



## Hose Clamps

### A

#### Assortments

##### Hose Clamp

Aero-Seal, Large R-6

Aero-Seal, Small R-6

Economy R-2

Liner, Large R-6

Liner, Small R-6

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#### Clamps, Hose

##### Specialty

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##### Worm-Drive

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# IBS, INCORPORATED

## Economy Hose Clamps R06

### Economy Clamps

#### Ideal 67-1 Series



#### ECONOMY CLAMPS

Clamp No.	IBS No.	Effective Diameter Range				Qty
		Minimum		Maximum		
		inch	mm	inch	mm	

#### MINI AUTOMOTIVE HOSE CLAMPS

#04	67004	1/4	6	5/8	16	10
#06	67008	5/16	8	7/8	12	10

#### REGULAR AUTOMOTIVE HOSE CLAMPS

#06	6706	3/8	10	7/8	22	10
#10	6710	1/2	13	1 1/16	27	10
#12	6712	1/2	13	1 1/4	32	10
#16	6716	11/16	18	1 1/2	38	10
#20	6720	3/4	19	1 3/4	44	10
#24	6724	1	26	2	51	10
#28	6728	1 1/4	32	2 1/4	57	10
#32	6732	1 1/2	38	2 1/2	63	10
#36	6736	1 3/4	44	2 3/4	70	10

- 1/2" band clamps are suitable for most common home and automotive applications.
- Screw: 5/16" hex head. 410 stainless steel. Band & housing: 1/2" design, 201/301 stainless steel

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### Economy Clamps Assortment (Z08)

IBS No. 262R • 10 SIZES • 100 PIECES • STORAGE RACK INCLUDED

#### ECONOMY CLAMPS ASSORTMENT

Clamp No.	IBS No.	Size Range	Clamp No.	IBS No.	Size Range
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#### MINI AUTOMOTIVE

#04	67004	1/4 - 5/8	#08	67008	5/16 - 7/8
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#### REGULAR AUTOMOTIVE

#06	6706	3/8 - 7/8	#20	6720	3/4 - 1 3/4
#10	6710	1/2 - 1 1/16	#28	6728	1 1/4 - 2 1/4
#12	6712	1/2 - 1 1/4	#32	6732	1 1/2 - 2 1/2
#16	6716	11/16 - 1 1/2	#36	6736	1 3/4 - 2 3/4

R-2



"The mark of our quality is in our service"

02-27-07



# General Information

## BREEZE Worm-Drive Clamp Systems

### ADVANTAGES OVER OTHER CLAMP SYSTEMS



**1. Special Shoulder** - The shoulder behind the hex head keeps tools like sockets or nut drivers from jamming into the slots or band-end, making the clamp appear to be tight when it isn't.



**2.  $\frac{5}{16}$ " Hex Head** - The  $\frac{5}{16}$ " hex head found on all our clamps provides clearance for open-end wrenches, whereas larger hexes ( $\frac{3}{8}$ ", etc.) do not, making wrench tightening difficult if not impossible.



**3. Through Slotted** - The open slot allows for the use of any size screwdriver. With larger screwdrivers it is easier to tighten the clamp. Slots that are closed at the sides require the use of a small screwdriver.



**4. Corrosion Resistant** - All clamps are 100% stainless steel. The band, saddle and housing are made from 300 series stainless steel and the screws are made from 410 stainless steel.

**5. Finished edge** on all bands, the benefit to you is prevention of hose change due to cuts.

**6. Concave band** compared to flat means the clamp seals from the center to the outside which produces uniform sealing.

**7. Arcial Cut Band** compared to square cut. For smoother gear action and greater torquing for a stronger band which means less failure and labor savings.

**8. Quadru-lock Housing** - a housing with no welds to break, higher torque to band providing less cold water leaks and band failures due to stripped or broken clamps.

**9. Exceeds by 50%** the Quality Control Standards of an AMO MS Mil Spec for worm-drive clamps. These clamps have been and are used on all space shuttles.

