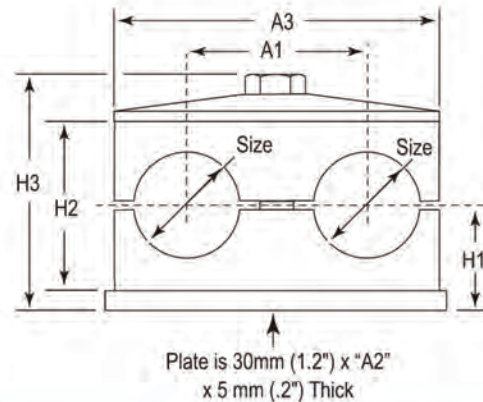
NOTICE: Add "CC-" Prefix for All Part Numbers



**Beta "Smoothie"** is ideal for general-duty applications where there is a need to reduce wear on hose connection caused by vibration and surge.

- Chamfered and smooth core protects hose cover and extends the life of the hose
- Uses Standard Beta Twin hardware
- Reduces wear on hose connection caused by vibration and surge

**INSTALLATION** - Refer to Pages 28-29



Group	Part No.	SAE 100R1 Hose Size	Dimensions (Inches)						WT/100	Bolt
			A1	A2	A3	H1	H2	H3		
T2	T2004H	1/4" (0.53)	1.14	2.16	2.08	0.70	1.02	1.71	31	5/16 - 18 x 1 3/8
	T2006H	3/8" (0.69)	1.14	2.16	2.08	0.70	1.02	1.71	31	
T3	T3008H	1/2" (0.81)	1.41	2.75	2.63	0.92	1.45	2.14	39	5/16 - 18 x 1 3/4
T4	T4010H	5/8" (0.93)	1.77	3.34	3.22	1.02	1.65	2.34	49	5/16 - 18 x 2
	T4012H	3/4" (1.10)	1.77	3.34	3.22	1.02	1.65	2.34	49	
T5	T5016H	1" (1.42)	2.2	4.33	4.17	1.25	2.12	2.81	65	5/16 - 18 x 2 3/8

Note: For configurations other than "H", Add Assembly type to Part No.

Example: T2004H provides the complete assembly as shown and T2004H-B provides the "B" assembly as shown

# Beta Hydraulic Clamps™

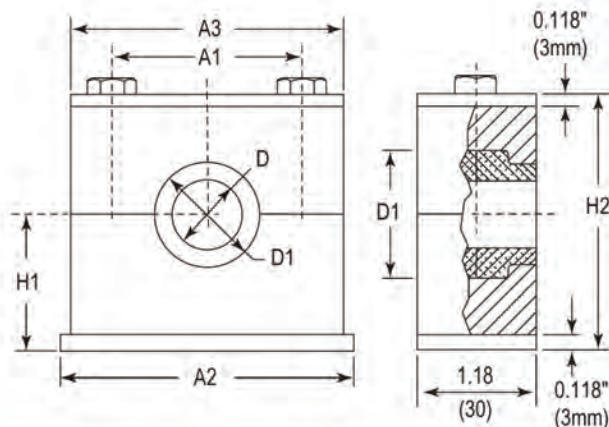
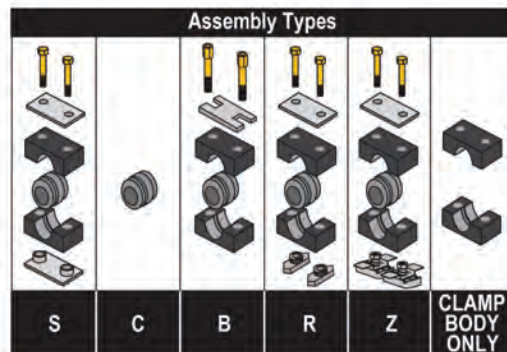
## Rubber Insert Standard Series

NOTICE: Add "CC-" Prefix for All Part Numbers



- One cushion block provides flexible size range of cushioning.
- Smooth bore core can be used on hose, or for vibration reduction
- Broad range of metric sizes.
- Maintains center line when used in groups.

**INSTALLATION** - Refer to Pages 28-29



Group	Part No.	Bore Size Ø D		Tube O.D.	Pipe Size	Nom. Size Hose O.D. Min - Max	Dimensions – inches (mm)							Bolt Size
		in	(mm)				D	D1	H1	H2	A1	A2	A3	
S4	SM4006RI	0.24	6	-	-	0.22 - 0.24	1.00 (25.5)	1.22 (31)	0.925 (23.5)	1.85 (47)	1.57 (40)	2.32 (59)	2.24 (57)	1/4-20 x 1 3/4
	SM4008RI	0.32	8	1/16"	-	0.30 - 0.32								
	S4007RI	0.39	10	-	1/8"	0.37 - 0.39								
	SM4012RI	0.47	12	-	-	0.45 - 0.47								
	S4008RI	0.50	12.7	1/2"	-	0.48 - 0.50								
	SM4014RI	0.55	14	-	-	0.53 - 0.55								
	SM4015RI	0.59	15	-	-	0.57 - 0.59								
	S4010RI	0.63	16	5/8"	-	0.61 - 0.63								
	S4011RI	0.68	17.2	-	3/8"	0.66 - 0.68								
	S4012RI	0.75	19	3/4"	-	0.73 - 0.75								
S4C	Clamp Body Only (Group S4)													
S6	S6014RI	0.79	20	-	1/2"	0.77 - 0.79	1.54 (39)	1.81 (46)	1.40 (35.5)	2.80 (71)	2.60 (66)	3.46 (88)	3.39 (86)	1/4-20 x 2-3/4
	S6015RI	0.87	22	7/8"	-	0.85 - 0.87								
	S6016RI	0.98	25	1"	-	0.96 - 0.98								
	S6017RI	1.06	26.9	-	3/4"	1.04 - 1.06								
	SM6028RI	1.10	28	-	-	1.08 - 1.10								
	SM6030RI	1.18	30	-	-	1.16 - 1.18								
	S6020RI	1.26	32	1 1/4"	-	1.24 - 1.26								
	S6C	Clamp Body Only (Group S5)												

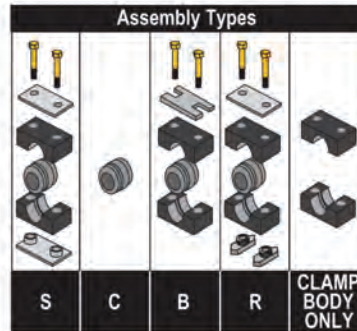
Note: Add Assembly type to Part No.- Example: **SM4006RIS** provides the complete assembly as shown



# Beta Hydraulic Clamps™

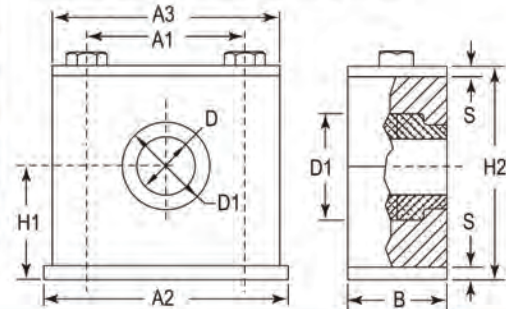
## Rubber Insert Heavy Series

**NOTICE: Add "CC-" Prefix for All Part Numbers**



**INSTALLATION** - Refer to Pages 28-29

- One block provides flexible size range of cushioning.
- Smooth bore core for hose, or vibration reduction
- Broad range of metric sizes.
- Maintains center line when used in groups.
- For high pressure hydraulics and heavy duty operations.
- Used for intermittent load and high oil speeds.
- Increase size range over standard series.



