



Quality People. Building Solutions.

Comfort Systems USA (Arkansas), Inc.
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Date: 12/26/2025

Return Request: 1/5/2026

Project: Hot Springs National Park – Rehabilitate Bathhouses – Maurice Bathhouse

Supplier: Comfort Systems USA (Arkansas), Inc.

Manufacturer: Varies

Submittal: Plumbing Supports and Anchors (Re-Submittal #1)

Submittal Number: 220529.001

Spec Section: 220529

Drawing # and Installation Location: P1.0 through P1.4

ARCHITECT

Strata Architecture
1701 Oak Street, Suite 100
Kansas City, Missouri 64108
(816)474-0900

GENERAL CONTRACTOR

Tepa, LLC
2345 Grand Blvd, Suite 700
Kansas City, Missouri 64108
(816)708-1110

ENGINEER

IMEG Corp.
1600 Baltimore Street, Suite 300
Kansas City, Missouri 64108
(816)842-8437

MECHANICAL SUBCONTRACTOR

Comfort Systems USA (Arkansas), Inc.
9924 Landers Road
North Little Rock, Arkansas 72117
(501)834-3320

Comments:

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CSUSA PROJECT NO.

25-7065

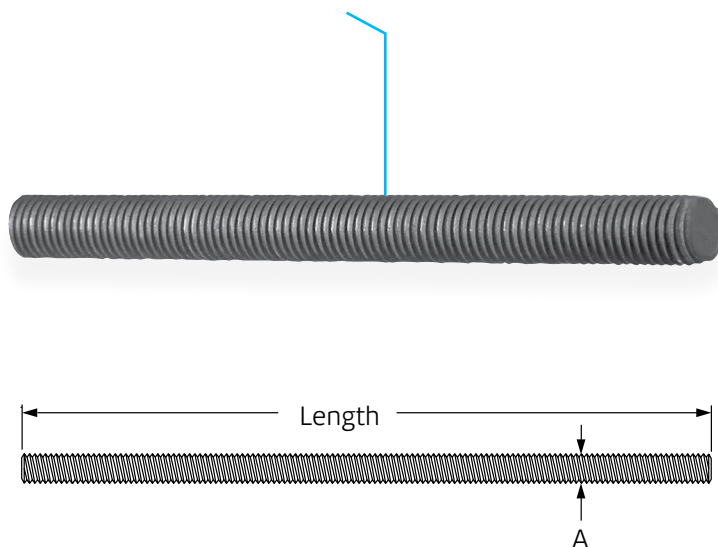
joe@comfortar.com

9924 Landers Road
No. LittleRock, AR 72117

220529, 2.2, A.

Continuous Threaded Rod

Fig. 146 (Formerly Afcon Fig. 650)



Galvanized allthread rod to be used in basement.

Size Range: ¼" through 1½" stocked in six, ten, and twelve foot lengths. Other even foot lengths can be furnished to order.

Material: Carbon steel or Stainless Steel Gr 304

Threads: National Coarse (UNF), rod threaded complete length.

Finish: ☐ Plain or ☐ Zinc Plated (Hot-Dip Galvanized optional)

Maximum Temperature: Zinc Plated 450°F, Stainless Steel 650°F

Approvals: Complies with MSS SP-58.

Ordering: Specify rod diameter and length, figure number, name and finish.

Note: The acceptability of galvanized coatings at temperatures above 450°F is at the discretion of the end user.



Fig. 146: Dimensions (in) • Loads (lbs) • Weight (lbs)

Rod Size A	Threads per Inch	Max Load	Weight per Ft.
		650° F	
¼	20	240	0.12
⅜	16	730	0.30
½	13	1,350	0.53
⅝	11	2,160	0.84
¾	10	3,230	1.20
⅞	9	4,480	1.70
1	8	5,900	2.30
1¼	7	9,500	3.60
1½	6	13,800	5.10

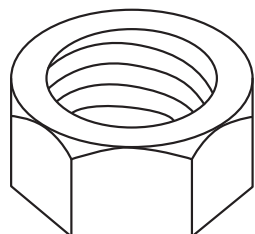
PROJECT INFORMATION	APPROVAL STAMP
Project:	☐ Approved
Address:	☐ Approved as noted
Contractor:	☐ Not approved
Engineer:	Remarks:
Submittal Date:	
Notes 1:	
Notes 2:	

Flat Washer

Figs. AS 209, AS 3500, AS 211, AS 83, AS 209, AS 6108, AS 230

Hexagon Nut

☐ AS 83 ☒ EG

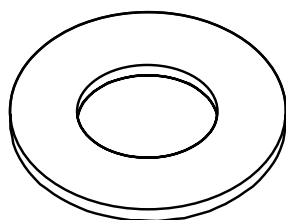


Size	Std. Pkg.	Wt./100 Pcs.
1/4"	500	0.6
3/8"	500	1.6
1/2"	100	4.8
5/8"	50	7.0
3/4"	50	12.0

Std Pkg & Wt/100 pcs: See chart above.

Flat Washer

☐ AS 209 ☐ EG

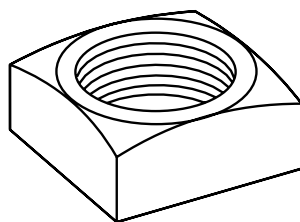


Size	Std. Pkg.	Wt./100 Pcs.
1/4"	200	0.7
3/8"	100	1.5
1/2"	100	3.5
5/8"	100	8.0
3/4"	100	11.0

Std Pkg & Wt/100 pcs: See chart above.

Square Nut

☐ AS 6108 ☐ EG

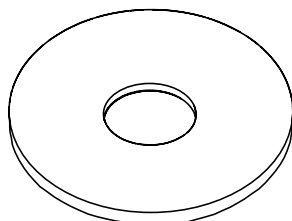


Size	Std. Pkg.	Wt./100 Pcs.
1/4"	100	0.9
5/16"	100	1.6
3/8"	100	2.7
1/2"	100	5.8

Std Pkg & Wt/100 pcs: See chart above.

Square Nut

☐ AS 230 ☐ EG



Size	Std. Pkg.	Wt./100 Pcs.
1/4"	100	3.3
3/8"	100	3.0
1/2"	100	2.8

Std Pkg & Wt/100 pcs: See chart above.

Galvanized nuts and washers
to be used in basement.

LEGEND:

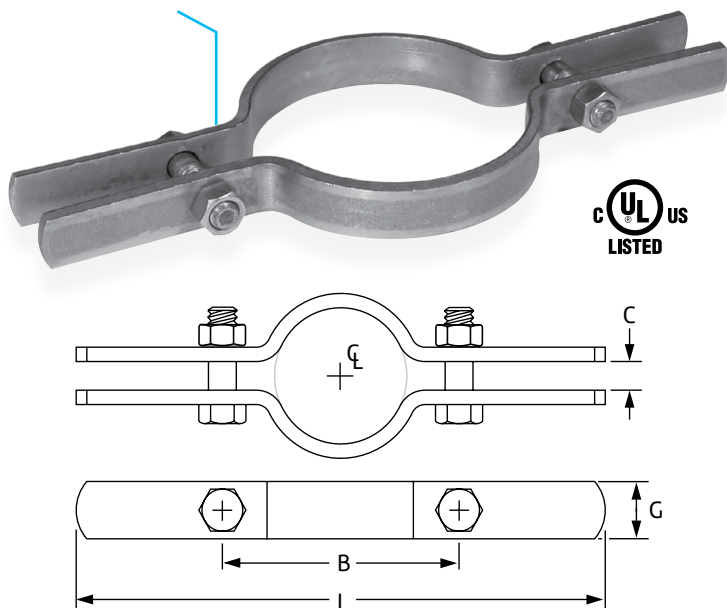
GR: Powder Coated Supr-Green **EG:** Electro-Galvanized **PG:** Pre-Galvanized **AL:** Aluminum

HG: Hot Dipped Galvanized **PL:** Plain **SS:** Stainless Steel

ZTC: Zinc Trivalent Chromium Stainless Steel (**SS**), Zinc Trivalent Chromium (**ZTC**) and Hot Dipped Galvanized (**HG**) are specialty finishes. Pricing is located in the Specialty Strut Section of the Anvil-Strut price book.