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# IBS, INCORPORATED

## Stainless Steel Hose Clamps R01

### Aero-Seal

## Industrial/Aircraft Clamps

The Original BREEZE Stainless Steel Worm-Drive Clamp

- Heavy-duty four-piece Quadra-lock construction enables more tightening torque to be delivered to the band perforations.
- Ideal for heavy duty industrial applications.



AEROSEAL INDUSTRIAL AIRCRAFT CLAMPS

IBS No.	Effective Diameter Range				Qty
	Minimum		Maximum		
	inch	mm	inch	mm	
#3604	7/32	5.6	5/8	16	10
#3606	7/16	11	25/32	20	10
#3608	1/2	13	29/32	23	10
QS06	7/16	11	25/32	20	10
QS08	1/2	13	29/32	23	10
QS10	9/16	14	1 1/16	27	10
QS12	11/16	17	1 1/4	32	10
QS16	13/16	21	1 1/2	38	10
QS20	13/16	21	1 3/4	44	10
QS24	1 1/16	27	2	51	10
QS28	1 5/16	33	2 1/4	57	10
QS32	1 9/16	40	2 1/2	64	10
QS36	1 13/16	46	2 3/4	70	10
QS40	2 1/16	52	3	76	10
QS44	2 5/16	59	3 1/4	83	10
QS48	2 9/16	65	3 1/2	89	10
QS52	2 13/16	71	3 3/4	95	10
QS56	3 1/16	78	4	102	10
QS60	3 5/16	84	4 1/4	108	10
QS64	3 9/16	91	4 1/2	114	10
QS72	4 1/8	105	5	127	10

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# Liner Clamps

## BREEZE Clamps For Soft/Silicone Hose

- **Liner band is an integral extension of the band.**
- **Liner is not riveted or welded.**
- **Protects silicone and other soft surface hose from damage caused by extrusion or shearing through the band slots.**
- **Liner clamps are designed to give a true concentric seal.**



LINER CLAMPS

IBS No.	Effective Diameter Range				Qty
	Minimum		Maximum		
	inch	mm	inch	mm	
#9406	9/16	14	13/16	21	10
#9408	11/16	17	15/16	24	10
#9410	13/16	21	1 1/16	27	10
#9412	15/16	24	1 1/4	32	10
#9416	13/16	21	1 1/2	38	10
#9420	13/16	21	1 3/4	44	10
#9424	1 1/16	17	2	51	10
#9428	1 5/16	33	2 1/4	57	10
#9432	1 9/16	40	2 1/2	64	10
#9436	1 13/16	46	2 3/4	70	10
#9440	2 1/16	52	3	76	10
#9444	2 5/16	59	3 1/4	83	10
#9448	2 9/16	65	3 1/2	89	10

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# IBS, INCORPORATED

## Assortments Z08

### Hose Clamp Assortments

#### Aero-Seal Clamps

IBS No. 120P

10 Sizes • 100 Pieces

Storage Rack Included

##### AERO-SEAL CLAMPS ASSORTMENT

IBS No.	Size Range
#3604	7/32" to 5/8"
#3608	1/2" to 29/32"
QS06	7/16" to 25/32"
QS10	9/16" to 1 1/16"
QS12	13/16" to 1 1/4"
QS16	13/16" to 1 1/2"
QS20	13/16" to 1 3/4"
QS28	1 5/16" to 2 1/4"
QS32	1 9/16" to 2 1/2"
QS36	1 13/16" to 2 3/4"

#### Liner Clamps

IBS No. 120LP

10 Sizes • 100 Pieces

Storage Rack Included

##### LINER CLAMPS ASSORTMENT

IBS No.	Size Range
#9406	9/16" to 13/16"
#9408	11/16" to 15/16"
#9410	13/16" to 1 1/16"
#9412	15/16" to 1 1/4"
#9416	13/16" to 1 1/2"
#9420	13/16" to 1 3/4"
#9424	1 1/16" to 2"
#9428	1 5/16" to 2 1/4"
#9432	1 9/16" to 2 1/2"
#9436	1 13/16" to 2 3/4"