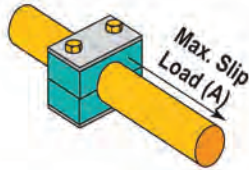
Group	Part No.	Bore Ø D in. (mm)	Tube O.D.	Pipe Size	Nom. Size Hose O.D.	Dimensions –inches (mm)									Bolt Size
						D	D1	B	H1	H2	A1	A2	A3	S	
H4	HM4006RI	0.24 (6)	-	-	0.22 - 0.24	1.00 (25.5)	1.24 (31.5)	1.18 (30)	1.22 (31)	2.44 (62)	1.77 (45)	3.35 (85)	2.76 (70)	0.32 (8)	3/8-16x 2-1/4
	HM4008RI	0.32 (8)	1/16"	-	0.30 - 0.32										
	H4007RI	0.39 (10)	-	1/8"	0.37 - 0.39										
	HM4012RI	0.47 (12)	-	-	0.45 - 0.47										
	H4008RI	0.50 (12.7)	1/2"	-	0.48 - 0.50										
	HM4014RI	0.55 (14)	-	-	0.53 - 0.55										
	HM4015RI	0.59 (15)	-	-	0.57 - 0.59										
	H4010RI	0.63 (16)	5/8"	-	0.61 - 0.63										
	H4011RI	0.68 (17.2)	-	3/8"	0.66 - 0.68										
	H4012RI	0.75 (19)	3/4"	-	0.73 - 0.75										
H4C	Clamp Body Only (Group H4)														
H5	H5014RI	0.79 (20)	-	1/2"	0.77 - 0.79	1.54 (39)	1.83 (46.5)	1.18 (30)	1.46 (37)	2.91 (74)	2.36 (60)	3.94 (100)	3.35 (85)	0.32 (8)	3/8-16x 2-3/4
	H5015RI	0.87 (22)	7/8"	-	0.85 - 0.87										
	H5016RI	0.98 (25)	1"	-	0.96 - 0.98										
	H5017RI	1.06 (26.9)	-	3/4"	1.04 - 1.06										
	HM5028RI	1.10 (28)	-	-	1.08 - 1.10										
	HM5030RI	1.18 (30)	-	-	1.16 - 1.18										
	H5020RI	1.26 (32)	1 1/4"	-	1.24 - 1.26										
H5C	Clamp Body Only (Group H5)														
H6	H6021RI	1.33 (33.7)	-	1"	1.31 - 1.33	2.56 (65)	2.91 (74)	1.77 (45)	2.11 (53.5)	4.21 (107)	3.56 (90.5)	5.51 (140)	4.53 (115)	0.39 (10)	1/2-13x 4
	HM6035RI	1.38 (35)	-	-	1.36 - 1.38										
	H6024RI	1.50 (38)	1 1/2"	-	1.48 - 1.50										
	HM6040RI	1.58 (40)	-	-	1.56 - 1.58										
	H6027RI	1.65 (42)	-	1 1/4"	1.63 - 1.65										
	HM6045RI	1.79 (45.5)	-	-	1.77 - 1.79										
	H6030RI	1.89 (48)	-	1 1/2"	1.87 - 1.89										
	H6032RI	2.01 (51)	2"	-	1.99 - 2.01										
	H6034RI	2.10 (53.4)	2 1/8"	-	2.08 - 2.10										
HM6056RI	2.22 (56.4)	-	-	2.2 - 2.22											
H6C	Clamp Body Only (Group H6)														
H7	H7038RI	2.36 (60)	-	2"	2.34 - 2.36	3.50 (89)	3.86 (98)	2.36 (60)	2.70 (68.5)	5.39 (137)	4.80 (122)	7.09 (180)	5.98 (152)	0.39 (10)	5/8-11x 5-1/2
	HM7065RI	2.56 (65)	-	-	2.54 - 2.56										
	HM7070RI	2.76 (70)	-	-	2.74 - 2.76										
	H7046RI	2.87 (73)	-	2 1/2"	2.85 - 2.87										
	H7050RI	2.99 (76)	3"	-	2.97 - 2.99										
H7C	Clamp Body Only (Group H7)														
H8	HM8083RI	3.27 (83)	-	-	3.19 - 3.27	4.57 (116)	5.20 (132)	3.15 (80)	3.88 (98.5)	7.76 (197)	6.61 (168)	8.86 (225)	8.07 (205)	0.59 (15)	3/4-10x 7-1/2
	H8056RI	3.50 (89)	3 1/2"	3"	3.43 - 3.50										
	H8C	Clamp Body Only (Group H8)													

Note: Add Assembly type to Part No.- Example: **HM4006RIS** provides the complete assembly as shown



NOTICE: Add "CC-" Prefix for All Part Numbers

#### Maximum Slip Load



Max. Pipe Slip indicates that Sliding starts when the specified values (A) are reached.

#### Beta Standard Series

(DIN)	Hex Head Bolt UNC Thread (Metric ISO)	Polypropylene		Polyamide		Aluminium	
		Tightening Torque ft•lb (N•m)	Max. Pipe Slip lbf (kN)	Tightening Torque ft•lb (N•m)	Max. Pipe Slip lbf (kN)	Tightening Torque ft•lb (N•m)	Max. Pipe Slip lbf (kN)
S1 (1)	1/4-20 UNC (M6)	6 (8)	247 (11)	7 (10)	157 (7)	9 (12)	944 (42)
S2 (2)			292 (13)		180 (8)		967 (43)
S3 (3)			315 (14)		360 (16)		1,101 (49)
S4 (4)			337 (15)		382 (17)		1,124 (50)
S5 (5)			427 (19)		450 (20)		1,641 (73)
S6 (6)			450 (20)		562 (25)		2,000 (89)
S7 (7)			517 (23)		719 (32)		
S8 (8)			585 (26)		787 (35)		

#### Beta Heavy Series

(DIN)	Hex Head Bolt UNC Thread (Metric ISO)	Polypropylene		Polyamide		Aluminium	
		Tightening Torque ft•lb (N•m)	Max. Pipe Slip lbf (kN)	Tightening Torque ft•lb (N•m)	Max. Pipe Slip lbf (kN)	Tightening Torque ft•lb (N•m)	Max. Pipe Slip lbf (kN)
H3 (1)	3/8-16 (M10)	9 (12)	360 (16)	15 (20)	944 (42)	22 (30)	2,720 (121)
H4 (2)		9 (12)	652 (29)	15 (20)	1044 (45)	22 (30)	3,395 (151)
H5 (3)		11 (15)	742 (33)	18 (25)	1146 (51)	26 (35)	3,485 (155)
H6 (4)	7/16-14 (M12)	22 (30)	1843 (82)	30 (40)	2090 (93)	41 (55)	6,609 (295)
H7 (5)	5/8-11 (M16)	33 (45)	2472 (110)	41 (55)	3551 (158)	86 (120)	7,845 (349)
H8 (6)	3/4-10 (M20)	59 (80)	3147 (140)	111 (150)	4720 (210)	162 (220)	11,240 (500)
H9 (7)	7/8-9 (M24)	81 (110)	6300 (280)	148 (200)	7193 (320)	184 (250)	15,871 (706)
H10 (8)	1-1/8-7 (M30)	133 (180)	8992 (400)	258 (350)	10790 (480)	369 (500)	18,996 (845)
H11 (9)		148 (200)	26752 (1,190)	273 (370)	27650 (1,250)	369 (500)	40,802 (1,815)
H12 (10)		199 (270)	37767 (1,680)	332 (450)	40465 (1,800)	443 (600)	54,965 (2,445)

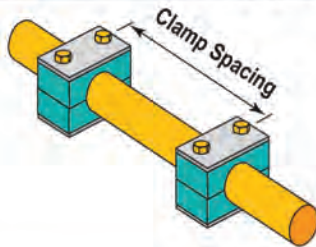
#### Beta Twin Series

(DIN)	Hex Head Bolt UNC Thread (Metric ISO)	Polypropylene		Polyamide	
		Tightening Torque ft•lb (N•m)	Max. Pipe Slip lbf (kN)	Tightening Torque ft•lb (N•m)	Max. Pipe Slip lbf (kN)
T1 (1)	1/4-20 (M6)	4 (5)	202 (09)	4 (5)	202 (09)
T2 (2)	5/16-18 (M8)	9 (12)	472 (21)	9 (12)	495 (22)
T3 (3)	5/16-18 (M10)	9 (12)	427 (19)	9 (12)	450 (20)
T4 (4)	5/16-18 (M12)	9 (12)	607 (27)	9 (12)	652 (29)
T5 (5)	5/16-18 (M16)	6 (8)	382 (17)	6 (8)	562 (25)



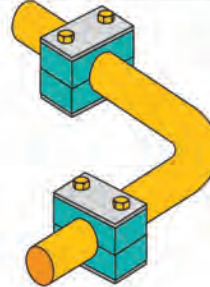
NOTICE: Add "CC-" Prefix for All Part Numbers

Recommended Pipe Clamp Spacing



Pipe OD in (mm)	Spacing ft - in. (m)
0.24" - 0.5" (6 - 12.7)	3' - 3" (1)
0.5" - 0.87" (12.7 - 22)	3' - 11" (1.2)
0.87" - 1.26" (22 - 32)	4' - 11" (1.5)
1.26" - 1.5" (32 - 38)	6' - 7" (2)
1.5" - 2.24" (38 - 57)	8' - 10" (2.7)
2.24" - 2.95" (57 - 75)	9' - 10" (3)
2.95" - 3" (75 - 76.1)	11' - 6" (3.5)
3" - 3.5" (76.1 - 88.9)	12' - 2" (3.7)
3.5" - 4" (88.9 - 102)	13' - 1" (4)
4" - 4.5" (102 - 114)	14' - 9" (4.5)
4.5" - 6.6" (114 - 168)	16' - 5" (5)
6.6" - 8.6" (168 - 219)	19' - 8" (6)
8.6" - 12.8" (219 - 324)	21' - 12" (6.7)
12.8" - 14" (324 - 356)	22' - 12" (7)
14" - 16" (356 - 406)	24' - 7" (7.5)
16" - 16.5" (406 - 419)	26' - 11" (8.2)
16.5" - 20" (419 - 508)	27' - 11" (8.5)
20" - 20.5" (508 - 521)	29' - 6" (9)
20.5" - 22" (521 - 558)	32' - 10" (10)
22" - 31.5" (558 - 800)	41' - 0" (12.5)

Recommended Clamping for Bends



Bends in the line should be clamped on BOTH sides of the bend as shown.

