

# Channel Mounted Cushion Clamps

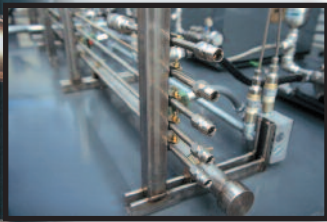


Magnaloy offers a complete line of channel-mounted cushion clamps for a great looking, vibration free tube/pipe mounting solution.



**Features:**

- Fast and simple installation - one person/one tool required.
- Cushion material is a thermoplastic elastomer resistant to most fuels, oils, gases, greases, solvents, mineral acids and other materials.
- Temperature range -65°F (-54°C) to +275°F (+135°C).
- Modular design allows adding or changing piping without disturbing adjacent piping.
- Piping sizes can be mixed to suit installation requirements.
- Metal components are Tri-Valent (non-hex) plated.
- Also available in 304 and 316 stainless steel.



**Materials:**

**Standard Cushion Clamp Materials:**

- Cushion material is TPE plastic
- Clamps are 1008-1010 carbon steel
- Studs are welded carbon steel
- Locknut is nylon insert type
- All metal components have Tri-Valent plating

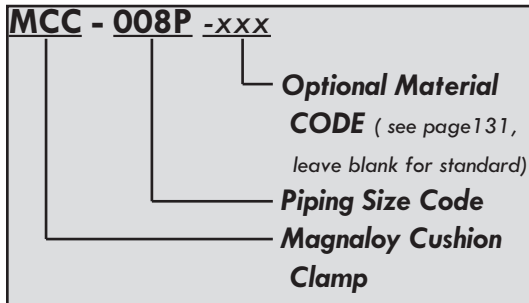
**Optional Cushion Clamp Materials:**

Code	Description
-444	304 Stainless Steel Clamps
	304 Stainless Steel Stud (welded)
	304 Stainless Steel Locknut
-464	304 Stainless Steel Clamps
	316 Stainless Steel Hex Head Bolt (loose packed)
	304 Stainless Steel Locknut
-644	316 Stainless Steel Clamps
	304 Stainless Steel Stud (welded)
	304 Stainless Steel Locknut
-666	316 Stainless Steel Clamps
	316 Stainless Steel Hex Head Bolt (loose packed)
	316 Stainless Steel Locknut

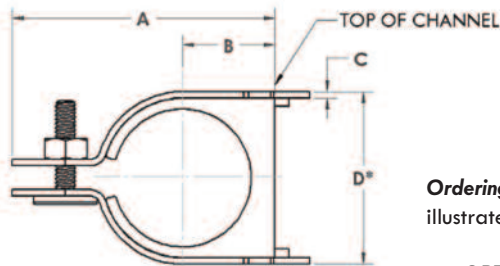


## Clamp Assembly Part Numbers, Availability and Dimensional Data

### Clamp Assembly Part Number Breakdown:



See Reference Section, page 187, for Manufacturers Cross References



### PIPE Sizes:

PIPE Nominal Size	1/4	3/8	1/2	3/4	1	1 1/4
Pipe Outside Diameter	.54	.675	.84	1.05	1.315	1.665
<b>Pipe Size CODE</b>	<b>008P</b>	<b>012P</b>	<b>016P</b>	<b>024P</b>	<b>100P</b>	<b>108P</b>
Quantity per Box <sup>1</sup>	25	25	25	20	20	20
Carbon Steel 5S, 10S, 40, 80	o	o	o	o	o	o
Stainless 5S, 10S, 40, 80	o	o	o	o	o	o
Red & Yellow Brass & Copper	o	o	o	o	o	o
Aluminum 5S, 10S, 40, 80	o	o	o	o	o	o
PVC 48, 80, 120	o	o	o	o	o	o
CPVC 40, 80	o	o	o	o	o	o
PE 40, 80	o	o	o	o	o	o
PP 40, 80	o	o	o	o	o	o
PVDF 80		o	o	o	o	o
PB 40		o	o	o	o	o
ABS 40, 80		o	o	o	o	o
Fibergalss			o	o	o	o
<b>A</b>	1.41	1.59	1.91	2.16	2.75	3.03
<b>B</b>	.63	.45	.59	.72	.91	1.03
<b>C</b>	.075	.075	.075	.105	.119	.119
<b>D*</b>	.91	1.07	1.45	1.79	2.22	2.47

\* Minimum Required Installation Dimension

**Ordering Information:** To order the standard Cushion Clamp, use **MCC-** followed by the Piping Size CODEs as illustrated in the tables on this page and the next page, depending Pipe or Tube sizes.