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### Large Size Hose Clamp Assortments

#### Aero-Seal Clamps

IBS No. 220P

5 Sizes • 50 Pieces

##### LARGE AERO-SEAL CLAMPS ASSORTMENT

IBS No.	Size Range
QS40	2 1/16" to 3"
QS44	2 5/16" to 3 1/4"
QS48	2 9/16" to 3 1/2"
QS52	2 13/16" to 3 3/4"
QS56	3 1/16" to 4"

#### Liner Clamps

IBS No. 220LP

5 Sizes • 40 Pieces

##### LARGE LINER CLAMPS ASSORTMENT

IBS No.	Size Range
#9440	2 1/16" to 3"
#9444	2 5/16" to 3 1/4"
#9448	2 9/16" to 3 1/2"
HTM-350L	2 3/4" to 3 5/8"
HTM-400L	3 1/4" to 4 1/8"





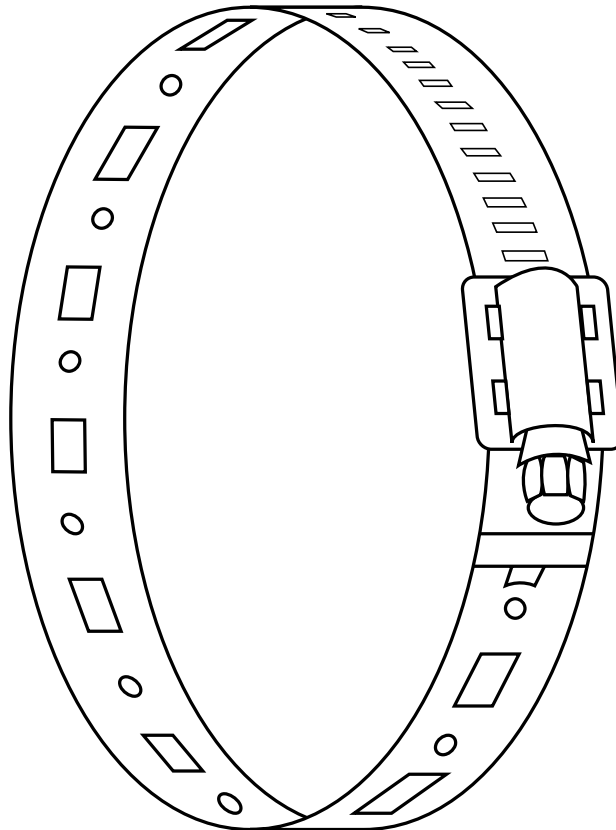
# Make-A-Clamp® Kits & Supplies

A maintenance "Clamp System" in a box.

100% stainless steel clamps can be made in any size from 2" diameter on up by simply cutting a piece of banding off of a continuous roll. Clamps from 10" in diameter to 10' in diameter can be assembled in a matter of seconds. Plus the materials are all reusable. This system is superior to and more versatile than "crimp/buckle" banding and strapping products. Ideal for those job environments which require varying sized large clamps.

## MAKE A CLAMP KITS

IBS No.	Description	Qty
#4001	100 ft.band, 25 adjustable fasteners & 10 band splices	1
#4002	50 ft.band, 10 adjustable fasteners & 5 band splices	1
#4004	10 adjustable fasteners	1
#4005	100 ft.band & 10 band splices	1