BETA CLAMP MATERIAL PROPERTIES  
Polypropylene (PP) Cushion

Material Properties		
Density	—	0.906 g/cm3
Tensile strength	DIN 53454	25-35 N/mm2
Flexure stress limit	DIN 53452	36N N/mm2
Compressive strength	DIN 53454	90 N/mm2
Impact strength	DIN 53453	No break
Thermo Properties		
Max. temp. resistance	-22° F to 194° F (-30 to 90°C)	
Thermal conductivity	15 x 10-5 /°C	
Linear expansion coeff.	0.22 W/[mk]	
Electrical Properties		
Specific volume	DIN 53482	1016 ohm x cm
Chemical Properties		
Consistent for weak acids, solvents, mineral oils and seawater.		

Beta Bolt Tightening Torque

Clamp	Group	Bolt Size	Aluminum Cushion		Polypropylene Cushion		Polyamide Cushion	
			Lbf	Nm	Lbf	Nm	Lbf	Nm
Beta Standard	S1 - S7	1/4"-20	7	10	6	8	6	8
Beta Heavy	H3, H4	3/8"-16	22	30	9	12	15	20
	H5	3/8"-16	26	35	11	15	18	25
	H6	1/2"-13	41	55	29	30	30	40
	H7	5/8"-11	89	120	33	45	41	55
Beta Twin	T1	1/4"-20	-	-	4	6	4	6
	T2 - T5	5/16"-18	-	-	9	12	9	12

The outlined particulars are approximate values and are only valid as references, which are not binding, also with regard to possible protection of third parties, and they do not exempt you from your own examination of suitability of the products delivered by us. Therefore, these values can only be used in a limited sense for construction purposes. The application of the products is carried out outside our control possibilities and, therefore, is exclusively subject to your own area of responsibility. If, however, liability should be possible, it would be limited for all damages to the value of the goods supplied by us and in use by you. It goes without saying, that we guarantee the perfect quality of our products according to our general sales and delivery conditions.

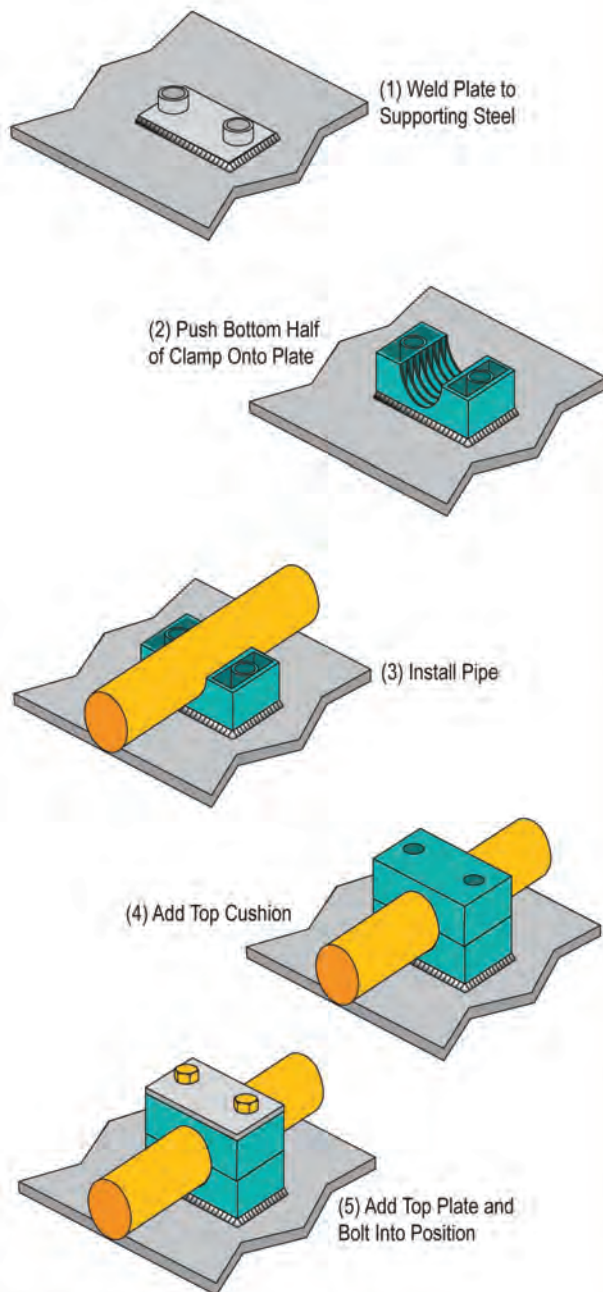
**NOTICE:** Add "CC-" Prefix for All Part Numbers

#### INSTALLATION ON WELD PLATES

Weld plates are available for the following Series:

- Standard-Series
- Heavy-Series
- Twin-Series
- Beta Adapters

For best alignment of clamps we recommend that you mark their location before welding.



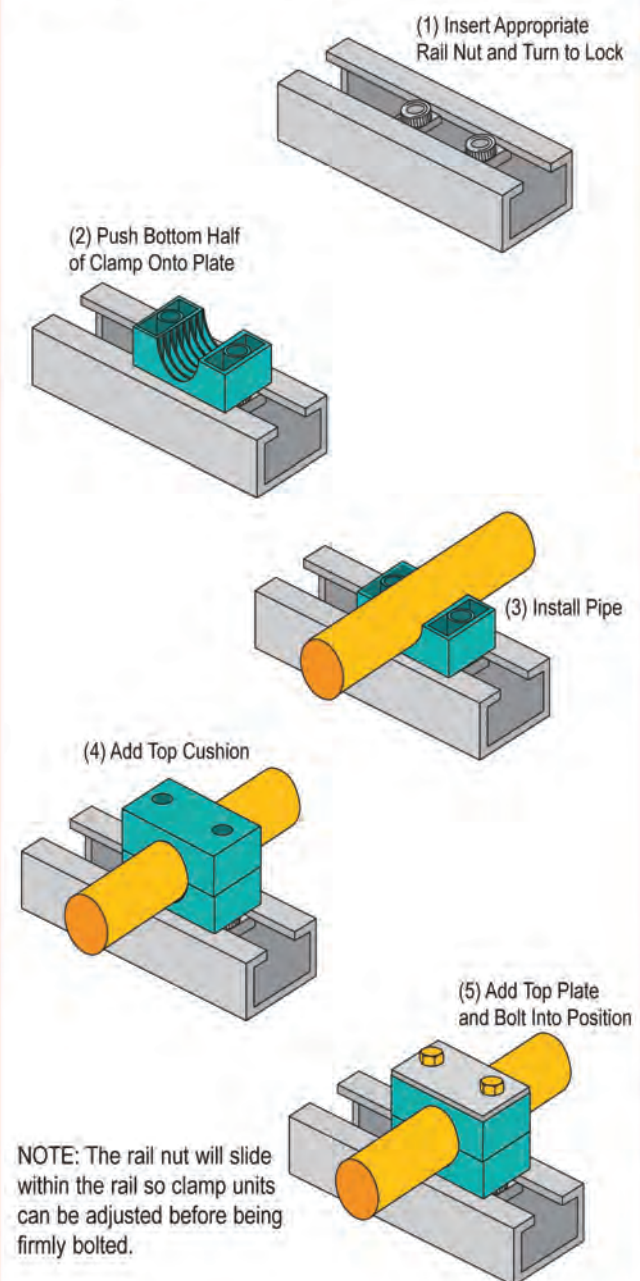
#### INSTALLATION ON MOUNTING RAILS

Mounting rails can be used with the following Series:

- Standard-Series
- Heavy-Series (Group H3 to H6)
- Twin-Series
- Beta Adapters

Mounting rails are available in two different height sizes and are either welded or bolted to the supporting construction.

For Standard-Series and Twin-Series insert hexagon rail nut and turn to lock. For Heavy-Series slide in rail nut.