For **OPTIONAL MATERIALS** consult page 135 and select the material combination best suited for your requirements. Use the part number as above, followed by the material **CODE** from page 135.

### TUBE Sizes:

TUBE Outside Diameter	.250	.312	.375	.470	.500	.625	.750	.875	1.000	1.125	1.190	1.250
<b>Tube Size CODE</b>	<b>008T</b>	<b>010T</b>	<b>012T</b>	<b>015T</b>	<b>016T</b>	<b>020T</b>	<b>024T</b>	<b>028T</b>	<b>100T</b>	<b>104T</b>	<b>106T</b>	<b>108T</b>
Quantity per Box <sup>1</sup>	25	25	25	25	25	25	25	25	25	20	20	20
ACR Tube			o	o	o	o	o	o		o	o	o
Refrigeration Service	o	o	o	o	o	o	o	o		o	o	o
Type "K" Copper			o	o	o	o	o	o		o	o	o
Type "L" Copper			o	o	o	o	o	o		o	o	o
Type "M" Copper			o	o	o	o	o	o		o	o	o
Steel	o	o	o	o	o	o	o	o	o	o	o	o
Stainless Steel	o	o	o	o	o	o	o	o	o	o	o	o
Aluminum			o	o	o	o	o	o	o	o	o	o
PB			o	o	o	o	o	o		o	o	o
PVC			o	o	o	o	o	o		o	o	o
CPVC			o	o	o	o	o	o		o	o	o
PE			o	o	o	o	o	o		o	o	o
<b>A</b>	1.11	1.24	1.24	1.36	1.36	1.50	1.78	1.91	2.03	2.16	2.30	2.30
<b>B</b>	.22	.28	.28	.34	.34	.41	.53	.58	.66	.72	.72	.78
<b>C</b>	.075	.075	.075	.075	.075	.075	.075	.075	.105	.105	.105	.105
<b>D*</b>	.62	.75	.75	.87	.87	1.00	1.33	1.45	1.66	1.79	1.92	1.92

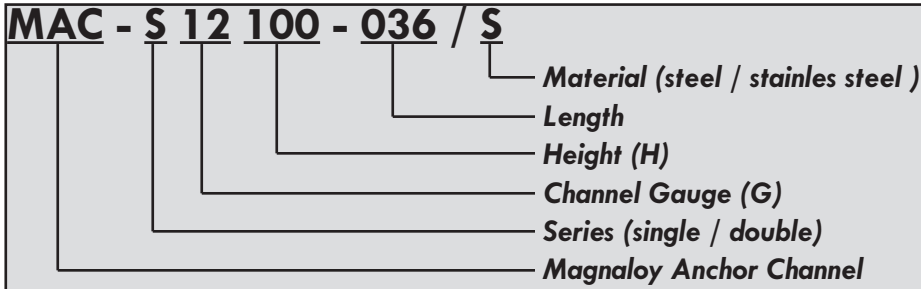
**Note 1:** Clamps are sold in single quantities, box quantity indicated for ordering convenience.

For Hoses - measure hose outside diameter and select the nearest O.D. size above.