220529, 2.3, B, 1, a.

Extension Pipe or Riser Clamp Fig. 261 (Formerly Afcon Fig. 400)



Size Range: ¾" through 24"

Material: Carbon steel

Finish: ☐ Plain, ☐ Hot-Dip Galvanized with Zinc Plated
Bolts & Nuts, ☐ Epoxy Coated or ☐ Painted.

Service: For support of stationary steel pipe risers, cast iron pipe or conduit. This product is not intended for use with hanger rods. For this application refer to Fig. 40 Riser Clamp.

Maximum Temperature: Plain 650° F, Galvanized and Epoxy 450° F

Approvals: Complies with Federal Specification A-A-1192A (Type 8) WW-H-171-E (Type 8), ANSI/MSS SP-69 and MSS SP-58 (Type 8). UL, ULC Listed (Sizes 1½" – 8").

Installation: Clamp is fitted and bolted preferably below a coupling, hub or welded lugs on steel pipe. Bolt torques should be per industry standards (see page 248). Clamp is designed for standard steel pipe O.D. and this must be considered in sizing the riser for other types of piping.

Ordering: Specify pipe size, figure number, name and finish.

Note: Refer to Technical Data Section of the Pipe Hanger Catalog for cast iron soil pipe data.

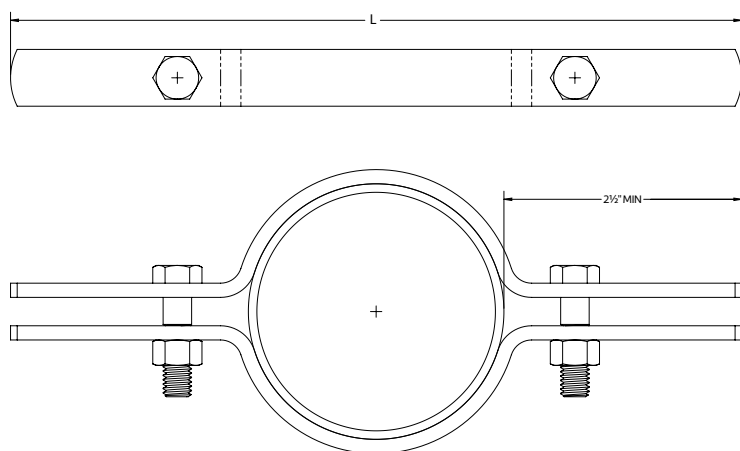
Fig. 261: Dimensions (in) • Loads (lbs) • Torque (ft-lbs) • Weight (lbs)

Pipe Size	Max Load	Weight	L	G Width	B	C	Bolt Diameter	Torque Values
½ & ¾	220	1.1	8⅞	1	2⅞	⅜	⅜	21
1		1.1	3⅞					
1¼		1.6	3½					
1½	250	1.6	10⅞		3⅞	½	⅞	32
2		1.7	4¼					
2½		1.9	4¾					
3	500	1.9	11⅜		5½	½	½	46
3½	600	2.3	12⅞		6½			
4	750	2.4	7					
5	1,500	3.6	13¾	1½	8	⅝	⅝	100
6	1,600	4.0	14¾		9			
8	2,500	7.6	18½		12			
10		11.1	20¼	13¾	¾	¾	150	
12		16.5	22¾	15¾				
14	17.7	24	17¼					
16	2,900	30.4	26	2½	19¾	¾	¾	190
18		33.8	28		21¾			
20		35.0	30		23¾			
24	3,200	82.0	36¾	3	30	1	⅞	190

PROJECT INFORMATION	APPROVAL STAMP
Project:	☐ Approved
Address:	☐ Approved as noted
Contractor:	☐ Not approved
Engineer:	Remarks:
Submittal Date:	
Notes 1:	
Notes 2:	

220529, 2.3, B, 1, a.

Light Duty Copper Tubing Riser Clamp Fig. 008CTG



Size Range: ½" through 6" CTS

Material: Carbon Steel

Finish: Epoxy coated

Service: Recommended for the suspension of stationary copper tube.

Maximum Temperature: 450° F

Approvals: MSS SP-58 (Type-8)

Installation: Clamp is to be fitted and bolted below a coupling or hub. Bolt torques should be per industry standards. Clamp is designed for standard copper tube O.D. and this must be considered in sizing the riser for other types of piping.

Ordering: Nominal pipe size and figure number.

Notes:

- For U.S. domestic product see Figure CT-121 copper tubing riser clamp.

Fig. 008CTG: Dimensions (in) Loads (lbs)

Pipe Size	Max Load	Length
½	150	8½
¾	150	9¼
1	150	9⅝
1¼	150	9½
1½	150	9⅝
2	150	10⅞
2½	150	11⅜
3	200	11⅝
4	250	12½
6	480	15⅜



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Project:	☐ Approved
Address:	☐ Approved as noted
Contractor:	☐ Not approved
Engineer:	Remarks:
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Notes 1:	
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MASON INDUSTRIES, Inc.

Manufacturers of Vibration Control Products

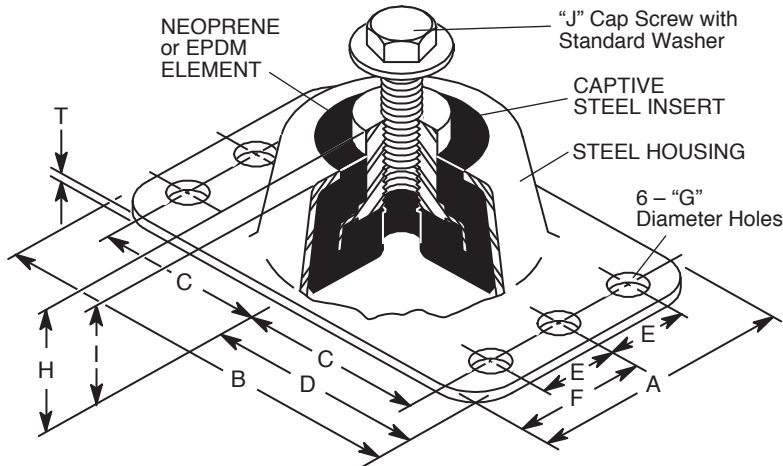
350 Rabro Drive
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631/348-0282
FAX 631/348-0279

2101 W. Crescent Ave., Suite D
Anaheim, CA 92801
714/535-2727
FAX 714/535-5738

Info@Mason-Ind.com • www.Mason-Ind.com

JOB NAME _____
CUSTOMER _____
CUSTOMER P.O. _____
MASON M. _____
DWG No. _____

**RAA, RBA
RCA & RDA**
Captive Mounting



TYPE RAA, RBA, RCA and RDA DIMENSIONS (inches millimeters)