**NOTE:** The rail nut will slide within the rail so clamp units can be adjusted before being firmly bolted.

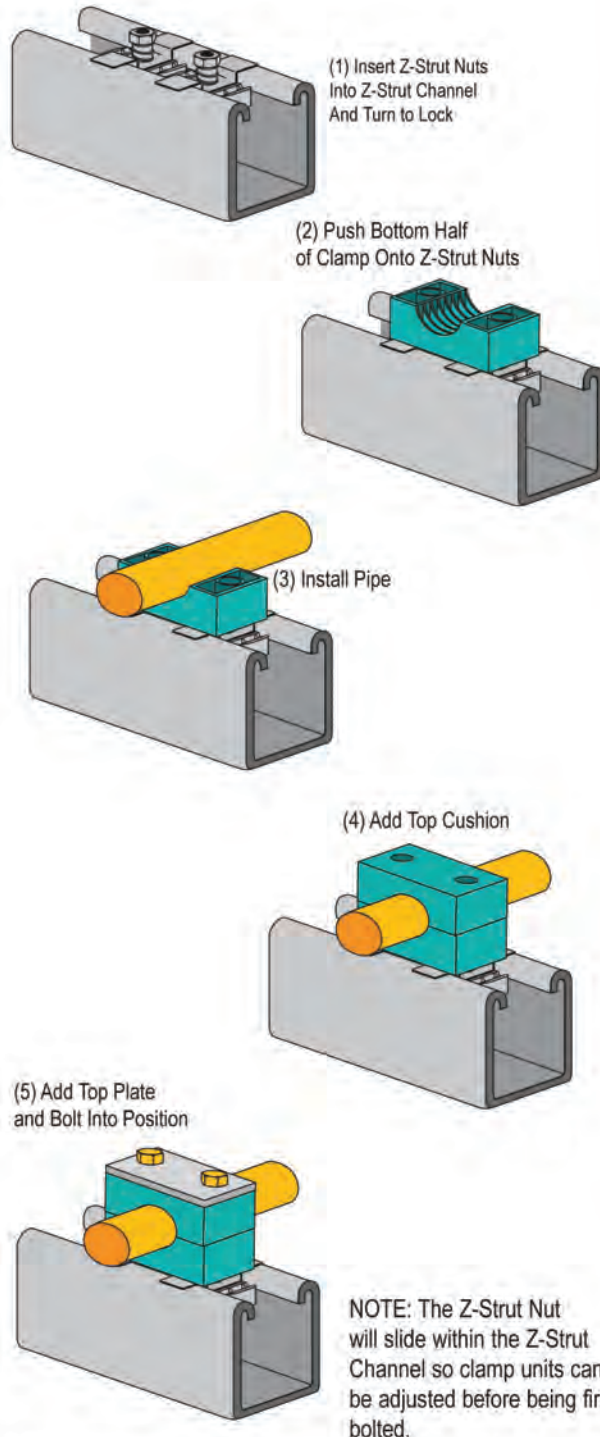


**NOTICE:** Add "CC-" Prefix for All Part Numbers

#### INSTALLATION ON Z-STRUT CHANNEL

The Z-Strut Nuts can be used with any clamp using a 1/4-20 mounting bolt. This includes:

- Standard-Series
- Twin-Series (T1 Only)
- Beta Rubber Inserts

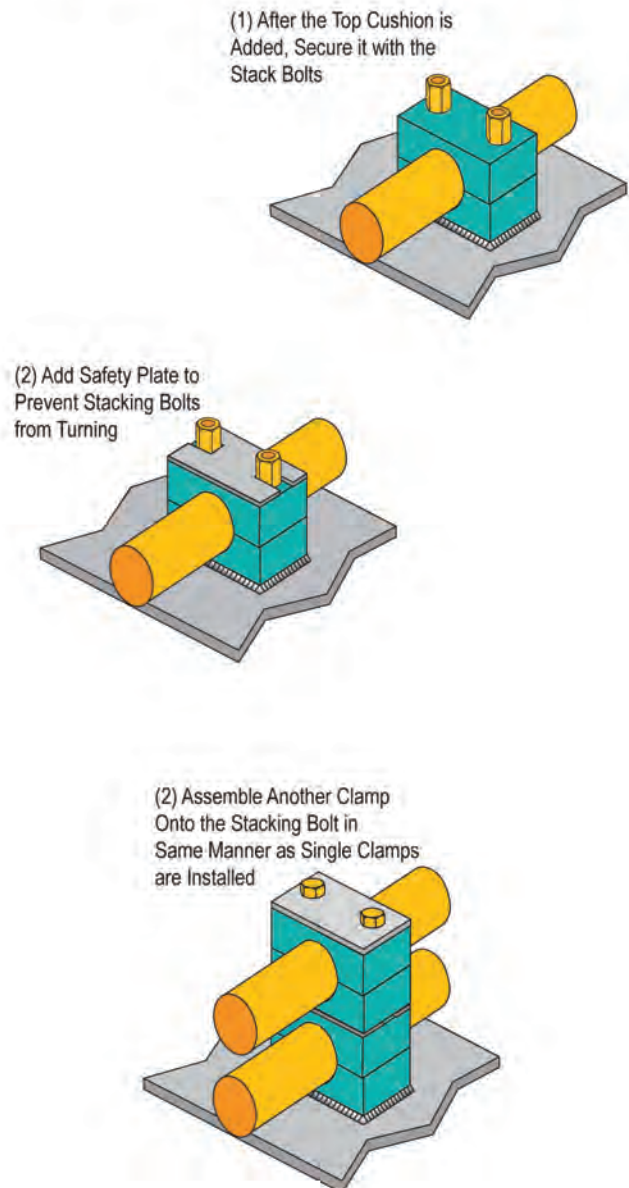


#### MULTI-LEVEL ASSEMBLY

Multi-level pipe clamps permit easy stacking of several tubes or pipes of the same group. The clamps are connected by stacking bolts.

Safety plates are inserted between the clamps to prevent the stacking bolts from turning.

The example below shows a stacking clamp added to a welded clamp, however, stacking assemblies can be fitted to weld plates, rails, or strut in the same manner.



# Alpha Series™

## U-Bolt Clamp

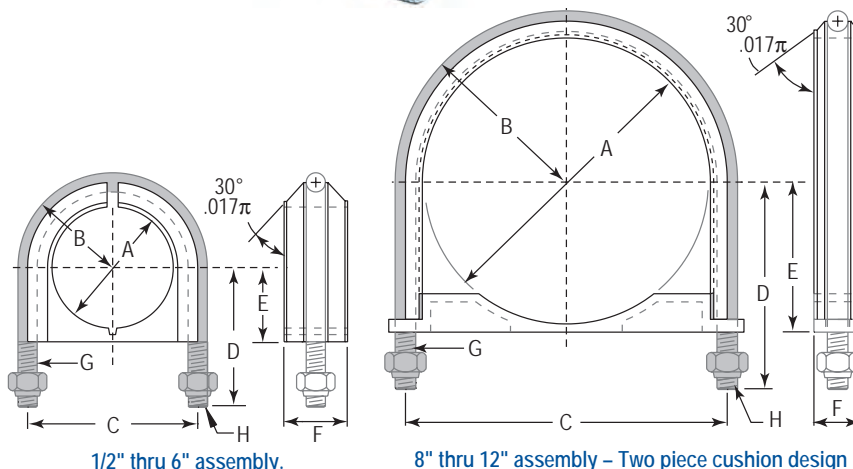
Alpha Series™ | MIL-S-901D

NOTICE: Add "CC-" Prefix for All Part Numbers



Designed for the tough jobs, the Alpha Series™ U-Bolt Assembly secures pipe runs to any flat surface. The cushion design provides total load distribution, allowing the U-Bolt to become a full contact hanger, eliminating knife-edge loading. The U-Bolt traps and secures the cushion in place to prevent lateral movement, while nylon insert locknuts provide a positive lock.



Alpha Series™ U-Bolt Assembly conforms to MIL-S-901D for shock testing.



1/2" thru 6" assembly.

8" thru 12" assembly – Two piece cushion design

Assy. Part No.	Pipe Size (Nom.)	Dimensions (Inches)								Torque	Design Load	Slip Through
		A Dia.	B Radius	C	D	E	F	G	H			
UB1/2PA	1/2"	0.840	0.80	1.60	1.50	0.67	0.68	1/4	1/4-20 UNC-2B	100	485	500
UB3/4PA	3/4"	1.05	0.90	1.80	1.60	0.78	0.68	1/4	1/4-20 UNC-2B	100	485	500
UB1PA	1"	1.31	1.02	2.05	1.70	0.91	0.68	1/4	1/4-20 UNC-2B	100	485	500
UB1-1/4PA	1-1/4"	1.66	1.27	2.55	2.10	1.08	1.24	3/8	3/8-16 UNC-2B	150	1,220	500
UB1-1/2PA	1-1/2"	1.90	1.40	2.80	2.20	1.19	1.24	3/8	3/8-16 UNC-2B	150	1,220	500
UB2PA	2"	2.37	1.67	3.35	2.50	1.45	1.24	3/8	3/8-16 UNC-2B	150	1,220	500
UB2-1/2PA	2-1/2"	2.87	1.95	3.90	3.00	1.69	1.24	1/2	1/2-13 UNC-2B	200	2,260	500
UB3PA	3"	3.50	2.27	4.55	3.30	2.00	1.24	1/2	1/2-13 UNC-2B	200	2,260	500
UB3-1/2PA	3-1/2"	4.00	2.52	5.05	3.70	2.25	1.24	1/2	1/2-13 UNC-2B	200	2,260	500
UB4PA	4"	4.50	2.50	5.50	3.90	2.50	1.24	1/2	1/2-13 UNC-2B	200	2,260	500
UB5PA	5"	5.56	3.25	6.56	4.50	3.03	1.24	1/2	1/2-13 UNC-2B	200	2,260	500
UB6PA	6"	6.62	3.87	7.75	5.40	3.56	1.44	5/8	5/8-11 UNC-2B	250	3,620	500
UB8PA	8"	8.62	4.85	9.82	6.40	4.56	1.44	5/8	5/8-11 UNC-2B	250	3,620	500
UB10PA	10"	10.75	6.08	12.16	7.70	5.68	1.65	3/4	3/4-10 UNC-2B	275	5,420	500
UB12PA	12"	12.75	7.13	14.25	8.70	6.68	1.65	3/4	3/4-10 UNC-2B	275	5,420	500

