



Z-Clamp - Overview

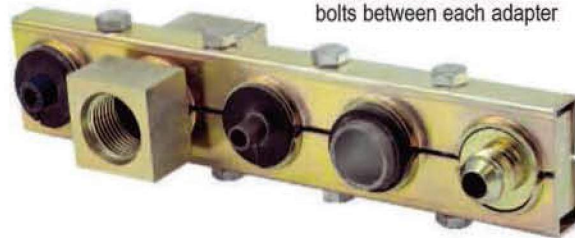


Z-CLAMP UNITS

The **Z-Clamp** is designed to maintain a consistent center line dimension for horizontal clamping or vertical stackable clamping applications. Z-Clamp maintains that center line while accommodating the same, or different diameter tubing, hose or pipe. Suited for all types of hydraulic hose, tubing, and pipe clamping applications, the Z-Clamp provides yet another alternative to the broadest cushion clamping product line in the world.

A Z-Clamp consists of an adapter framework which is offered in two versions. One has mounting bolts between each adapter insert and the other has two additional mounting bolts at each end of the frame.

Standard framework,
bolts between each adapter



Z-Clamps can be stacked for even more line clamping ability.



Outside hole framework, bolts between each adapter and two additional bolts at each end

Z-CLAMP & BETA ADAPTER OPTIONAL ADAPTERS



O-RING FACE SEAL

FEMALE JUNCTION ADAPTER



The Z-Clamp inserts are also used with the Beta Adapter.



RUBBER SPLIT BUSHINGS



37° FLARE MALE JUNCTION ADAPTER


ZSI

Z-Clamp - Standard

Z-CLAMP - MULTIPLE LINE CLAMPING SYSTEM

STANDARD CLAMP UNITS

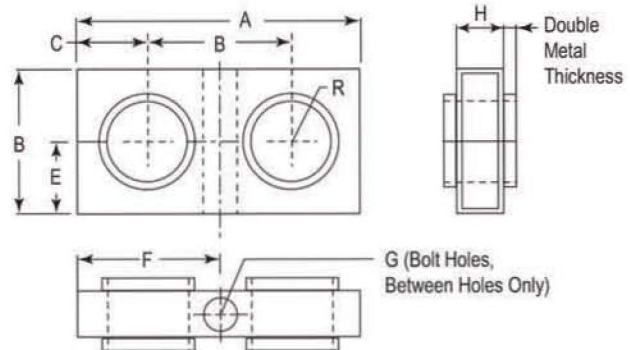


The standard Z-Clamp unit features an anchor bolt between each of the adapter inserts.

The junction adapter provides break points in lines allowing for shorter hose and tubing runs reducing leaks at connection points by securing the adapter against vibration within the Z-Clamp units. These break points may also serve as securely clamped change-over points between hose and tube, and vice versa.

- Stackable for space conservation
- Maintains consistent center line dimensions between lines both horizontally and vertically (in a stacking application)
- Mix and match pipe, tube, hose and junction adapters
- Suited for all types of hydraulic applications
- Available in standard and outside hole mounting configurations

INSTALLATION - Refer to page 117 for complete installation guide.



Note: Adapters and Hardware are ordered separately. Please see pages 51-53 for selection of these items.



Part No.	# Adapter Holes	# Bolts	A	B	C	E	F	G	H	R
HAC-1 Series 1-1/2" 14 Gauge										
HAC-1-2	2	1	2.938"	1.5"	0.719"	0.75"	1.469"	0.344"	0.550"	0.422"
HAC-1-3	3	2	4.406"	1.5"	0.719"	0.75"	1.469"	0.344"	0.550"	0.422"
HAC-1-4	4	3	5.940"	1.5"	0.719"	0.75"	1.469"	0.344"	0.550"	0.422"
HAC-1-5	5	4	7.140"	1.5"	0.594"	0.75"	1.343"	0.344"	0.550"	0.422"
HAC-1-6	6	5	8.938"	1.5"	0.719"	0.75"	1.469"	0.344"	0.550"	0.422"
HAC-1-7	7	6	10.188"	1.5"	0.594"	0.75"	1.343"	0.344"	0.550"	0.422"
HAC-1-32	32	31	48.00"	1.5"	-	0.75"	-	0.344"	0.550"	0.422"
HAC-2 Series 2" 14 Gauge										
HAC-2-2	2	1	3.875"	2"	0.938"	1"	1.938"	0.344"	0.550"	0.594"
HAC-2-3	3	2	5.641"	2"	0.844"	1"	1.844"	0.344"	0.550"	0.594"
HAC-2-4	4	3	7.891"	2"	0.938"	1"	1.938"	0.344"	0.550"	0.594"
HAC-2-5	5	4	9.672"	2"	0.844"	1"	1.844"	0.344"	0.550"	0.594"
HAC-2-6	6	5	11.672"	2"	0.813"	1"	1.813"	0.344"	0.550"	0.594"
HAC-2-7	7	6	13.625"	2"	0.813"	1"	1.813"	0.344"	0.550"	0.594"
HAC-2-24	24	23	48.00"	2"	-	1"	-	0.344"	0.550"	0.594"
HAC-3 Series 3" 11 Gauge										
HAC-3-2	2	1	6.766"	3"	1.875"	1.5"	3.375"	0.406"	0.750"	1.063"
HAC-3-3	3	2	8.703"	3"	1.406"	1.5"	2.984"	0.406"	0.750"	1.063"
HAC-3-4	4	3	11.703"	3"	1.406"	1.5"	2.797"	0.406"	0.750"	1.063"
HAC-3-5	5	4	14.703"	3"	1.406"	1.5"	2.859"	0.406"	0.750"	1.063"
HAC-3-6	6	5	17.703"	3"	1.406"	1.5"	2.859"	0.406"	0.750"	1.063"
HAC-3-16	16	15	48.00"	3"	-	1.5"	-	0.406"	0.750"	1.063"