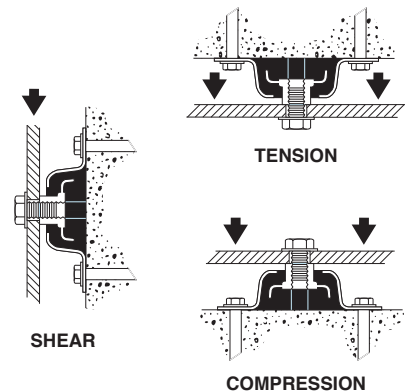
Type	A	B	C	D	E	F	G	H	I	J	T
RAA	25/8 67	41/4 108	111/16 43	21/8 54	7/8 22	15/16 33	7/16 11	11/2 38	11/8 29	3/8-16UNC x 1	3/32 2
RBA	3 76	43/4 121	115/16 49	23/8 60	1 25	11/2 38	7/16 11	17/8 48	11/2 38	1/2-13UNC x 11/4	3/32 2
RCA	33/4 95	61/4 159	21/2 64	31/8 79	11/4 32	17/8 48	9/16 14	17/8 48	11/2 38	5/8-11UNC x 11/4	3/32 2
RDA	5 127	8 203	31/4 83	4 108	13/4 44	21/2 64	3/4 19	23/8 60	17/8 48	7/8-9UNC x 11/4	1/8 3

TYPE RAA, RBA, RCA and RDA RATINGS

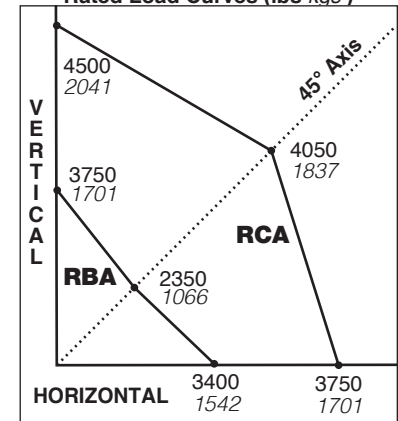
Type	Size (Color Mark)	Duro- meter	COMPRESSION		TENSION		SHEAR		Maximum Horizontal Static G Rating*
			Rated Capacity (lbs) (kgs)	Rated Defl (in)(mm)	Rated Capacity (lbs) (kgs)	Rated Defl (in)(mm)	Rated Capacity (lbs) (kgs)	Rated Defl (in)(mm)	
RAA-	Black	30	200	91	150	68	150	68	7.0
	Green	45	300	136	200	91	200	91	5.0
	Red	50	500	227	400	181	400	181	2.5
RBA-	Black	30	250	113	200	91	200	90	13.6
	Green	45	525	238	420	191	420	191	6.5
	White	60	1000	454	800	363	800	363	3.4
RCA-	Green	40	1400	635	1000	454	400	181	2.7
	Red	50	2100	953	1500	680	600	272	1.8
	White	60	3500	1588	2500	1134	1000	454	1.1
RDA-	Green	40	2800	1270	2000	910	900	410	3.3
	Red	50	4200	1910	2900	1320	1300	590	2.2
	White	60	7100	3230	4200	1910	1800	820	1.3

All Rated Capacities are based on proper neoprene loadings without metal to metal contact. Seismic Max. G Ratings are based on metal failure under static seismic loadings as defined in the building codes.

*Horizontal G Ratings are for quick reference only- Use OSHPD Rated Load Curves.



OSHPD OPA-0200 Rated Load Curves (lbs kgs¹)



Horizontal, Vertical and 45° plotted Ratings are California OSHPD approved values having the OSHPD Anchorage Preapproval Number OPA-0200. Testing and calculations were performed to meet OSHPD criteria.

To use approved OSHPD rated load curves: 1) Calculate Vertical and Horizontal Forces on mounting including translations and overturning moments. 2) Plot Horizontal Load vs Vertical Load. The point must fall within the area below the OSHPD curve. RAA's and RDA's have not been submitted to OSHPD.

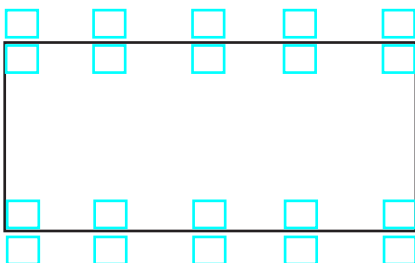
Note: OSHPD changed requirements in California in 2010, but the reference remains excellent as a general guideline.

PLAN VIEW OF MOUNT LOCATIONS

TAG: _____

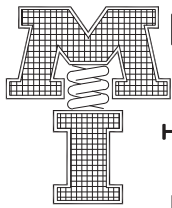
UNIT: _____

Click with mouse for each location >



SPECIFIED DEFLECTION

1:	6:
2:	7:
3:	8:
4:	9:
5:	10:
Sets Required:	



MASON INDUSTRIES, Inc.

Manufacturers of Vibration Control Products

350 Rabro Drive 2101 W. Crescent Ave., Suite D
Hauppauge, NY 11788 Anaheim, CA 92801
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FAX 631/348-0279 FAX 714/535-5738
Info@Mason-Ind.com Info@MasonAnaheim.com

CERTIFIED FOR

JOB NAME _____

CUSTOMER _____

CUSTOMER P.O. _____

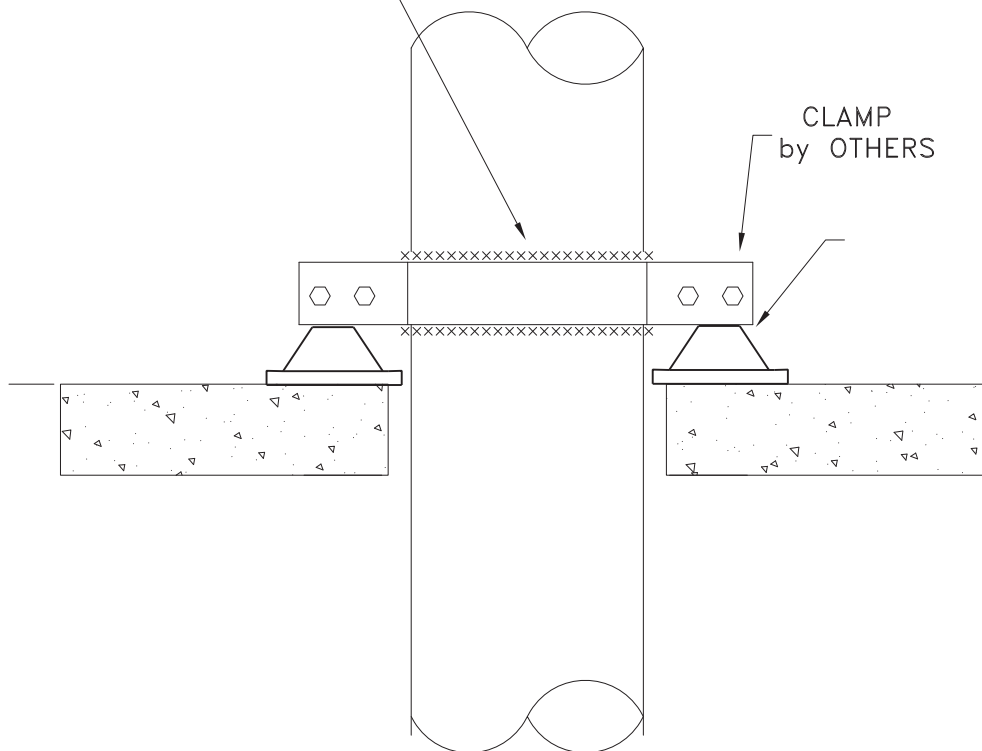
MASON S.O. _____

DWG. NO. F- _____

References

1/4" FILLET WELD
all around
top & bottom

CLAMP
by OTHERS



DWN.:

CHKD.:

DATE:



PIPE HANGERS



INSULATION SHIELD

Model 1250

SIZE:

Range: ½" thru 6" pipe with up to 2" thick insulation and 8" pipe with 1" thick insulation

FINISH:

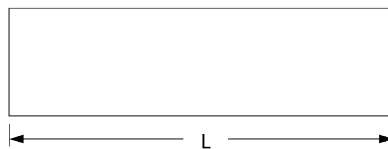
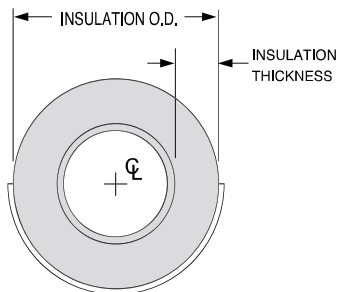
Electro-Galvanized

MATERIAL:

Carbon Steel

FEATURES:

- Complies with Federal Specification A-A-1192A (Type 40), WW-H-171-E (Type 41), ANSI/MSS SP-69 and MSS SP-58 (Type 40).



Insulation Shield: Weights (LBS) • Dimensions (IN)

ITEM CODE 1250	SHIELD SIZE	WEIGHT	STOCK SIZE	L	INSULATION O.D.	STANDARD CLEVIS HANGER
1250-0150EG	1A	0.7	18 Ga.	12	2⅝	2
1250-0200EG	2A	0.8	18 Ga.	12	2⅞	2½
1250-0250EG	3A	1.0	18 Ga.	12	3½	3
1250-0300EG	4A	1.1	18 Ga.	12	4	3½
1250-0350EG	5A	1.3	18 Ga.	12	4½	4
1250-0400EG	6A	1.4	18 Ga.	12	5	*5
1250-0500EG	7A	1.6	18 Ga.	12	5⅝	5
1250-0600EG	8A	1.9	16 Ga.	12	6⅔	6
1250-0800EG	9A	2.7	16 Ga.	12	7⅔	*8
1250-1000EG	10A	3.1	16 Ga.	12	8⅔	8
1250-1200EG	10B	4.6	16 Ga.	18	8⅔	8
1250-1800EG	11B	5.1	16 Ga.	18	9⅔	*10
1250-2000EG	12B	5.6	16 Ga.	18	10¾	10

* This shield fits loosely inside a standard clevis hanger. To be used properly, the standard clevis hanger requires a clevis bolt spacer.

Adjustable Clevis Hanger Fig. 260 (Formerly Afcon Fig. 371)

Size Range: ½" through 30"

Galvanized Clevis Hangers to be utilized in basement.

Material: Carbon Steel

Finish: ☐ Plain, ☐ 8" & Smaller: Zinc Plated (Hot-Dip Galvanized optional),
☐ 10" & Larger: Hot-Dip Galvanized with Zinc Plated Bolts & Nuts, or
☐ Primed, also available in ☐ Plastic or ☐ Epoxy Coated.

Service: Recommended for the suspension of stationary pipe lines.

Maximum Temperature: Plain 650° F, Galvanized and Epoxy 450° F

Approvals: Complies with Federal Specification A-A-1192A (Type 1), WW-H-171-E (Type 1), ANSI/MSS SP-69 and MSS SP-58 (Type 1). FM Approved (Sizes ¾" through 8"), UL and ULC Listed (Sizes ½" through 8").

Installation: Hanger load nut above clevis must be tightened securely to assure proper hanger performance.

Adjustment: Vertical adjustment without removing pipe may be made from ¾" through 5/8", varying with the size of clevis. Tighten upper nut after adjustment.

Features:

- Design has yoke on outside of lower U-strap so yoke cannot slide toward center of bolt, thus bending of bolt is minimized.
- Sizes 5" and up have rod and two nuts instead of bolt and nut; thread length on clevis rod is such that the thread locks the nuts in place, and threads are not in shear plane.

Ordering:

Specify pipe size, figure number, name and finish.

Notes:

- Punched forming holes may be present on certain sizes of this clevis hanger. These holes are solely for the purpose of manufacturing, and do not effect the structural integrity or load carrying capacities of these hangers.
- For insulated line options without shields, see Figures 260 ISS and Figure 300. For insulated line options with shields, see Figures 167 and 168. For ductile iron pipe sizes, see Figure 590.
- Fig. 260F (Felt lined) – available for use for suspension of copper (or other material) so as to prevent electrolysis between the dissimilar metals of the hanger and the pipe, tube or conduit.

Caution:

When an oversize clevis is used, a pipe spacer or multispace should be placed over clevis bolt to ensure that the lower U-strap will not move in on the bolt.



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Project:	☐ Approved
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Engineer:	Remarks:
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Notes 1:	
Notes 2:	

Adjustable Clevis Hanger (Cont.)

Fig. 260 (Formerly Afcon Fig. 371)

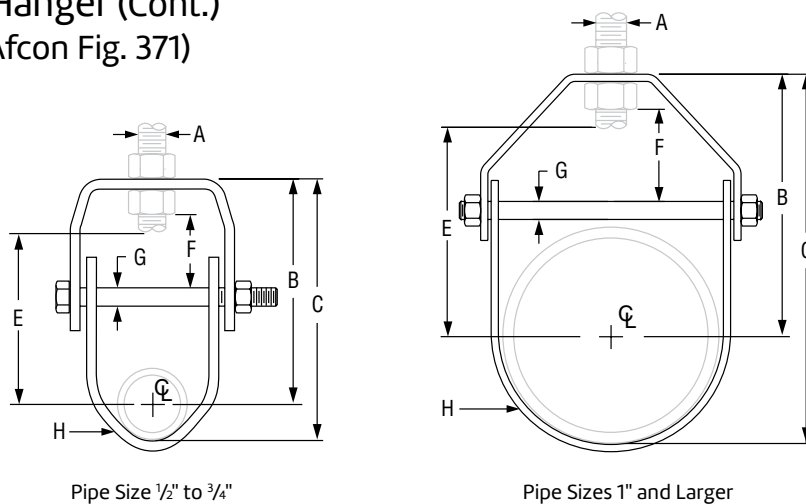


Fig. 260: Dimensions (in) • Loads (lbs) • Weight (lbs)