Assy. Part No.	Tube Size (O.D.)	Dimensions (Inches)								Torque	Design Load	Slip Through
		A Dia.	B Radius	C	D	E	F	G	H			
UB7/8TA	7/8"	0.875	0.80	1.60	1.50	0.67	0.68	1/4	1/4-20 UNC-2B	100	485	500
UB1TA	1"	1.00	0.90	1.80	1.60	0.78	0.68	1/4	1/4-20 UNC-2B	100	485	500
UB11/4TA	1-1/4"	1.25	1.02	2.05	1.70	0.91	0.68	1/4	1/4-20 UNC-2B	100	485	500
UB1 3/8TA	1-3/8"	1.375	1.02	2.05	1.70	0.91	0.68	1/4	1/4-20 UNC-2B	100	485	500
↓	Clamp	Cushion								Example		
SUFFIX												
NONE	Electro-galvanized	Thermoplastic elastomer								UB1/2PA		
6	Stainless Steel, Type 316	Thermoplastic elastomer								UB1/2PA6		
N6	Stainless Steel, Type 316									UB1/2PAN6		
N	Electro-galvanized									UB1/2PAN		
NH	Electro-galvanized									UB1/2PANH		
NH6	Stainless Steel, Type 316									UB1/2PANH6		



# Omega Series™

## Hydraulic Cushion Clamps

**NOTICE: Add "CC-" Prefix for All Part Numbers**



Gold Electro-Galvanized Steel

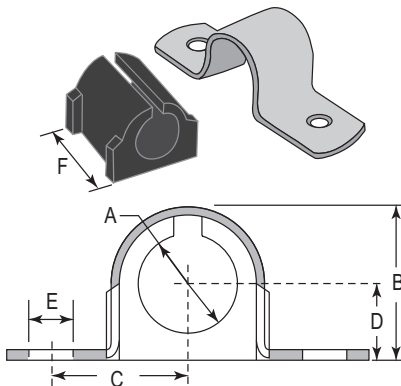


Stainless Steel




The Omega Series™ clamp assembly retains, guides, protects and uniformly spaces line runs. Attached with two standard fasteners to any flat surface, the Omega Series™ clamp eliminates the use of special channels, providing a savings in both space and cost. They go up fast, lines are rigid and look neat.

**THE CLAMP** — Steel with electro-dichromate finish, or stainless steel type 304.

**THE CUSHION** — Manufactured from a thermoplastic elastomer, it's built tough to withstand the effects of most oils, chemicals and industrial cleaning compounds, in temperatures from -50°F to 275°F. Interlock edge ensures that the cushion remains in place.



Assembly consists of clamp and thermoplastic elastomer cushion. Fasteners not included.

Steel Part No.	Stainless Steel Part No.	Copper & Steel Tubing O.D.	Copper Water Pipe (Nom.)	Pipe Size (Nom.)	Dimensions (inches)						Hanging Design Load
					A	B	C	D	E	F	
004M007	004MS007	1/4"	-	-	0.25	0.48	0.60	0.22	0.26	0.78	50
006M008	006MS008	3/8"	1/4"	-	0.37	0.62	0.66	0.31	0.26	0.81	50
008M011	008MS011	1/2"	3/8"	1/4"	0.50	0.81	0.83	0.40	0.26	0.98	50
010M013	010MS013	5/8"	1/2"	3/8"	0.62	0.93	0.85	0.46	0.26	0.98	50
012M015	012MS015	3/4"	5/8"	-	0.75	1.02	0.90	0.50	0.26	0.98	50
014M017	014MS017	7/8"	3/4"	1/2"	0.87	1.12	1.03	0.53	0.26	0.98	50
016M019	016MS019	1"	-	-	1.00	1.24	1.04	0.59	0.26	0.98	50
018M020	018MS020	-	-	3/4"	1.05	1.40	1.11	0.70	0.26	0.98	50
018M021	018MS021	1-1/8"	1"	-	1.12	1.40	1.17	0.70	0.26	0.98	50
020M024	020MS024	1-1/4"	-	-	1.25	1.60	1.20	0.77	0.26	1.56	50
021M026	021MS026	-	-	1"	1.31	1.71	1.28	0.81	0.26	1.56	50
022M026	022MS026	1-3/8"	1-1/4"	-	1.37	1.71	1.28	0.83	0.26	1.56	50
024M028	024MS028	1-1/2"	-	-	1.50	1.85	1.36	0.90	0.26	1.56	200
026M030	026MS030	1-5/8"	1-1/2"	-	1.62	1.98	1.43	0.96	0.26	1.56	200
027M032	027MS032	-	-	1-1/4"	1.66	2.12	1.55	0.99	0.34	1.56	400
028M032	028MS032	1-3/4"	-	-	1.75	2.12	1.55	1.02	0.34	1.56	400
030M034	030MS034	1-7/8"	-	1-1/2"	1.87	2.25	1.64	1.09	0.34	1.56	400
032M036	032MS036	2"	-	-	2.00	2.38	1.69	1.15	0.34	1.56	400
034M040	034MS040	2-1/8"	-	-	2.12	2.62	1.86	1.27	0.34	1.56	400
038M044	038MS044	2-3/8"	-	2"	2.37	2.88	1.94	1.41	0.34	1.56	400
040M046	040MS046	2-1/2"	-	-	2.50	3.00	2.00	1.47	0.34	1.56	400
042M048	042MS048	2-5/8"	2-1/2"	-	2.62	3.13	2.07	1.53	0.34	1.56	400
046M052	046MS052	2-7/8"	-	2-1/2"	2.87	3.38	2.19	1.65	0.34	1.56	400
050M056	050MS056	3-1/8"	3"	-	3.12	3.68	2.32	1.78	0.34	1.56	400
056M062	056MS062	3-1/2"	-	3"	3.50	4.06	2.50	1.97	0.34	1.56	400
058M064	058MS064	3-5/8"	3-1/2"	-	3.62	4.19	2.57	2.03	0.34	1.56	700
064M072	064MS072	4"	-	3-1/2"	4.00	4.68	2.82	2.28	0.34	1.56	700
066M074	066MS074	4-1/8"	4"	-	4.12	4.84	3.05	2.34	0.43	1.56	800
072M080	072MS080	4-1/2"	-	4"	4.50	5.22	3.24	2.53	0.43	1.56	800
082M090	082MS090	5-1/8"	5"	-	5.12	5.82	3.55	2.84	0.43	1.56	800
089M096	089MS096	-	-	5"	5.56	6.31	4.00	3.06	0.56	1.56	1,200
098M106	098MS106	6-1/8"	6"	-	6.12	6.90	4.31	3.34	0.56	1.56	1,200
106M114	106MS114	-	-	6"	6.62	7.39	4.56	3.58	0.56	1.56	1,200
 PART NO. SUFFIX		Cushions			Example						
NONE		Thermoplastic elastomer			004M007 (STEEL) 004MS007 (STAINLESS STEEL)						
N		 Flame Retardant			004M007N (STEEL) 004MS007N (STAINLESS STEEL)						
NH		 Flame Retardant Halogen Free			004M007NH (STEEL) 004MS007NH (STAINLESS STEEL)						
Note: Fasteners not included.											

# Loop Clamps

**1/2" Wide**

Galvanized Steel | Vinyl Coated

NOTICE: Add "CC-" Prefix for All Part Numbers

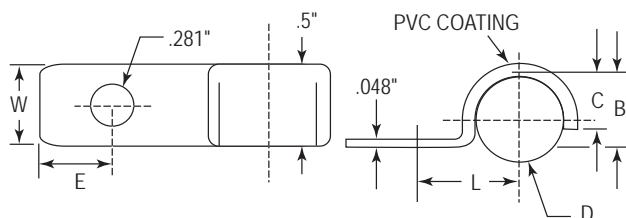
## HVN LOOP CLAMPS

VINYL DIPPED GALVANIZED STEEL 1/2" WIDE



### FEATURES:

- Black vinyl plastic coated (PVC)
- Galvanized Steel for corrosion resistance
- Temperature range -25°F to +160°F



HVN							
Part No.	Size in.	Dimensions (in)					
		D	L	E	B	C	W
HVN-04	1/4"	0.250	0.500	0.250	0.250	0.188	1/2"
HVN-05	5/16"	0.312	0.531	0.312	0.312	0.218	5/8"
HVN-06	3/8"	0.375	0.562	0.312	0.375	0.281	5/8"
HVN-08	1/2"	0.500	0.687	0.312	0.500	0.343	5/8"
HVN-09	9/16"	0.562	0.750	0.312	0.562	0.437	5/8"
HVN-10	5/8"	0.625	0.812	0.312	0.625	0.406	5/8"
HVN-12	3/4"	0.750	0.875	0.312	0.750	0.468	5/8"



# Loop Clamps

1" Wide

Galvanized Steel | PVC Coated

NOTICE: Add "CC-" Prefix for All Part Numbers

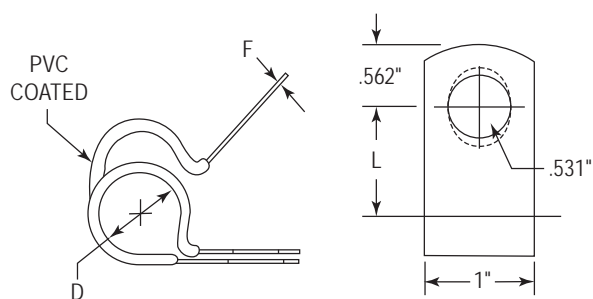
## LVZ LOOP CLAMPS

VINYL DIPPED GALVANIZED STEEL 1" WIDE



### FEATURES:

- Heavy duty steel clamp
- Galvanized Steel
- PVC coated, black color
- Temperature range -25°F to +160°F