NOTE: Hardware & Adapters not included.



Z-Clamp - Outside Holes



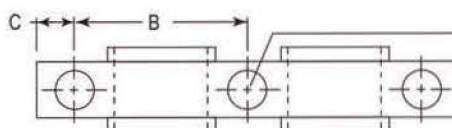
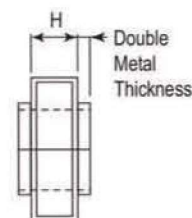
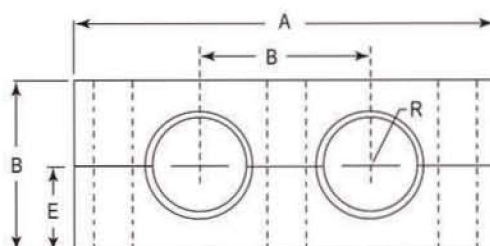
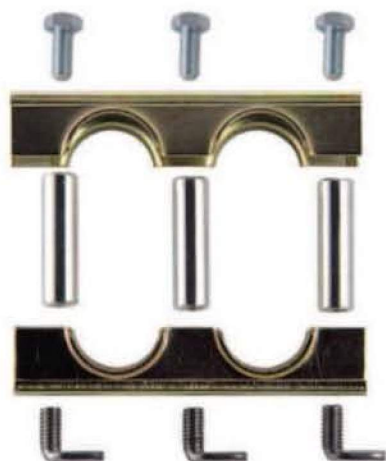
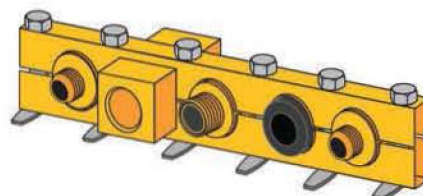
Z-CLAMP

OUTSIDE HOLE CLAMP UNITS



- Stackable for space conservation
- Maintains consistent center line dimensions between lines both horizontally and vertically (in a stacking application)
- Mix and match pipe, tube, hose and junction adapters
- Suited for all types of hydraulic applications
- Available in standard and outside hole mounting configurations

INSTALLATION - Refer to page 117 for complete installation guide.



G (Bolt Holes,
Between Holes and
at Each End)

Note: Adapters and Hardware are ordered separately. Please see pages 51-53 for selection of these items.



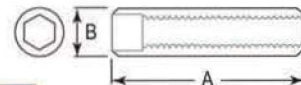
Part No.	# Adapter Holes	# Bolts	A	B	C	E	G	H	R
HAC-1 Series 1-1/2"									
HAC 1-1-2	1	2	2.188"	1.5"	0.344"	0.75"	0.344"	0.550"	0.422"
HAC 1-2-3	2	3	3.797"	1.5"	0.391"	0.75"	0.344"	0.550"	0.422"
HAC 1-3-4	3	4	5.297"	1.5"	0.391"	0.75"	0.344"	0.550"	0.422"
HAC 1-4-5	4	5	6.797"	1.5"	0.391"	0.75"	0.344"	0.550"	0.422"
HAC 1-5-6	5	6	8.297"	1.5"	0.391"	0.75"	0.344"	0.550"	0.422"
HAC-2 Series 2"									
HAC 2-1-2	1	2	2.656"	2"	0.328"	1"	0.344"	0.550"	0.594"
HAC 2-2-3	2	3	4.766"	2"	0.391"	1"	0.344"	0.550"	0.594"
HAC 2-3-4	3	4	6.797"	2"	0.391"	1"	0.344"	0.550"	0.594"
HAC 2-4-5	4	5	8.297"	2"	0.391"	1"	0.344"	0.550"	0.594"
HAC-3 Series 3"									
HAC 3-1-2	1	2	4.000"	3"	0.500"	1.5"	0.406"	0.750"	1.063"
HAC 3-2-3	2	3	6.859"	3"	0.422"	1.5"	0.406"	0.750"	1.063"
HAC 3-3-4	3	4	9.859"	3"	0.422"	1.5"	0.406"	0.750"	1.063"
HAC 3-4-5	4	5	12.859"	3"	0.422"	1.5"	0.406"	0.750"	1.063"