Pipe Size	Max Load	Span Ft.	Weight	Rod Size A	B	C	Rod Take Out E	Adjust. F	G	H Width Lower			
1/2	610	7*	0.34	3/8	2 ³ /16	2 ¹¹ /16	1 1/2	5/8	1/4	1			
3/4			0.34		2		1 ⁵ /16						
1			0.35		3		1 ⁵ /8						
1 1/4			0.40		3 1/4		1 ¹¹ /16						
1 1/2	730	9*	0.45	1/2	2 ¹³ /16	3 ¹³ /16	2 ⁷ /8	7/8	3/8	1 1/4			
2		10*	0.50		3 ⁵ /16	4 1/2	2 ⁵ /8	1 ¹ /8					
2 1/2		11*	0.65		4 ¹ /16	5 1/2	3 ³ /16	1 ⁵ /16					
3		12*	0.85		4 ³ /4	6 1/2	4 ¹ /16	1 ⁵ /8					
3 1/2	1,350	13*	1.10	5/8	5 ¹ /16	7 ¹ /16	4 ³ /16	1 ¹³ /16	3/8	1 3/8			
4		14*	1.51		5 ⁹ /16	7 ¹³ /16	4 1/2	1 ¹¹ /16					
5		16*	1.70		6 ⁹ /16	8 ¹⁵ /16	5 1/2	1 ¹⁵ /16					
6		17*	3.10		6 ¹⁵ /16	10 ¹ /4	5 ³ /4	1 ¹¹ /16					
8	1,940	19*	4.75	3/4	8 ³ /8	12 ¹¹ /16	7 ³ /16	2	1/2	1 7/16			
10	3,600	22*	8.60	7/8	9 ⁷ /8	15 ¹ /4	8 ⁷ /16	2 ¹ /8	5/8	1 3/4			
12	3,800	23*	11.20		11 ⁹ /16	17 ¹⁵ /16	10 ¹ /8	2 ¹³ /16					
14	4,200	25*	12.50		12 ⁹ /16	19 ⁹ /16	10 ¹¹ /16	2 ¹¹ /16			3/4	2	
16	4,600	27	19.85		1	14	22	12					2 ³ /4
18	4,800	28	22.25	1 1/4	15 ¹⁵ /16	24 ¹⁵ /16	13 ¹⁵ /16	3 ¹³ /16	1	2 1/2			
20	4,800	30	40.33		17 ⁹ /16	27 ⁹ /16	15 ³ /16	3 ⁷ /8					1 ¹ /4
24**	4,800	32	49.83		19 ¹³ /16	31 ¹³ /16	17 ⁵ /16				7 ⁵ /8*	3	
30***	6,000	33	70.18		24 ³ /16	39 ³ /16	21 ⁹ /16						

"Span" represents the maximum recommended distance between hangers on a continuous and straight run of horizontal standard weight steel pipe filled with water. In all cases, verify that chosen location of hangers does not subject hangers to a load greater than the maximum recommended load shown above.

*Indicates that span represents the maximum span for water filled pipe.

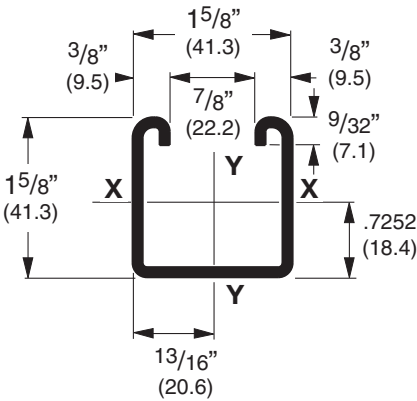
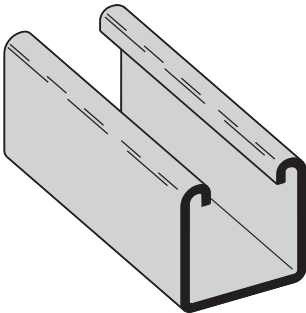
**The 24" pipe size assembly includes a 1 1/4" SCH 40 pipe spacer over the 7/8" threaded rod.

***The 30" pipe size assembly includes a 1 1/4" SCH 40 pipe spacer over the 1 1/4" threaded rod. When assembled, the U-strap sits outside of the yoke.

B22 Channel

B22 220529, 2.3, C, 7.

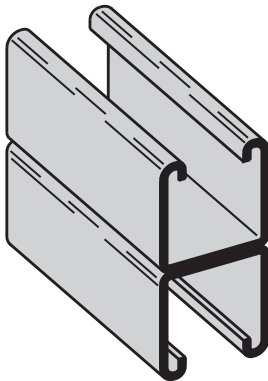
- Thickness: 12 Gauge (2.6 mm)
- Standard lengths: 10' (3.05 m) & 20' (6.09 m)
- Standard finishes: Plain, Dura-Green, Pre-Galvanized, Hot-Dipped Galvanized, Stainless Steel Type 304 or 316, Aluminum
- Weight: 1.90 Lbs./Ft. (2.83 kg/m)



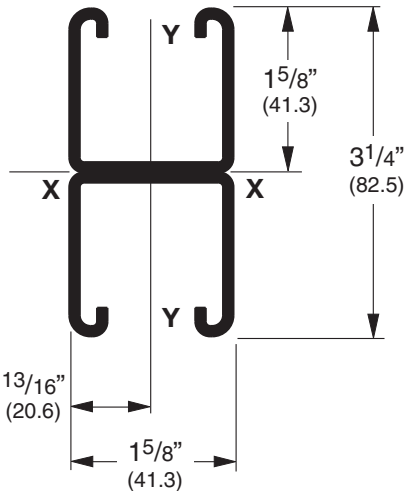
SECTION PROPERTIES

SECTION PROPERTIES					X - X Axis						Y - Y Axis					
Channel	Weight		Areas of Section		Moment of Inertia (I)		Section Modulus (S)		Radius of Gyration (r)		Moment of Inertia (I)		Section Modulus (S)		Radius of Gyration (r)	
	lbs./ft.	kg/m	sq. in.	cm ²	in. ⁴	cm ⁴	in. ³	cm ³	in.	cm	in. ⁴	cm ⁴	in. ³	cm ³	in.	cm
B22	1.910	(2.84)	.562	(3.62)	.1912	(7.96)	.2125	(3.48)	.583	(1.48)	.2399	(9.99)	.2953	(4.84)	.653	(1.66)
B22A	3.820	(5.69)	1.124	(7.25)	.9732	(40.51)	.5989	(9.81)	.931	(2.36)	.4798	(19.97)	.5905	(9.68)	.653	(1.66)
B22X	6.649	(9.89)	1.956	(12.62)	4.1484	(172.67)	1.7019	(27.89)	1.456	(3.70)	1.1023	(45.88)	1.2027	(19.71)	.751	(1.91)

Calculations of section properties are based on metal thicknesses as determined by the AISI Cold-Formed Steel Design Manual.



B22A
Wt. 3.80 Lbs./Ft. (5.65 kg/m)

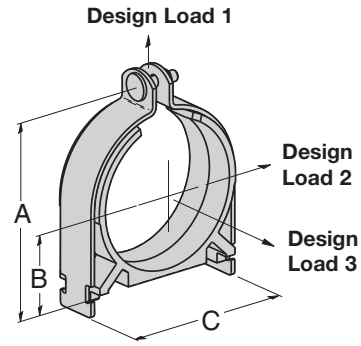


Reference page 14 for general fitting and standard finish specifications.

VibraClamp™ Pipe Clamps

BVT SERIES VIBRACLAMPS-COPPER & O.D.

- Safety Factor of 3
- Accesses tubing sizes 1/8" (3) to 6" (150)
- Allows easy one tool installation
- Endures both high (+300°F) and low (-40°F) temperatures
- Dampens vibration and noise
- Eliminates galvanic metal to metal contact
- Resists most industrial oils and solvents
- Reduces thermal loss and gain
- Secures tubing firmly to channel (strut)
- Dielectric strength of 400 volts/mil
- Includes cushion, clamp, screw and nut
- Standard finishes: YZN, SS4



220529, 2.3, C, 8.