LVZ				
Part No.	Size in.	Dimensions (in)		
		D	L	F
LVZ-18	1 <sup>1</sup> / <sub>8</sub> "	1.13	1.218	0.048
LVZ-19	1 <sup>3</sup> / <sub>16</sub> "	1.19	1.250	0.048
LVZ-20	1 <sup>1</sup> / <sub>4</sub> "	1.25	1.281	0.048
LVZ-21	1 <sup>5</sup> / <sub>16</sub> "	1.31	1.312	0.048
LVZ-24	1 <sup>1</sup> / <sub>2</sub> "	1.50	1.406	0.048
LVZ-25	1 <sup>9</sup> / <sub>16</sub> "	1.56	1.437	0.048
LVZ-28	1 <sup>3</sup> / <sub>4</sub> "	1.75	1.531	0.048
LVZ-29	1 <sup>13</sup> / <sub>16</sub> "	1.81	1.562	0.048
LVZ-32	2"	2.00	1.687	0.048
LVZ-33	2- <sup>1</sup> / <sub>16</sub> "	2.06	1.718	0.048
LVZ-36	2- <sup>1</sup> / <sub>4</sub> "	2.25	1.812	0.048
LVZ-40	2- <sup>1</sup> / <sub>2</sub> "	2.50	1.937	0.048
LVZ-42	2- <sup>5</sup> / <sub>8</sub> "	2.63	2.000	0.048
LVZ-44	2- <sup>3</sup> / <sub>4</sub> "	2.75	2.062	0.048
LVZ-46	2- <sup>7</sup> / <sub>8</sub> "	2.88	2.125	0.048
LVZ-57	3- <sup>9</sup> / <sub>16</sub> "	3.56	2.437	0.048

# Loop Clamps

**1/2" Wide**  
Plated Steel | E.P.D.M.

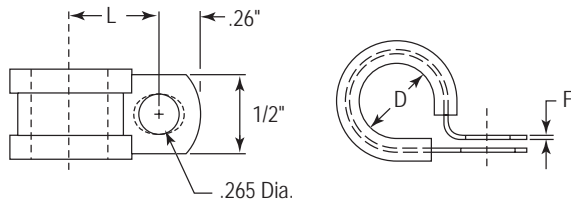
## SPN LOOP CLAMPS

PLATED STEEL LOOP CLAMPS, 1/2" WIDE

**NOTICE:** Add "CC-" Prefix for All Part Numbers

### FEATURES:

- Light to medium duty steel clamp
- E.P.D.M. cushion for electrical insulation and vibration absorption
- Steel clamps are zinc electroplated for corrosion resistance
- Some sizes available in aluminum. Contact factory for details.
- Temperature range -50°F to +275°F (-45°C to 135°C)



SPN					
Plated Steel Part No.	Stainless Steel Part No.	Size In.	Dimensions (in)		
			D	L	F
SPN-03	SPN-03SS	3/16"	0.188	0.499	0.032
SPN-04	SPN-04SS	1/4"	0.250	0.530	0.032
SPN-05	SPN-05SS	5/16"	0.312	0.561	0.032
SPN-06	SPN-06SS	3/8"	0.375	0.592	0.032
SPN-07	SPN-07SS	7/16"	0.438	0.623	0.032
SPN-08	SPN-08SS	1/2"	0.500	0.655	0.032
SPN-09	SPN-09SS	9/16"	0.562	0.749	0.032
SPN-10	SPN-10SS	5/8"	0.625	0.780	0.032
SPN-11	SPN-11SS	11/16"	0.688	0.811	0.032
SPN-12	SPN-12SS	3/4"	0.750	0.840	0.032
SPN-14	SPN-14SS	7/8"	0.875	0.889	0.032
SPN-16	SPN-16SS	1"	1.000	0.952	0.032
SPN-18	SPN-18SS	1 1/8"	1.125	1.030	0.032
SPN-20	SPN-20SS	1 1/4"	1.250	1.093	0.032
SPN-22	SPN-22SS	1 3/8"	1.375	1.155	0.032
SPN-24	SPN-24SS	1 1/2"	1.500	1.218	0.032
SPN-26	SPN-26SS	1 5/8"	1.625	1.280	0.032
SPN-28	SPN-28SS	1 3/4"	1.750	1.343	0.032
SPN-30	SPN-30SS	1 7/8"	1.875	1.405	0.032
SPN-32	SPN-32SS	2"	2.000	1.476	0.040
SPN-34	SPN-34SS	2 1/8"	2.125	1.538	0.040
SPN-36	SPN-36SS	2 1/4"	2.250	1.661	0.040
SPN-38	SPN-38SS	2 3/8"	2.375	1.663	0.040
SPN-40	SPN-40SS	2 1/2"	2.500	1.728	0.040
SPN-42	SPN-42SS	2 5/8"	2.625	1.788	0.040
SPN-48	SPN-48SS	3"	3.000	1.976	0.040
SPN-52	SPN-52SS	3 1/4"	3.250	2.100	0.040
SPN-56	SPN-56SS	3 1/2"	3.500	2.226	0.040
SPN-64	SPN-64SS	4"	4.000	2.476	0.040



# Loop Clamps

**3/4" Wide**  
Plated Steel | E.P.D.M.

NOTICE: Add "CC-" Prefix for All Part Numbers

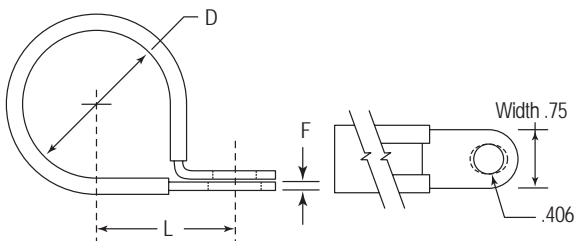
## SPW LOOP CLAMPS

PLATED STEEL 3/4" WIDE

### FEATURES:

- Light to medium duty steel clamp
- E.P.D.M. cushion for electrical insulation and vibration absorption
- Steel clamps are zinc electroplate for corrosion resistance
- Color - Silver with black durable cushion.
- Temperature range -50°F to +275°F (-45°C to 135°C)

Available in stainless steel. Some sizes available in aluminum. Contact factory for details.



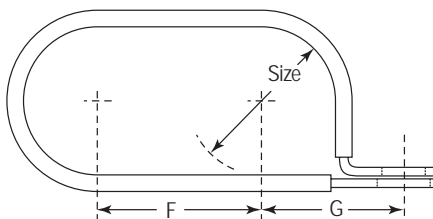
SPW				
Part No.	Size in	Dimensions (in)		
		D	L	F
SPW-04	1/4"	0.250	0.639	0.031
SPW-06	3/8"	0.375	0.702	0.031
SPW-07	7/16"	0.438	0.732	0.031
SPW-08	1/2"	0.500	0.764	0.031
SPW-09	9/16"	0.563	0.795	0.031
SPW-10	5/8"	0.625	0.827	0.031
SPW-12	3/4"	0.750	0.889	0.031
SPW-14	7/8"	0.875	0.952	0.031
SPW-16	1"	1.000	1.014	0.031
SPW-18	1 1/8"	1.125	1.090	0.050
SPW-20	1 1/4"	1.250	1.159	0.050
SPW-24	1 1/2"	1.500	1.284	0.050
SPW-26	1 5/8"	1.625	1.346	0.050
SPW-28	1 3/4"	1.750	1.409	0.050
SPW-30	1 7/8"	1.875	1.471	0.050
SPW-32	2"	2.000	1.534	0.050
SPW-36	2 1/4"	2.250	1.659	0.050
SPW-40	2 1/2"	2.500	1.784	0.050
SPW-48	3"	3.000	2.034	0.050

## SPD LOOP CLAMPS

2-TUBE CUSHIONED CABLE CLAMPS, PLATED STEEL 3/4" WIDE

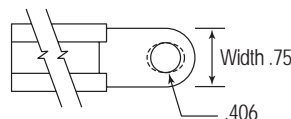
### FEATURES:

- Medium duty steel clamp that can be slipped over two tubes or multiple wires and closed with a bolt at assembly.
- Steel clamps are zinc electroplate for corrosion resistance
- E.P.D.M. cushion for electrical insulation and vibration absorption
- Temperature range -50°F to +275°F (-45°C to 135°C)



SPD			
Part No.	Size In.	Dimensions (in)	
		F	G
SPD-08	1/2"	0.50	0.764
SPD-12	3/4"	0.75	0.889
SPD-16	1"	1.00	1.014
SPD-20	1 1/4"	1.125	1.159

Available in stainless steel. Some sizes available in aluminum. Contact factory for details.