**Note:** Anchor Channel is ordered separately. See page 138 for part numbers.



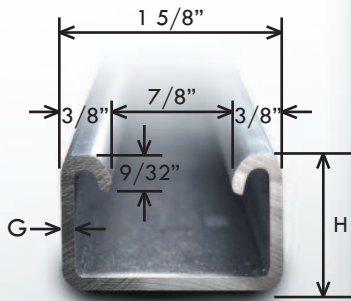
## Clamp Anchor Channel Part Number Breakdown:



### Channel Notes:

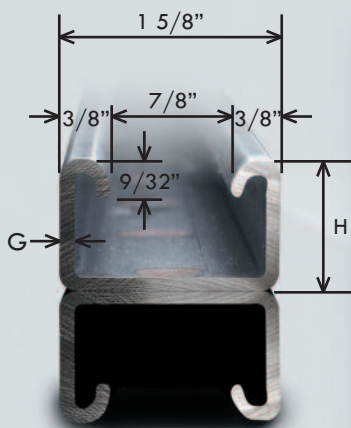
- All Channel widths 1 5/8"
- Steel Channel shipped with plain finish (hot rolled p.o.)
- Special cut tolerances +/- 1/8"

### SINGLE CHANNEL



Part Number	Height (H)	Gauge (G)	Material	Length
MAC-S12100-036/S	1"	12	Steel	36"
MAC-S12100-048/S	1"	12	Steel	48"
MAC-S12100-120/S	1"	12	Steel	120"
MAC-S12028-036/S	7/8"	12	Steel	36"
MAC-S12028-048/S	7/8"	12	Steel	48"
MAC-S12028-120/S	7/8"	12	Steel	120"
MAC-S14026-048/S	13/16"	14	Steel	48"
MAC-S14026-120/S	13/16"	14	Steel	120"
MAC-S14026-048/SS4	13/16"	14	304 SS	48"
MAC-S14026-120/SS4	13/16"	14	304 SS	120"
MAC-S14026-048/SS6	13/16"	14	316 SS	48"
MAC-S14026-120/SS6	13/16"	14	316 SS	120"

### DOUBLE CHANNEL



Part Number	Height (H)	Gauge (G)	Material	Length
MAC-D12200-048/S	2"	12	Steel	48"
MAC-D12200-120/S	2"	12	Steel	120"
MAC-D12124-048/S	1 3/4"	12	Steel	48"
MAC-D12124-120/S	1 3/4"	12	Steel	120"
MAC-D14120-048/S	1 5/8"	14	Steel	48"
MAC-D14120-120/S	1 5/8"	14	Steel	120"
MAC-D14120-048/SS4	1 5/8"	14	304 SS	48"
MAC-D14120-120/SS4	1 5/8"	14	304 SS	120"
MAC-D14120-048/SS6	1 5/8"	14	316 SS	48"
MAC-D14120-120/SS6	1 5/8"	14	316 SS	120"

Magnaloy offers modular cushion clamps in a stackable design - allowing a wide variety of configurations.

### Mounting Features:

- Assemblies can be mounted using weld plates, by bolting directly into place, using channel, or suspended using threaded rod.
- Formed weld bases have integral weld nuts secured from the underside so weld failure will not cause clamp failure.
- Heavy Duty weld plates, including weld nuts, are available for heavy duty applications.

### Stacking and Tiering Features:

- Center distance of mounting holes (bolt holes)(A) and height of assembly (G+I+J) are equal.
- Like sized assemblies (same series) have equal width for clean appearance when stacked.
- Double retainer plates are used for heavier-duty applications (also, required when stacking or tiering).

### Clamp Features:

- Reduced noise, shock and vibration caused by surges in fluid conductors.
- Eliminates metal to metal contact between fluid conductors and clamps preventing galvanic reaction.
- Cushion material is thermoplastic elastomer resistant to most fuels, oils, gases, greases, solvents, mineral acids and other materials.
- Temperature range -20°F (-29°C) to 212°F (100°C).
- Fast and simple installation.
- Large selection of components for assemblies to satisfy your application requirements.
- Assemblies available in single or double line installations.