Catalog Number	Tubing O.D. Size		Copper Tubing Size		Dimensions						Wt./C	
					A		B		C		Lbs.	kg
BVT025	1/4"	(6.3)	1/8"	(3)	1.22	(30.9)	0.19	(4.8)	0.49	(12.4)	11	(5.0)
BVT037	3/8"	(9.5)	1/4"	(6)	1.36	(34.5)	0.25	(6.3)	0.61	(15.5)	12	(5.4)
BVT050	1/2"	(12.7)	3/8"	(10)	1.49	(37.8)	0.31	(7.8)	0.74	(18.8)	14	(6.3)
BVT062	5/8"	(15.9)	1/2"	(15)	1.62	(41.1)	0.38	(9.6)	0.86	(21.8)	15	(6.8)
BVT075	3/4"	(19.0)	5/8"	(17)	1.87	(47.4)	0.50	(12.7)	1.15	(29.2)	19	(8.6)
BVT087	7/8"	(22.2)	3/4"	(20)	2.00	(50.8)	0.56	(14.2)	1.27	(32.2)	21	(9.5)
BVT100	1"	(25.4)	—	—	2.25	(57.1)	0.69	(17.5)	1.52	(38.6)	22	(10.0)
BVT112	1 1/8"	(28.6)	1"	(25)	2.25	(57.1)	0.69	(17.5)	1.52	(38.6)	26	(11.8)
BVT125	1 1/4"	(31.7)	—	—	2.51	(63.7)	0.81	(20.6)	1.78	(45.2)	36	(16.3)
BVT137	1 3/8"	(34.9)	1 1/4"	(32)	2.51	(63.7)	0.81	(20.6)	1.78	(45.2)	38	(17.2)
BVT150	1 1/2"	(38.1)	—	—	2.74	(69.6)	0.88	(22.4)	1.96	(49.8)	35	(15.9)
BVT162	1 5/8"	(41.3)	1 1/2"	(40)	3.00	(76.2)	1.00	(25.4)	2.20	(55.9)	40	(18.1)
BVT175	1 3/4"	(44.4)	—	—	3.13	(79.5)	1.06	(26.9)	2.33	(59.1)	44	(19.9)
BVT187	1 7/8"	(47.6)	—	—	3.28	(83.3)	1.13	(28.7)	2.46	(62.5)	40	(18.1)
BVT200	2"	(50.8)	—	—	3.52	(89.4)	1.25	(31.7)	2.70	(68.6)	55	(25.0)
BVT212	2 1/8"	(54.0)	2"	(50)	3.52	(89.4)	1.25	(31.7)	2.70	(68.6)	55	(25.0)
BVT225	2 1/4"	(57.1)	—	—	3.64	(92.4)	1.31	(33.2)	2.83	(71.8)	54	(24.5)
BVT250	2 1/2"	(63.5)	—	—	3.91	(99.3)	1.43	(36.3)	3.11	(79.0)	56	(25.4)
BVT262	2 5/8"	(66.6)	2 1/2"	(65)	4.02	(102.1)	1.50	(38.1)	3.20	(81.3)	55	(25.0)
BVT300	3"	(76.2)	—	—	4.42	(112.2)	1.68	(42.6)	3.61	(91.6)	67	(30.4)
BVT312	3 1/8"	(79.4)	3"	(80)	4.53	(115.0)	1.75	(44.4)	3.70	(93.9)	64	(29.0)
BVT362	3 5/8"	(92.1)	3 1/2"	(90)	5.05	(128.2)	2.00	(50.8)	4.23	(107.4)	76	(34.5)
BVT412	4 1/8"	(104.8)	4"	(100)	5.55	(140.9)	2.25	(57.1)	4.73	(120.1)	93	(42.2)
BVT612	6 1/8"	(155.5)	6"	(150)	7.62	(193.5)	3.25	(82.5)	6.74	(171.1)	136	(61.6)

Catalog Number	Design Load 1		Design Load 2		Design Load 3	
	Lbs.	kN	Lbs.	kN	Lbs.	kN
BVT025	400	(1.78)	50	(0.22)	50	(0.22)
BVT037	400	(1.78)	50	(0.22)	50	(0.22)
BVT050	400	(1.78)	50	(0.22)	50	(0.22)
BVT062	400	(1.78)	50	(0.22)	50	(0.22)
BVT075	600	(2.67)	75	(0.33)	75	(0.33)
BVT087	600	(2.67)	75	(0.33)	75	(0.33)
BVT100	600	(2.67)	75	(0.33)	75	(0.33)
BVT112	600	(2.67)	75	(0.33)	75	(0.33)
BVT125	600	(2.67)	75	(0.33)	75	(0.33)
BVT137	600	(2.67)	75	(0.33)	75	(0.33)
BVT150	600	(2.67)	75	(0.33)	75	(0.33)
BVT162	800	(3.56)	125	(0.56)	125	(0.56)
BVT175	800	(3.56)	125	(0.56)	125	(0.56)
BVT187	800	(3.56)	125	(0.56)	125	(0.56)
BVT200	800	(3.56)	125	(0.56)	125	(0.56)
BVT212	800	(3.56)	125	(0.56)	125	(0.56)
BVT225	800	(3.56)	125	(0.56)	125	(0.56)
BVT250	800	(3.56)	125	(0.56)	125	(0.56)
BVT262	800	(3.56)	125	(0.56)	125	(0.56)
BVT300	800	(3.56)	125	(0.56)	125	(0.56)
BVT312	800	(3.56)	125	(0.56)	125	(0.56)
BVT362	1000	(4.45)	200	(0.89)	150	(0.67)
BVT412	1000	(4.45)	200	(0.89)	150	(0.67)
BVT612	1000	(4.45)	200	(0.89)	150	(0.67)

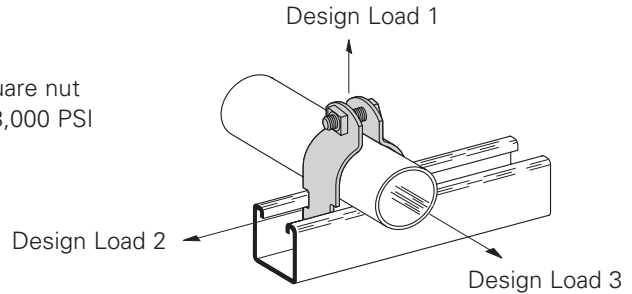
Reference page 126 for general fitting and standard finish specifications.

Pipe clamps

B2000 Series Pipe and Conduit Clamps

- Safety Factor of 5
- Add PA to suffix for pre-assembled pipe clamps
- Includes combination recess hex head machine screw and square nut
- Material: 16 Ga. (1.5), 14 Ga. (1.9), 12 Ga. (2.6) ASTM A653 33,000 PSI min. yield and 11 Ga. (3.0) ASTM A1011HSLA Gr. 50
- Standard finishes: ZN, HDG, SS4, SS6, AL

Note: For EMT sizes 2 1/2" and larger use rigid conduit sizes.