Z-CLAMP

HARDWARE

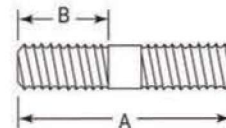
SOCKET HEAD STACKING NUT



Part No.	HAC Series	A	B Dia.	Thread size
S-1	1	1.335"	1/2"	5/16"-18
S-2	2	1.800"	1/2"	5/16"-18
S-3	3	2.780"	1 1/16"	3/8"

THREAD ADAPTER

(Install or Stack)

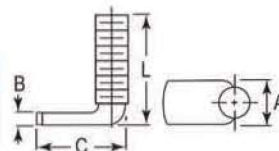


Part No.	HAC Series	A	B Dia.	Thread size
T-1	1 & 2	1.38"	0.63"	5/16"-18
T-3	3	2.00"	0.88"	3/8"-16

WELD NUT



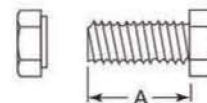
Part No.	HAC Series	ThreadSize	A	B	C	L
W-1 / W-2	HAC 1&2	5/16"-18	0.437	0.12	0.875	3/4
W-3	HAC 3	3/8"-16	0.531	0.151	1.00	1.00



HEX BOLT and HEX NUT



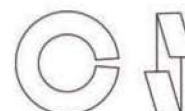
Part No.	HAC Series	Thread size	A
HB-1	HAC 1 & 2	5/16"-18	3/4"
HB-3	HAC 3	3/8"-16	1"



LOCK WASHER



Part No.	HAC Series	size
HW-1	HAC 1 & 2	5/16"
HW-3	HAC 3	3/8"





Z-Clamp - Adapters

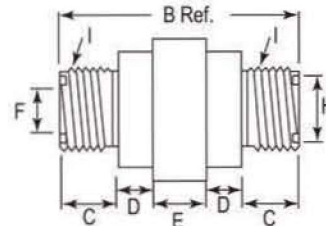
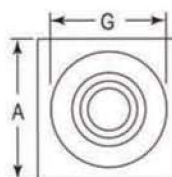


O-RING FACE SEAL



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"	1-3/16"-12	0.873"
MJO-2-16	1"	1.50"	2.58"	0.68"	0.34"	0.54"	0.81"	1.20"	1-7/16"-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

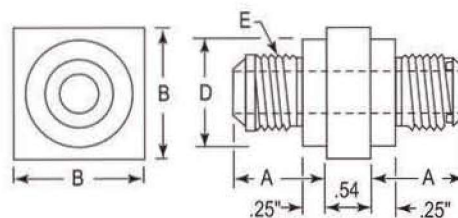
37° FLARE MALE JUNCTION ADAPTER



FOR USE with BETA
ADAPTERS & Z-CLAMPS

Part No.	Tube Size	Dimensions – Inches			E (Thread)
		A	B	D	
1-1/2" Series					
MJA-1-4	1/4"	0.76"	1"	0.84"	7/16"-20
MJA-1-6	3/8"	0.76"	1"	0.84"	9/16"-18
MJA-1-8	1/2"	0.87"	1"	0.84"	3/4"-16
MJA-1-10	5/8"	0.96"	1"	0.84"	7/8"-14
2" Series					
MJA-2-4	1/4"	0.76"	1-1/2"	1.20"	7/16"-20
MJA-2-6	3/8"	0.76"	1-1/2"	1.20"	9/16"-18
MJA-2-8	1/2"	0.87"	1-1/2"	1.20"	3/4"-16
MJA-2-10	5/8"	0.96"	1-1/2"	1.20"	7/8"-14
MJA-2-12	3/4"	1.07"	1-1/2"	1.20"	1-1/16"-12
MJA-2-14	7/8"	1.10"	1-1/2"	1.20"	1-3/16"-12
MJA-2-16	1"	1.10"	1-1/2"	1.20"	1-5/16"-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





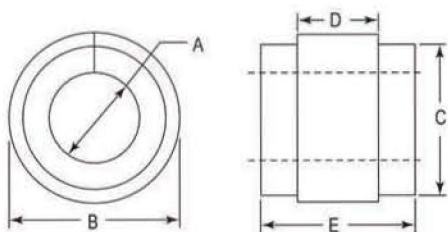
SPLIT RUBBER BUSHINGS

FOR USE with BETA
ADAPTERS & Z-CLAMPS



ANTI-VIBRATION SPLIT RUBBER BUSHING

- Unique "grip" design secures cushion in place
- High quality EPDM rubber provides superior vibration damping with excellent oil resistance.