## Modular Cushion Clamp Part Number Breakdown:

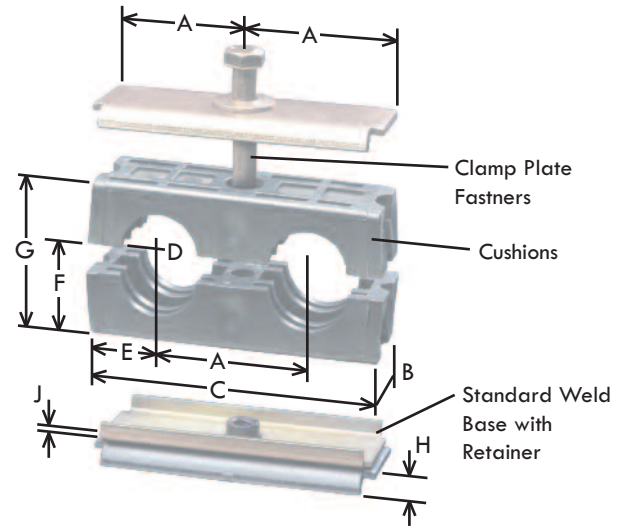
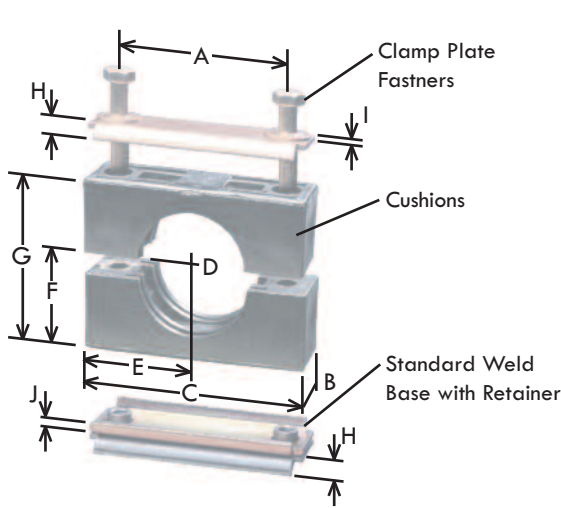
**MMC - 511 100T - 0111**

Tier Arrangement (see pages 143 & 144)  
 Cushion I.D. Size Code (see page 142)  
 Cushion Series and Type (see page 141)  
 Magnaloy Modular Cushion Clamp

### Formulation of the Part Number:

1. See page 141 to determine the Cushion Series and Type. See below for dimension data.
2. See page 142 for Cushion I.D. Size Code depending on the Tube or Pipe size(s) being used.
3. See pages 143 & 144 for Tier Arrangement. Shown on page 144 are the most popular single and double tiering arrangements for the Modular Cushion Clamp assemblies.

Note: See Reference Section, page 188, for Manufacturers Cross References



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Clamp Series & Type	A	B	C	D	E	F	G	H	I	J
511		1.16	1.45	Cushion I.D. (see page 142)			.85			
521	1	1.16	1.90		.95	.425	.85	.30	.075	.075
522	1	1.16	1.94		.45	.425	.85	.30	.075	.075
524	1	1.16	3.88		.45	.425	.85	.30	.075	.075
531	1 1/2	1.16	2.40		1.20	.675	1.35	.30	.105	.075
532	1 1/2	1.16	2.94		.72	.675	1.35	.30	.105	.075
541	2	1.16	2.90		1.45	.925	1.85	.30	.105	.075
542	2	1.16	3.94		1.87	.925	1.85	.30	.105	.075
561	2	1.16	3.90		1.95	1.395	2.79	.30	.105	.105

## Cushion Series and Type:

See page 140 for dimensions



511



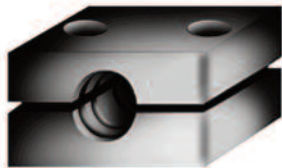
521



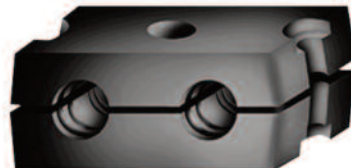
522



524



531



532



541



542



561

## Cushion I.D. Size Code, Availability and Tube/Pipe Dimensions:

“D” (see page 140)