~~Thinwall Conduit (EMT) Clamps~~

Part No.	Conduit Size		Material Thickness		Design Load 1		Design Load 2		Design Load 3		Wt./C	
	In.	mm	In.	mm	Lbs.	kN	Lbs.	kN	Lbs.	kN	Lbs.	kg
~~B2000~~	~~3/8"~~	~~(10)~~	~~16 Ga. (1.5)~~		~~400 U (1.78)~~		~~50 (.22)~~		~~50 (.22)~~		~~10 (4.5)~~	
~~B2001~~	~~1/2"~~	~~(15)~~	~~16 Ga. (1.5)~~		~~400 U (1.78)~~		~~50 (.22)~~		~~50 (.22)~~		~~10 (4.5)~~	
~~B2002~~	~~3/4"~~	~~(20)~~	~~16 Ga. (1.5)~~		~~400 U (1.78)~~		~~50 (.22)~~		~~50 (.22)~~		~~11 (5.0)~~	
~~B2003~~	~~1"~~	~~(25)~~	~~14 Ga. (1.9)~~		~~600 U (2.67)~~		~~75 (.33)~~		~~75 (.33)~~		~~16 (7.2)~~	
~~B2004~~	~~1 1/4"~~	~~(32)~~	~~14 Ga. (1.9)~~		~~600 U (2.67)~~		~~75 (.33)~~		~~75 (.33)~~		~~19 (8.6)~~	
~~B2005~~	~~1 1/2"~~	~~(40)~~	~~12 Ga. (2.6)~~		~~800 U (3.56)~~		~~125 (.56)~~		~~125 (.56)~~		~~28 (12.7)~~	
~~B2006~~	~~2"~~	~~(50)~~	~~12 Ga. (2.6)~~		~~800 U (3.56)~~		~~125 (.56)~~		~~125 (.56)~~		~~33 (14.9)~~	

~~Rigid or Conduit or~~ Pipe Clamps

Part No.	Conduit Size		Material Thickness		Design Load 1		Design Load 2		Design Load 3		Wt./C	
	In.	mm	In.	mm	Lbs.	kN	Lbs.	kN	Lbs.	kN	Lbs.	kg
B2001	3/8"	(10)	16 Ga. (1.5)		400 U (1.78)		50 (.22)		50 (.22)		10 (4.5)	
B2008	1/2"	(15)	16 Ga. (1.5)		400 U (1.78)		50 (.22)		50 (.22)		11 (5.0)	
B2009	3/4"	(20)	14 Ga. (1.9)		600 U (2.67)		75 (.33)		75 (.33)		15 (6.8)	
B2010	1"	(25)	14 Ga. (1.9)		600 U (2.67)		75 (.33)		75 (.33)		16 (7.2)	
B2011	1 1/4"	(32)	14 Ga. (1.9)		600 U (2.67)		75 (.33)		75 (.33)		20 (9.1)	
B2012	1 1/2"	(40)	12 Ga. (2.6)		800 U (3.56)		125 (.56)		125 (.56)		30 (13.6)	
B2013	2"	(50)	12 Ga. (2.6)		800 U (3.56)		125 (.56)		125 (.56)		34 (15.4)	
B2014	2 1/2"	(65)	12 Ga. (2.6)		800 U (3.56)		125 (.56)		125 (.56)		38 (17.2)	
B2015	3"	(80)	12 Ga. (2.6)		800 U (3.56)		125 (.56)		125 (.56)		44 (19.9)	
B2016	3 1/2"	(90)	12 Ga. (2.6)		800 U (3.56)		125 (.56)		125 (.56)		49 (22.2)	
B2017	4"	(100)	12 Ga. (2.6)		800 U (3.56)		125 (.56)		125 (.56)		54 (24.5)	
B2018	4 1/2"	(115)	11 Ga. (3.0)		1000 U (4.45)		200 (.89)		150 (.67)		70 (31.7)	
B2019	5"	(125)	11 Ga. (3.0)		1000 U (4.45)		200 (.89)		150 (.67)		77 (34.9)	
B2020	6"	(150)	11 Ga. (3.0)		1000 U (4.45)		200 (.89)		150 (.67)		100 (45.3)	
B2021	7"	(175)	11 Ga. (3.0)		1000 (4.45)		250 (1.11)		200 (.89)		115 (52.1)	
B2022	8"	(200)	11 Ga. (3.0)		1000 (4.45)		250 (1.11)		200 (.89)		128 (58.0)	
B2130	10"	(254)	11 Ga. (3.0)		1000 (4.45)		250 (1.11)		200 (.89)		160 (72.6)	
B2132	12"	(305)	11 Ga. (3.0)		1000 (4.45)		250 (1.11)		200 (.89)		185 (83.9)	



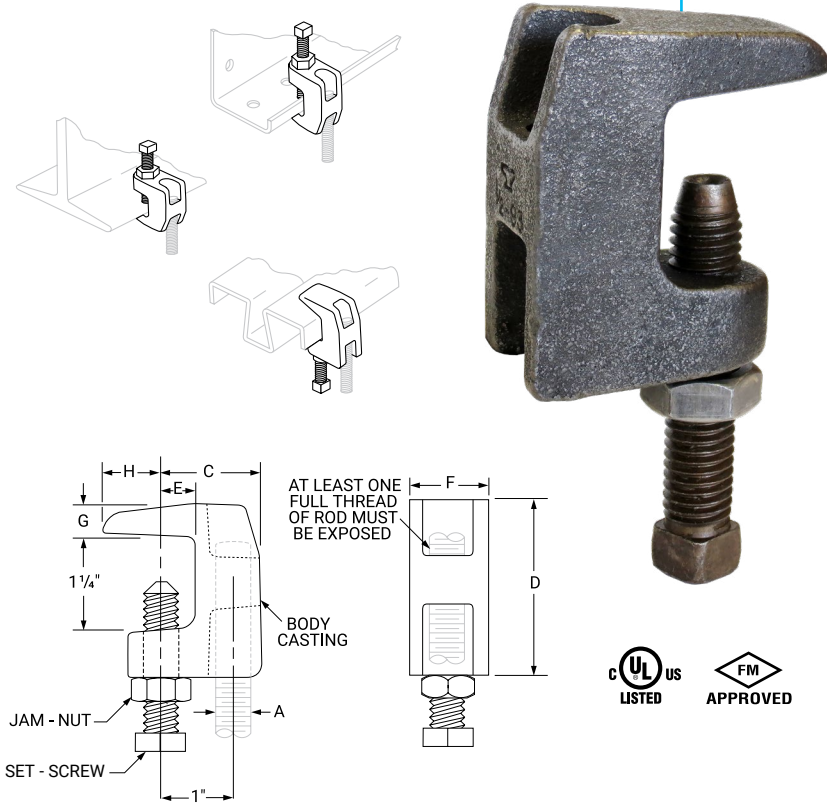
As shown with U For UL installations, follow Table 9 in UL2239.

Reference page 168 for general fitting and standard finish specifications.

220529, 2.3, D, 1, a, 1.

Universal C-type Clamp (Wide Throat) Fig. 93 (Formerly Afcon Fig. 105)

Galvanized Beam Clamps to be used in Basement.



Dimensions (In) - Load (Lbs) - Torque (In-Lbs) - Weight (Lbs)

Rod Size A	Set Screw Size	Torque Value	Max Loads ■		Weight	C	D	E	F	G	H
			Top	Bottom							
3/8	3/8	60	500	250	0.41	1 5/16	2 5/32	9/16	13/16	3/8	5/8
1/2	1/2	125	950	760	0.75	1 3/8	2 11/32	1/2	1 1/16	7/16	13/16

Note:

■ Maximum temperature of 450° F

Material Specifications

Size Range
3/8" and 1/2"

Material

Ductile iron, hardened steel cup point set screw and locknut.

Finish

- ☐ Plain
- ☐ Zinc Plated (Hot-Dip Galvanized optional)

Service

Recommended for use under roof installations with bar joist type construction, or for attachment to the top or bottom flange of structural shapes where the vertical hanger rod is required to be offset from the edge of the flange and where the thickness of joist or flange does not exceed 1 1/4".