Part No.	Tube Size	Pipe Size	A	B	C	D	E
HAC-1 1-1/2" Series							
G-1-4	1/4"	—	0.235"	0.975"	0.875"	0.50"	1.312"
G-1-6	3/8"	—	0.360"	0.975"	0.875"	0.50"	1.312"
G-1-8	1/2"	—	0.485"	0.975"	0.875"	0.50"	1.312"
G-1-10	5/8"	—	0.610"	0.975"	0.875"	0.50"	1.312"
G-1-12	3/4"	—	0.735"	0.975"	0.875"	0.50"	1.312"
HAC-2 2" Series							
G-2-4	1/4"	—	0.235"	1.350"	1.250"	0.50"	1.312"
G-2-6	3/8"	—	0.360"	1.350"	1.250"	0.50"	1.312"
G-2-8	1/2"	—	0.485"	1.350"	1.250"	0.50"	1.312"
G-2-4P	—	1/4"	0.525"	1.350"	1.250"	0.50"	1.312"
G-2-10	5/8"	—	0.610"	1.350"	1.250"	0.50"	1.312"
G-2-6P	—	3/8"	0.660"	1.350"	1.250"	0.50"	1.312"
G-2-12	3/4"	—	0.735"	1.350"	1.250"	0.50"	1.312"
G-2-8P	—	1/2"	0.825"	1.350"	1.250"	0.50"	1.312"
G-2-14	7/8"	—	0.860"	1.350"	1.250"	0.50"	1.312"
G-2-16	1"	—	0.985"	1.350"	1.250"	0.50"	1.312"
G-2-12P	—	3/4"	1.035"	1.350"	1.250"	0.50"	1.312"
HAC-3 3" Series							
G-3-4	1/4"	—	0.234"	2.287"	2.187"	0.750"	1.750"
G-3-6	3/8"	—	0.360"	2.287"	2.187"	0.750"	1.750"
G-3-8	1/2"	—	0.485"	2.287"	2.187"	0.750"	1.750"
G-3-4P	—	1/4"	0.525"	2.287"	2.187"	0.750"	1.750"
G-3-10	5/8"	—	0.610"	2.287"	2.187"	0.750"	1.750"
G-3-6P	—	3/8"	0.660"	2.287"	2.187"	0.750"	1.750"
G-3-12	3/4"	—	0.735"	2.287"	2.187"	0.750"	1.750"
G-3-8P	—	1/2"	0.825"	2.287"	2.187"	0.750"	1.750"
G-3-14	7/8"	—	0.860"	2.287"	2.187"	0.750"	1.750"
G-3-16	1"	—	0.985"	2.287"	2.187"	0.750"	1.750"
G-3-12P	—	3/4"	1.035"	2.287"	2.187"	0.750"	1.750"
G-3-20	1-1/4"	—	1.235"	2.287"	2.187"	0.750"	1.750"
G-3-16P	—	1"	1.300"	2.287"	2.187"	0.750"	1.750"
G-3-24	1-1/2"	—	1.485"	2.287"	2.187"	0.750"	1.750"
G-3-20P	—	1-1/4"	1.645"	2.287"	2.187"	0.750"	1.750"
G-3-24P	—	1-1/2"	1.885"	2.287"	2.187"	0.750"	1.750"
G-3-32	2"	—	1.985"	2.287"	2.187"	0.750"	1.750"

FEMALE JUNCTION ADAPTER



FOR USE with BETA
ADAPTERS & Z-CLAMPS

- 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

Part No.	Dimensions - Inches						G (Thread)
	A	B	C	D	E	F	
FJA-1-6-P	1"	2-13/16"	0.84"	0.84"	0.30"	0.54"	3/8" N.P.T.
FJA-2-12-P	1-1/2"	3-1/8"	1.20"	0.97"	0.32"	0.54"	3/4" N.P.T.
FJA-3-20-P	2-1/4"	2-5/8"	2.12"	0.49"	0.45"	0.74"	1-1/4" N.P.T.
FJA-1-8	1"	2-13/16"	0.84"	0.84"	0.30"	0.54"	3/4"-16 SAE
FJA-2-12	1-1/2"	3-1/8"	1.20"	0.97"	0.32"	0.54"	1-1/16"-12 SAE
FJA-3-20	2-1/4"	2-5/8"	2.12"	0.49"	0.45"	0.74"	1-5/8"-12 SAE