Modular Cushion Series										Cushion I.D. Size CODE	Tube O.D.	Nominal Pipe I.D.	Nominal ACR Tube I.D.	Bulkhead	
511	521	522	524	531	532	541	542	561	Hex					Tube	
o	o	o	o							008T	.250				
o	o	o	o							010T	.312				
o	o	o	o	o	o					012T	.375		.250	.500	1/4
o	o	o	o	o	o					016T	.500		.375	.531	5/16
				o	o					008P		1/4			
				o	o					020T	.625		.500	.687	3/8
				o	o		o			012P		3/8			
				o	o		o			024T	.750		.625	.812	1/2
				o	o		o			016P		1/2			
				o	o		o			028T	.875		.750	.937	5/8
						o	o			100T	1.000			1.125	3/4
						o	o			024P		3/4			
						o	o			100A			1.000	1.250	7/8
						o	o			108T	1.250			1.370	1
						o	o			100P		1			
						o	o			108A			1.250		
								o		116T	1.500			1.680	1 1/4
								o		116A			1.500		
								o		108P		1 1/4			
								o		124T	1.750				
								o		116P		1 1/2		2.000	1 1/2
								o		200T	2.000				
								o		200A			2.000		
								o		208T	2.250				
								o		200P		2			

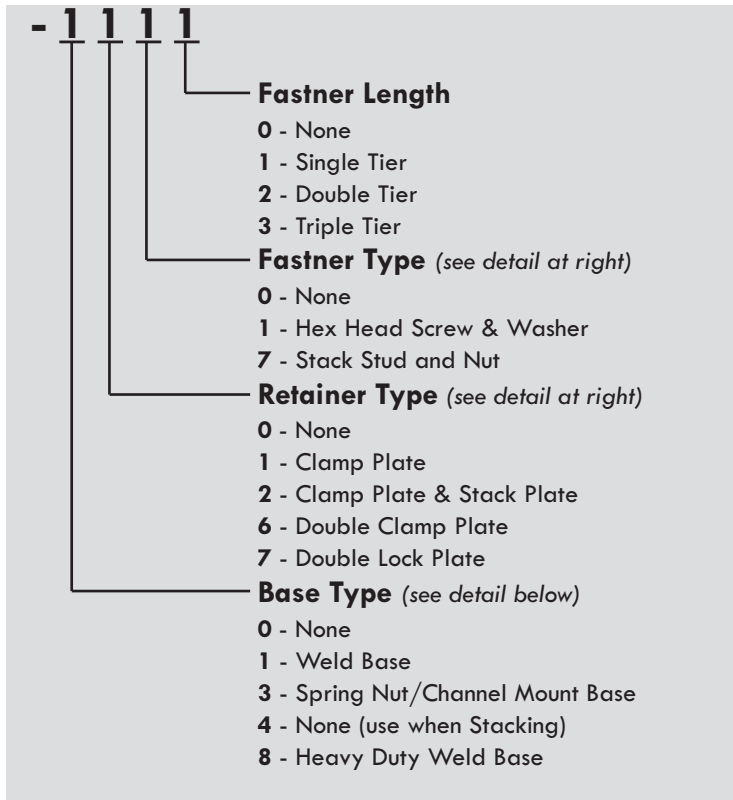
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**Simplified Ordering:** There are many combinations of single and multiple clamp arrangements available and to simplify the selection process, the most common Single Tier and Double Tier arrangements are shown on page 144. Also illustrated, on page 143, is a breakdown of the TIER CODE used for ordering and details of the most popular items in this breakdown. There are other Base Types, Retainer Types and Fastener Types available in addition to those illustrated, consult the factory for more information.

For Multi-Tier ordering, the top cushion part number will specify the ‘Base Type’, ‘Retainer Type’, ‘Fastener Type’ and ‘Fastner Length’. The bottom cushion part number will specify any additional retainers required. In the case of an assembly using the ‘Stack Stud and Nut’ fastner type, the top cushion and bottom cushion are basically stand alone assemblies. The top cushion part number ‘Base Type’ is “4” (none) as this is the stacking version, and the ‘Fastener Length’ is “1” (single) since it is mated with the ‘Stack Nut’. The bottom cushion part number ‘Retainer Type’ is “7” (double lock plate) which is used with the ‘Stack Nut’ and the ‘Fastener Length’ is “1” (single) as it only goes through a single cushion.