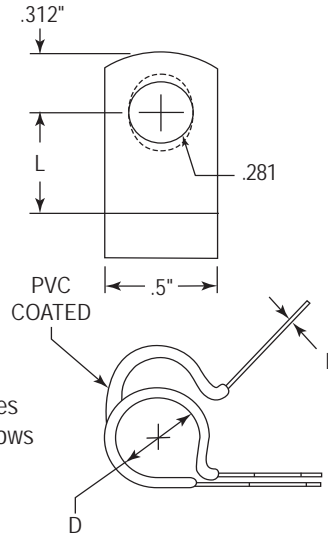
# Loop Clamps

**1/2" & 3/4" Wide**  
Galvanized Steel | PVC Coated

NOTICE: Add "CC-" Prefix for All Part Numbers

## SVN LOOP CLAMPS

VINYL DIPPED - GALVANIZED STEEL 1/2" WIDE



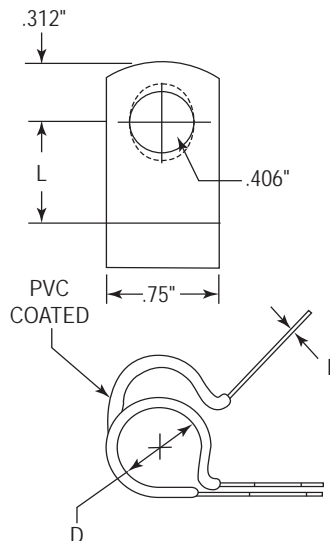
### FEATURES:

- Medium duty steel clamp that can be slipped over a tube or wire and closed with a bolt at assembly. Holes provide easy alignment. Its pre developed shape allows for proper closing and excellent fit of the clamp.
- Galvanized Steel
- PVC coated, black color
- Temperature range -25°F to +160°F

SVN				
Part No.	Size in.	Dimensions (in)		
		D	L	F
SVN-03	3/16"	0.187	0.500	0.032
SVN-04	1/4"	0.250	0.531	0.032
SVN-05	5/16"	0.312	0.562	0.032
SVN-06	3/8"	0.375	0.593	0.032
SVN-08	1/2"	0.500	0.656	0.048
SVN-09	9/16"	0.562	0.687	0.048
SVN-10	5/8"	0.625	0.718	0.048
SVN-12	3/4"	0.750	0.781	0.048
SVN-14	7/8"	0.875	0.843	0.048
SVN-16	1"	1.000	0.906	0.048
SVN-18	1 1/8"	1.125	0.968	0.048

## SVW LOOP CLAMPS

VINYL DIPPED GALVANIZED STEEL 3/4" WIDE



### FEATURES:

- Medium duty steel clamp that can be slipped over a tube or wire and closed with a bolt at assembly. Holes provide easy alignment. Its pre developed shape allows for proper closing and excellent fit of the clamp..
- Galvanized Steel
- PVC coated, black color
- Temperature range -25°F to +160°F

SVW				
Part No.	Size in.	Dimensions (in)		
		D	L	F
SVW-04	1/4"	0.250	0.656	0.032
SVW-05	5/16"	0.312	0.562	0.032
SVW-06	3/8"	0.375	0.0718	0.032
SVW-08	1/2"	0.500	0.781	0.048
SVW-09	9/16"	0.562	0.812	0.048
SVW-10	5/8"	0.625	0.843	0.048
SVW-12	3/4"	0.750	0.906	0.048
SVW-13	13/16"	0.812	0.937	0.048
SVW-14	7/8"	0.875	0.968	0.048
SVW-15	15/16"	0.937	1.000	0.048
SVW-16	1"	1.000	1.031	0.048
SVW-18	1 1/8"	1.125	1.092	0.048
SVW-20	1 1/4"	1.125	1.156	0.048
SVW-22	1 3/8"	1.375	1.218	0.048



## PRESSURE CONNECTIONS CORP. TERMS OF SALE

The following Terms of Sale ("Terms and Conditions") are a part of the sales contract ("Contract") between Pressure Connections Corp. (PCC) and Customer for the sale of Equipment and/or Parts and the provision of any ancillary services (collectively "Equipment" and/or "Parts") described on the face side of this form. The Contract between with Customer consists solely of the form of Quotation received from PCC, if any, PCC's Invoice, these Terms and Conditions, and any other documents expressly incorporated into the Quotation; **The acceptance by Customer of delivery of the Equipment and/or Parts (whether or not Customer signs the acknowledgment on the face hereof) will be Customer's agreement to the Contract and these Terms and Conditions, to the exclusion of any prior, additional or different terms or conditions.**

### 1. Prices and Terms of Payment

- (a) Unless otherwise stated in this Contract, PCC's price quotations are subject to Customer acceptance within thirty (30) days, and may be withdrawn or canceled by PCC at any time after such date or before receipt of written notice of acceptance. Orders will be billed at prices in effect at time of shipment unless otherwise so stated in the Contract.
- (b) This Contract is subject to final approval (including credit approval) and acceptance by PCC's home office and is not binding on PCC until signed by an authorized officer of PCC and such written acceptance is delivered to Customer.
- (c) Prices do not include (and Customer shall pay when due) federal, state or local sales, use, excise, or other taxes, tariffs, or duties.
- (d) Customer shall make all payments, without any setoff or deduction, on the term of 1/2% 10, Net 30 Days, interest on any delinquent balance at a rate of the lesser of 1 1/2% for every 30 day period of delinquency or the maximum rate permitted by law. Customer shall pay all attorneys' fees, court costs, and all other costs incurred by PCC in collecting past due accounts, including interest on such amounts at the rate provided above.
- (e) In the event Purchaser cancels the order, all amounts previously paid by Purchaser shall be retained by Seller as liquidated damages.

### 2. Delivery

- (f) Shipping dates are estimates only. PCC will use commercially reasonable efforts to ship by the date specified, but shall not be liable to Customer for any delay in delivering the Equipment and/or Parts (including any resulting incidental or consequential damages). Shipping dates shall in any event be extended for delays, such as but not limited to acts of God, fires, strikes, transportation delays, delays of PCC's vendors, or any other cause beyond PCC's reasonable control. If shipment or delivery of Equipment and/or Parts is delayed by or at the request of Customer, payment will become due in full thirty (30) days from the date such Equipment and/or Parts is ready for shipment. In such event, Customer shall pay on demand storage charges and other incidental expenses incurred by PCC as a result of the delay in addition to any interest on late payment. Shipment from stock is subject to availability.
- (g) Unless otherwise stated in the Contract, the Equipment and/or Parts will be delivered to Customer Ex Works PCC's designated point of shipment, and Customer shall make all arrangements (and shall pay all costs) for transportation, handling and installation of the Equipment and/or Parts after delivery.
- (h) Instructions for any special shipping, packing, or handling services must be given by Customer in writing at the time of placing the order. Customer will pay all costs for such services.

### 3. Cancellation

Customer may cancel the Contract prior to delivery only upon written approval by PCC and upon payment by Customer to PCC of the following charges:

- (a) For Equipment and/or Parts to be fabricated by PCC or its subcontractors, specialty, custom, or made to order Equipment and/or Parts, Customer shall pay to PCC on demand all direct and indirect costs (including without limitation engineering, product development, and allocable overhead and administrative costs) incurred by PCC or such subcontractor in performing under the Contract, as determined by PCC, prior to written notice of cancellation, plus profit in an amount equal to twenty percent (20%) of all such direct and indirect costs; provided that the liability of Customer shall not exceed the purchase price for the Equipment and/or Parts provided in this Contract.
- (b) For stock item, PCC's loss of profit as reasonably determined by PCC.
- (c) Any deposits or progress payments made by Customer on Equipment and/or Parts will be retained by PCC and applied to such cancellation charges. Customer acknowledges that any cancellation charges payable by Customer hereunder are not a penalty but are a reasonable approximation of the economic loss to PCC resulting from cancellation.

### 4. Proprietary Information

All specifications, drawings, designs, manufacturing data and all other data furnished by or belonging to PCC, or pertaining to Equipment and Parts, and all terms of sale ("Information") are trade secrets and proprietary information of PCC. Customer will not use or disclose (and will take steps to prevent its employees and contractors from using or disclosing) the Information except as specifically authorized by PCC.

### 5. Security Interest and Insurance

As security for payment of all amounts due PCC under this Contract, Customer hereby grants to PCC a security interest in the Equipment and/or Parts and all proceeds or products thereof and replacements or substitutions therefor, and PCC shall have all rights of a secured party under the Uniform Commercial Code in effect from time to time in the State of Ohio or any other applicable jurisdiction or any successor law or laws of like effect. Customer shall sign, and/or hereby authorizes PCC to prepare and file all financing statements and other documents which PCC may deem necessary or desirable to perfect such security interest in any public office. Until full and irrevocable payment for the Equipment and/or Parts, Customer shall maintain replacement value insurance covering the Equipment and/or Parts against loss of damage from any cause with PCC named as insured or co-insured to the extent of the unpaid purchase price.

### 6. Governmental Requirements; Industry Standards

PCC does not represent or warrant that the equipment and/or parts comply or will comply with any particular federal, state, or local statutes, regulations, or requirements of any type, including but not limited to occupation safety (e.g., OSHA or MSHA) requirements, environmental requirements, any electrical codes, or any voluntary industry standards. Since applications of the equipment and/or parts vary, customer shall be solely responsible for compliance with all such federal, state, and local statutes, regulations, or requirements of any type, and with any voluntary industry standards, and customer will indemnify and hold PCC harmless from any claims by third parties (including employees of customer) related to such compliance or to operation or use of the equipment and/or parts, including court costs and attorneys' fees.