Approvals

Complies with Federal Specification A-A-1192A (Type 19 & 23), WW-H-171-E (Type 23), ANSI/MSS SP-69 and MSS SP-58 (Type 19 & 23). UL, ULC Listed and FM Approved.

How to size

Size of clamp is determined by size of rod to be used.

Installation

Follow recommended set screw torque values per MSS-SP-69.

Features

- They may be attached to horizontal flanges of structural members in either the top beam or bottom beam positions.
- Secured in place by a cup-pointed Set Screw tightened against the flange. A Jam Nut is provided for tightening the Set Screw against the Body Casting.
- Thru tapping of the body casting permits extended adjustment of the threaded rod.
- Wider throat for attaching to flange with up to 1 1/4" thickness.

Ordering

Specify rod size, figure number, name of clamp and finish.

Available with oversized tapped rod hole for Hot Dip Galvanized finish.



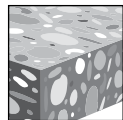
PROJECT INFORMATION	APPROVAL STAMP
Project:	☐ Approved
Address:	☐ Approved as noted
Contractor:	☐ Not approved
Engineer:	Remarks:
Submittal Date:	
Notes 1:	
Notes 2:	

3.3.5 KWIK BOLT TZ EXPANSION ANCHOR

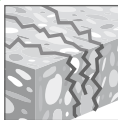
PRODUCT DESCRIPTION

KWIK Bolt TZ carbon steel and stainless steel anchors

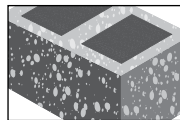
Anchor System	Features and Benefits
Carbon Steel KB-TZ Stainless Steel KB-TZ	- Used with Hilti Dust Removal System (DRS) for dustless drilling and installation (compliant with Table 1 of OSHA 1926.1153 regulations for silica dust exposure). - Accurate SafeSet™ installation when using the Hilti SIW-6AT-A22 impact wrench and the SI-AT-A22 Adaptive Torque Module - Product and length identification marks facilitate quality control after installation. - Through fixture installation and variable thread lengths improve productivity and accommodate various base plate thicknesses. - Type 316 stainless steel wedges provide superior performance in cracked concrete.
Hilti SIW-6AT-A22 impact wrench and the SI-AT-A22 Adaptive Torque Module	- Ridges on expansion wedges provide increased reliability. - Mechanical expansion allows immediate load application. - Raised impact section (dog point) prevents thread damage during installation. - Bolt meets ductility requirements of ACI 318-14 Section 2.3. - ACI 349-01 Nuclear Design Guide is available. Call Hilti Technical Support.



Uncracked concrete



Cracked concrete



Grout-filled concrete masonry



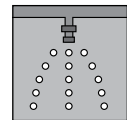
Seismic Design Categories A-F



Hollow Drill Bit with Adaptive Torque Tool (AT)



Profis Anchor design software



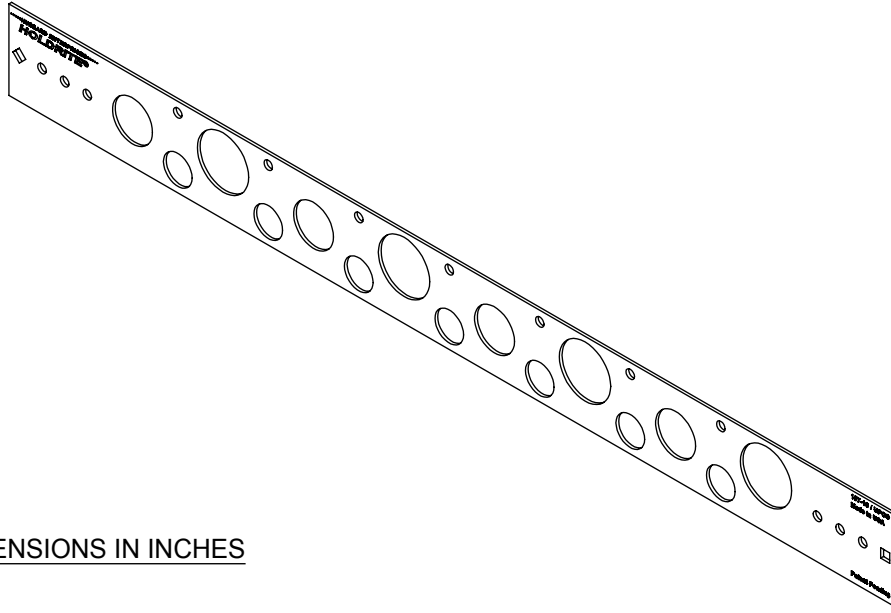
Fire sprinkler listings

Approvals/Listings	
ICC-ES (International Code Council) - 2018 International Building Code / International Residential Code (IBC/IRC) - 2015 National Building Code of Canada (NBC-C)	ESR-1917 in concrete per ACI 318-14 Ch. 17 / ACI 355.2/ ICC-ES AC193 ESR-3785 in grout-filled CMU per ICC-ES AC01 ELC-1917 in concrete per CSA A23.3-14 / ACI 355.2
City of Los Angeles	2017 LABC Supplement (within ESR-1917) RR 26057 grout-filled CMU
Florida Building Code	2010 FBC with HVHZ
FM (Factory Mutual)	Pipe hanger components for automatic sprinkler systems 3/8 through 3/4
UL and cUL (Underwriters Laboratory)	Pipe hanger equipment for fire protection services for 3/8 through 3/4

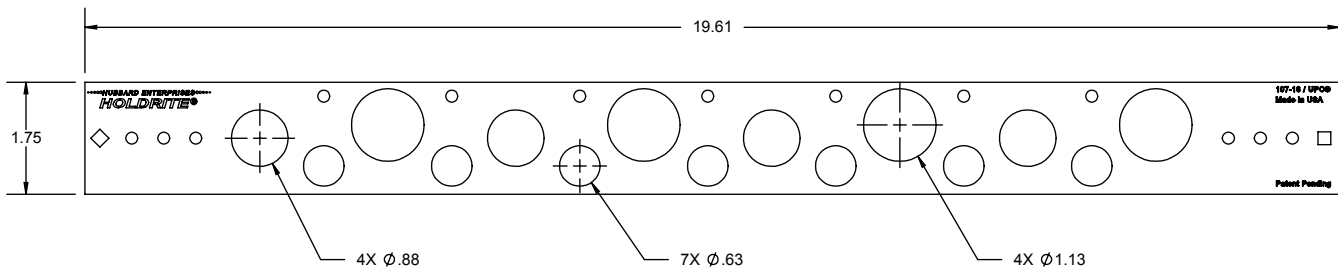


PRODUCT SPECIFICATION DRAWING

HOLDRITE® #107-18 BRACKET



ALL DIMENSIONS IN INCHES



The HOLDRITE #107-18 is a Copper-Bonded™ steel bracket with holes on 2" centers to position 1/2" copper tubing and holes on 4" centers to position 3/4" and 1" copper tubing.

Product Information:

- Material: 16 gage CRS, Copper-Bonded™
- Load rating: 25 pounds
- UPC / IPC / IAPMO listed



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HOLDRITE®

CONVERTING MAKESHIFT METHODS INTO ENGINEERED SOLUTIONS™

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spec_107-18_RevD

Product Submittal	
Job Name:	
Date:	
Part Number:	Qty:
Architect / Owner:	
Contractor:	
Notes:	