In selecting the ‘Base Type’, the Weld Base includes a Clamp Plate and Weld Plate. The ‘Spring Nut Mount’ requires a Clamp Plate and Stack Plate and when using the Heavy Duty Weld Plate a retainer plate is not required above the Base Plate

## TIER CODE Part Number Breakdown:



Fastner Type Detail:	
<b>Hex Head Screw &amp; Washer</b> - Fastener Type - 1 (3rd digit of TIER CODE)	
<b>Stack Stud &amp; Nut</b> - Fastner Type - 7 (3rd digit of TIER CODE)	

Retainer Type Detail:	
<b>Clamp Plate</b> - Retainer Type - 1 (2nd digit of TIER CODE) (Clamp Plate has .33" round holes)	
<b>Clamp Plate/Stack Plate</b> - Retainer Type - 2 (2nd digit of TIER CODE) (Stack Plate has .33" square holes) (Clamp Plate has .33" round holes)	
<b>Double Stack Plate</b> - Retainer Type - 6 (2nd digit of TIER CODE) (Stack Plate has .33" square holes)	
<b>Double Lock Plate</b> - Retainer Type - 7 (2nd digit of TIER CODE) (Lock Plate has .44" 12 point holes)	

Base Type Detail:	
<b>Weld Base</b> - Base Type - 1 (1st digit of TIER CODE)	
<b>Spring Nut Base</b> - Base Type - 3 (1st digit of TIER CODE) (for use with anchor Channel Mounting)	
<b>Heavy Duty Weld Base</b> - Base Type - 8 (1st digit of TIER CODE)	

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**Single Tier Arrangements:** *(Most Common Arrangements)*  
**Drill and Tap Mounting**



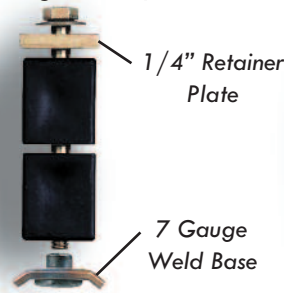
**TIER CODE: 0111**

**Standard Weld Base Mounting**



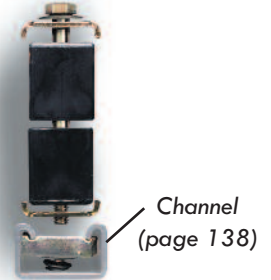
**TIER CODE: 1111**

**Heavy Duty Weld Base Mounting (New Style)**



**TIER CODE: 8111**

**Spring Nut Mounting (channel not included)**



**TIER CODE: 3211**



**Old Style Weld Base** - available as special order (3/8" steel weld)

**TIER CODE: 6111**

**Multi Tier Arrangements:** *(Most Common Arrangements)*

The most common method of stacking the **521, 524, 531** and the **532** Series assemblies is shown at the right. The part number for each cushion assembly is required. **IE.** to order a Series 521 Double Tiered assembly for .25" tube and .37" tube with retainer plates between tiers, the part numbers would be:

**MMC-521012T-1112** - for the .375" Tube mounted on the top.

**MMC-521008T-0600** - for the .250" Tube mounted on the bottom with a standard weld base.

Without the retainer plates (as shown at far right), the part number for the bottom would be:

**MMC-521008T-0000**

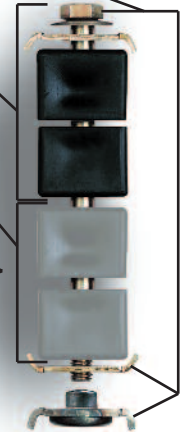
Tier CODE 0600 can be substituted for the 0000 Tier CODE as it is recommended to have retainer plates between Tiers when stacking.

**TIER CODE: 0000**



**TIER CODE: 0600**

**TIER CODE: 1112**



**TIER CODE: 4111**



**TIER CODE: 1771**