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# IBS, INCORPORATED

## Constant Torque Liner Clamps R04

# BREEZE Constant Torque Liner Clamps

## Active Pressure-Compensating Clamps

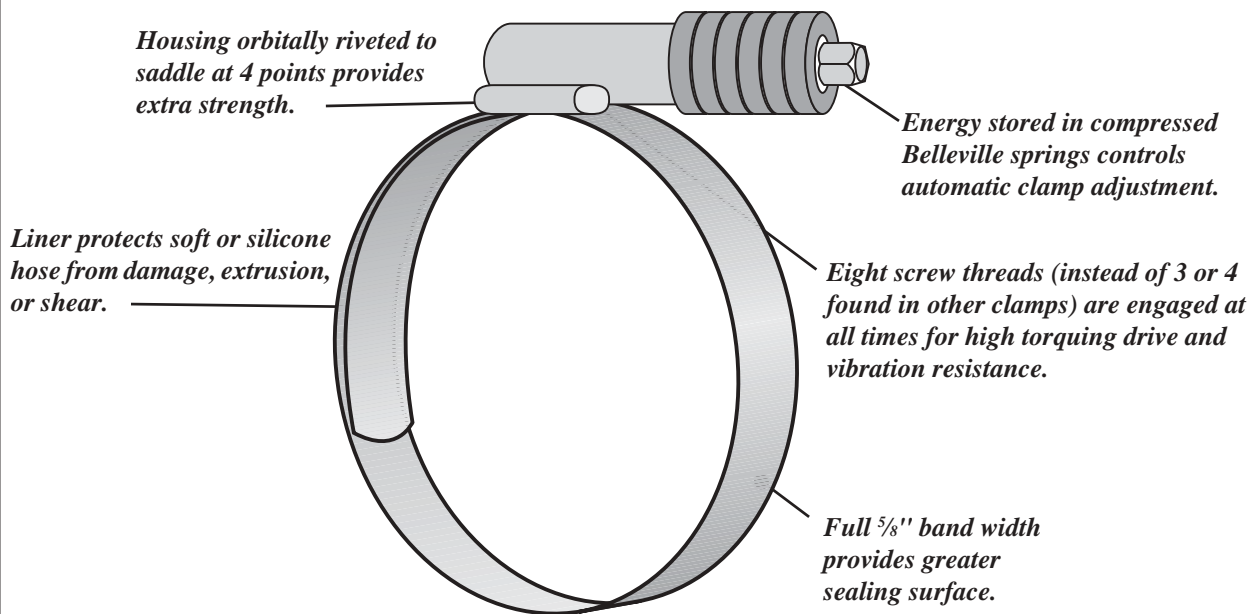
**This revolutionary clamp reacts to contracting and expanding hose systems by decreasing or increasing its own diameter in response to system changes.**

Just about all rubber hose compresses ("cold flow") after a clamping device is installed. This results in an 80% or greater torque loss almost immediately following installation. Also, just about all metal connections will expand as the system heats up and then contract as the system cools back down. Most other clamping systems (conventional worm gear, "T" bolt, etc.) are passive systems, which means that expansion and contraction of system components can not be adjusted for without retightening or loosening the clamps. The constant torque clamping system is an "active" clamping system, which means that it monitors the system and then makes compensations for the changes by changing its diameter through a unique worm gear-Belleville spring assembly.

Constant Torque Liner Clamps are ideal for: sealed systems which cannot be retightened; systems where clamps are difficult to get to; applications which require high torque; large diameters; experience extremes of heat or cold; or systems which expand or contract.

Constant Torque Liner Clamps are designed for torque compensation at installation torques from 50 to 150 in-lbs and all parts are made of stainless steel. To properly install a Constant Torque Liner Clamp a torque wrench should be used.