### 7. Limited Warranty / Exclusive Remedy

PCC warrants to the customer that the equipment and parts (excluding wear parts) will be free from defects in material and workmanship under normal use and service for a period of three hundred sixty-five (365) days after delivery to customer, or 2,000 hours of normal use. Any warranty claims not submitted in writing by customer to PCC within the applicable warranty period and within thirty (30) days of discovery of defect will be deemed waived. The obligation of PCC shall be limited to the repair or replacement ex works facility designated by PCC (excluding shipping costs, to be paid by customer), of the equipment or such parts which PCC determines were defective in material or workmanship

under normal storage, use and service. This warranty applies only to new equipment and parts and expressly excludes wear parts. This warranty shall not apply to items manufactured by others attached to or incorporated in the equipment and/or parts, or to which the equipment and/or parts are attached or incorporated, and customer's recourse for defects in such equipment and/or parts of others shall be exclusively against the manufacturer of the equipment and/or parts under the terms of the PCC's warranty. This limited warranty does not apply to failures or defects of the equipment components, and/or parts (including wear parts) due to ordinary wear and tear, neglect (including but not limited to improper maintenance and storage), accident, improper installation or operation, or modification not authorized in writing by PCC (including but not limited to use of unauthorized parts or attachments). Any alteration or modification of the equipment or parts, or attaching of any parts or equipment not manufactured by PCC or not intended to be attached to the equipment or parts, or maintenance, use or operation of the equipment or parts contrary to PCC's or the manufacturer's instructions, shall at PCC's election void this warranty. This limited warranty shall extend only to the customer and is not assignable. The exclusive remedy of customer under this warranty or otherwise in connection with the equipment and for parts, shall be repair or replacement of the equipment and/or parts in accordance with this paragraph, PCC's sole and absolute discretion.

### 8. Limitation of Liability

PCC's liability (and the exclusive remedy of customer) under this warranty for any alleged defect or failure of the equipment and/or parts (including results of operation of the equipment and/or parts, and whether resulting from defects, failures, or errors in design, materials or workmanship, or otherwise) is limited as provided in 7 above. PCC shall not be liable to customer for any direct, indirect, or consequential damages in connection with the equipment and/or parts or otherwise in connection with this contract, including but not limited to damages resulting from delays; loss of use of property; results of use of the equipment and/or parts; losses of income, profit or production; or increased costs of operation, or damages to other property arising in connection with the equipment and/or parts.

### 9. Exclusion of Expressed / Implied Warranties

Except as provided in paragraph 7 above, PCC disclaims any and all express and implied warranties in any way relating to the equipment and/or parts, including without limitation any implied warranties of merchantability or fitness for a particular purpose.

### 10. Dispute Resolution / Arbitration Procedure

- (a) Except as provided herein, all disputes relating to this Contract or to the Equipment and/or Parts in any way ("Dispute") shall be resolved by arbitration in accordance with the Commercial Arbitration Rules of the American Arbitration Association ("AAA"), and judgment upon the award rendered in the arbitration may be entered in any court having jurisdiction. The parties also agree that the AAA Optional Rules for Emergency Measures of Protection shall apply to the proceedings. The arbitration shall be conducted and the award made in Franklin County, Ohio before a single arbitrator. The arbitrator shall be selected from a list of approved arbitrators maintained by the Association of Equipment Manufacturers ("AEM") or its successor. If the AAA is unable to furnish a list of potential arbitrators satisfying such requirements, PCC shall supply Customer a list of at least five (5) such persons from which the arbitrator shall be selected by Customer. Any award shall be final and binding on the parties. The arbitrator shall include in the award the costs and attorneys' fees incurred by the prevailing party in the arbitration.
- (b) Notwithstanding the above, the arbitration provisions in Paragraph 10(a) above shall not apply, at PCC's sole option, including in circumstances in which Customer has already served a demand for arbitration upon PCC, to any one or more claims or actions against Customer by PCC in connection with (i) collection of any amounts due PCC by Customer for the Equipment and/or Parts or otherwise under this Contract, including but not limited to interest on such amounts and attorneys' fees as provided above, (ii) enforcement by PCC of any security interest in the Equipment and/or Parts and/or the proceeds thereof under this Contract or otherwise under applicable law, or (iii) exercise by PCC of any and all remedies available to it in law or in equity in connection with actions described in (i) and (ii) above, including without limitation foreclosure and replevin. Any actions described in this Paragraph 10(b) are referred to as "Excluded Actions." PCC may at PCC's option maintain any such Excluded Actions in any state or federal court in the State of Ohio described in Paragraph 12 or in any other court having jurisdiction over Customer, and the parties hereto irrevocably consent to the jurisdiction of such courts in connection with Excluded Actions and agree that any such courts are a proper venue for any such Excluded Actions.

### 11. Entire Agreement

The Contract is the entire agreement of the parties relating to the Equipment and/or Parts and supersedes all prior discussions, correspondence or agreements (whether written or oral). The contract may not be amended nor any terms added, deleted, or changed except in writing signed by the parties and expressly stated to be an amendment. The Contract shall inure to the benefit of and be binding on the parties and their respective successors and assigns. Any execution by PCC of a document submitted by Customer in connection with Equipment and/or Parts shall not constitute acceptance by PCC of any such additional or conflicting terms, or any modification of this Contract, but only acknowledgment of receipt of such document.

### 12. Governing Law; Jurisdiction

This Contract shall be interpreted in accordance with and its performance shall be governed by the laws of the State of Ohio without regard to conflict of laws principles. The parties hereby agree that the state courts located in the State of Ohio or the United States District Court for the Southern District of Ohio, Eastern Division, shall have exclusive jurisdiction over any action or suit between the parties (including any action to compel arbitration or to enforce an arbitration award) in connection with this Contract or the Equipment and/or Parts, and the parties hereto irrevocably consent to the jurisdiction of such courts in connection with such action or suit, and agree that any such courts are a proper venue for any such action or suit. Notwithstanding the above, any Excluded Actions may be maintained by PCC in any state or federal court having jurisdiction over Customer or such Excluded Actions.

**PRESSURE CONNECTIONS CORP.**

610 Claycraft Rd. Columbus, OH 43230

Phone (614) 863-6930 • Fax (614) 864-1327

[www.PressureConnections.com](http://www.PressureConnections.com)

# ISO 9000 Requirements

ISO 9001:2008 Audit:

"Pressure Connections is a really exceptional example of ISO 9001 at work. In regards to quality management, you guys have that one thousand and ten percent."

**James Mitchell**  
ISO Auditor, Quality Assurance  
Systems Inc

## What Does ISO 9000 Certified Mean?

"The Quality Assurance standard (ISO 9001:2008) lays down the requirements that a quality system should meet, but *does not dictate how they should be achieved.*" -Institute of Quality Assurance (IQA)

In other words, **achievement** will vary from one company to another. Pressure Connections has laid down the strictest requirements for us to meet and achieve the highest quality for our customers. **This supports our Business Philosophy, Vision, and Mission.**

(Ref. [www.pressureconnections.com](http://www.pressureconnections.com) - See About Us)

## What does ISO 9000 Require?

	Pressure Connections Standard	ISO 9000 Standard
1. How Many Trained Quality Assurance Personnel are required?	7 Full Time	1 Part Time
2. How many dollars in Thread Gauges are required?	\$300,000	\$0
3. Is a Coordinate Measuring Machine (CMM) required?	Yes	No
4. Is a Comparator required?	Yes	No
5. Is a Rockwell Hardness Tester required?	Yes	No
6. Is a Profilometer (Surface Finish Tester) required?	Yes	No
7. Is a Pressure Test Stand required?	Yes	No
8. Do O-Rings need to be installed with O-Ring Mandrels?	Yes	No

## Quality Assurance Department

We will provide a Certificate of Conformance upon request. We are confident that our Quality Assurance program and personnel will be able to satisfy any quality concerns you or your customers may have. Furthermore, we have established a Performance Team to handle written customer evaluations of our overall performance. This team is ready to respond to customer quality and service issues.

Every employee strives to provide you with the best all-around value. Our Conduct Code and personal convictions drive our commitment to excellence. We guarantee that you will be completely satisfied with the quality of our product or we'll issue a Return Goods Authorization form for a full refund. Our goal is to make it easy to do business with us.

**At Pressure Connections, ISO 9000 is more than just a certificate. It is a quality system applied to our daily practices enabling us to continually improve our processes.**

We are an ISO 9000 (9001:2008) registered firm. We will provide you with the documentation needed to satisfy your quality system requirements. At your request, we will provide a Corrective Action Report and Evaluation (C.A.R.E). We also have Initial Sample Inspection, In-Process and Final Inspection Reports.





# Product Lines

**Hose & Fittings**



**Steel Adapters**



**Brass Fittings**



**QD Couplings**



**316 Stainless**



**Live Swivels**



**Push-To-Connects**



**& DOT Fittings**

**Metric & BSP**



**Valves**



**Pneumatics**



**GagePorts & Test Points**



**Custom Kits**





We are a certified ISO 9001:2008 Registered firm. Our Quality Assurance program is able to provide high quality fittings and service according to ISO 9000 principles. All of the documentation needed to satisfy your quality system requirements is on hand. At your request we will provide a Corrective Action Report and Evaluation. We also have Initial Sample Inspection, In-Process, and Final Inspection Reports.



Beta Hydraulic Clamps® Shown

## **PRESSURE CONNECTIONS CORP.**

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