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# BREEZE Constant Torque Liner Clamps

## CONSTANT TORQUE LINER CLAMPS

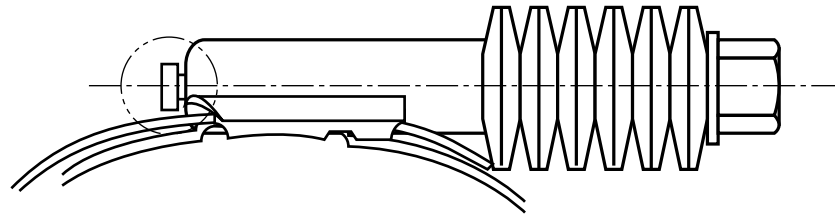
IBS No.	Effective Diameter Range				Qty
	Minimum		Maximum		
	inch	mm	inch	mm	
CT 175L	1	25	1 <sup>3</sup> / <sub>4</sub>	44	5
CT 250L	1 <sup>3</sup> / <sub>4</sub>	45	2 <sup>5</sup> / <sub>8</sub>	67	5
CT 300L	2 <sup>1</sup> / <sub>4</sub>	57	3 <sup>1</sup> / <sub>8</sub>	79	5
CT 350L	2 <sup>3</sup> / <sub>4</sub>	70	3 <sup>5</sup> / <sub>8</sub>	92	5
CT 400L	3 <sup>1</sup> / <sub>4</sub>	83	4 <sup>1</sup> / <sub>8</sub>	105	5
CT 450L	3 <sup>3</sup> / <sub>4</sub>	95	4 <sup>5</sup> / <sub>8</sub>	118	5

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## Assembly Instructions

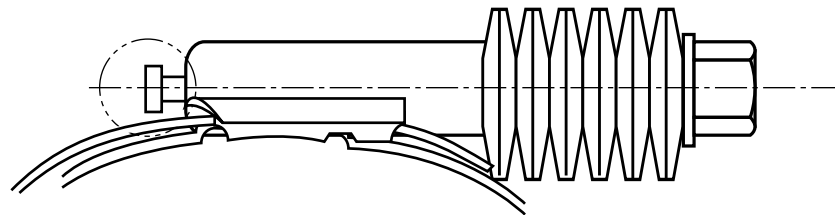
### Maximum Expansion

Clamps should be installed at 50 in-lbs of torque. Screw tip (encircled) should slightly protrude from housing.



### Equal Expansion or Contraction

Clamps should be installed at 90 in-lbs. of torque. Screw tip (encircled) protrudes from housing and Belleville springs are compressed.



### Maximum Contraction

Clamps should be installed at 125 in-lbs of torque. Screw tip (encircled) extends well beyond housing and Belleville springs are compressed to about 90% of flat.



# IBS, INCORPORATED

## High Torque Liner Clamps R05

### BREEZE High Torque Liner Clamps

Guaranteed To Withstand More Than 3 Times The SAE Standard Torque Requirements For Worm Drive Clamps

**An industrial strength worm-drive stainless steel clamp which is bigger, heavier and stronger than the "Aero-Seal" clamp.**

- All components made of stainless steel.
- Heavy gauge housing orbitally riveted to saddle.
- Designed so that 8 screw threads are simultaneously engaged in the band for increased torquing drive, sealing pressure and vibration resistance.
- Liner band extends underneath drive slots to protect soft and silicone hose from damage or extrusion.
- Eliminates double clamping and "T" bolts.
- 150 in-lbs of torque on the screw.

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HIGH TORQUE LINER CLAMPS

IBS No.	Effective Diameter Range				Qty
	Minimum		Maximum		
	inch	mm	inch	mm	
HTM-175L	1	25	1 3/4	44	5
HTM-200L	1 1/4	32	2 1/8	54	5
HTM-250L	1 3/4	45	2 5/8	67	5
HTM-300L	2 1/4	57	3 1/8	79	5
HTM-350L	2 3/4	70	3 5/8	92	5
HTM-400L	3 1/4	83	4 1/8	105	5
HTM-450L	3 3/4	95	4 5/8	118	5
HTM-500L	4 1/4	108	5 1/8	130	5
HTM-600L	5 1/4	133	6 1/8	156	5
HTM-650L	5 3/4	146	6 5/8	168	5
HTM-700L	6 1/4	159	7 1/8	181	5
HTM-800L	7 1/4	184	8 1/8	206	5
HTM-900L	8 1/4	210	9 1/8	232	5

