B3100 - Standard Clevis Hanger (TOLCO Fig.1)

Component of State of California OSHPD Approved Seismic Restraints System

SLIDE-RITE™ Clevis Hanger Features

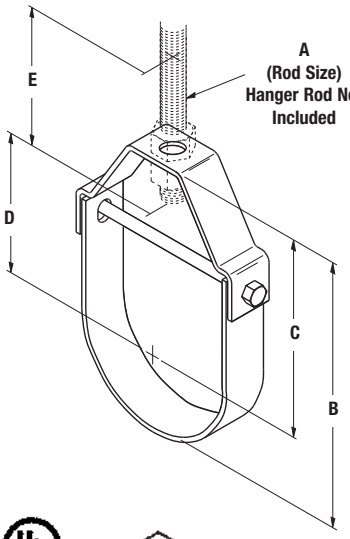
Pipe will not 'pinch' when installing.

15° swing in either direction allows pipe to easily feed thru.

Engineered design aligns bolt holes for quicker overhead installation.

*SLIDE-RITE™ Clevis Hanger design, as shown below, for sizes 2, 2½, 3, 4, 5 & 6.

Pat. No. 5,848,770
5,924,655



B
Bottom of pipe to top of hanger.

C
Center of pipe to top of hanger.

D
Rod Take-Out
Center of pipe to bottom of hanger rod.

E
Minimum thread length of hanger rod

F
Adjustment
Top of cross bolt to bottom of hanger rod nut inside the hanger.

Part No.	Nominal Pipe Size in.	(mm)	Rod Size A Std	NFPA**	B in.	(mm)	C in.	(mm)	D in.	(mm)
B3100-1/2	1/2"	(15)	3/8"-16	3/8"-16	2 1/8"	(54.0)	1 3/4"	(44.4)	15/16"	(23.8)
B3100-3/4	3/4"	(20)	3/8"-16	3/8"-16	2 1/2"	(63.5)	2"	(50.8)	1 1/8"	(28.6)
B3100-1	1"	(25)	3/8"-16	3/8"-16	2 7/8"	(73.0)	2 1/4"	(57.1)	1 3/8"	(34.9)
B3100-1 1/4	1 1/4"	(32)	3/8"-16	3/8"-16	3 1/2"	(88.9)	2 11/16"	(68.2)	1 13/16"	(46.0)
B3100-1 1/2	1 1/2"	(40)	3/8"-16	3/8"-16	4"	(101.6)`	3 1/16"	(77.8)	2 1/4"	(57.1)
B3100-2 *	2"	(50)	3/8"-16	3/8"-16	4 1/2"	(114.3)	3 5/16"	(84.1)	2 1/2"	(63.5)
B3100-2 1/2 *	2 1/2"	(65)	1/2"-13	3/8"-16	5 3/8"	(136.5)	3 15/16"	(100.0)	3 1/16"	(77.8)
B3100-3 *	3"	(80)	1/2"-13	3/8"-16	6 1/2"	(165.1)	4 3/4"	(120.6)	3 15/16"	(100.0)
B3100-3 1/2	3 1/2"	(90)	1/2"-13	3/8"-16	7 1/4"	(184.1)	5 1/4"	(133.3)	4 1/16"	(103.2)
B3100-4 *	4"	(100)	5/8"-11	3/8"-16	7 3/4"	(196.8)	5 1/2"	(139.7)	5 1/2"	(139.7)
B3100-5 *	5"	(125)	5/8"-11	1/2"-13	8 3/4"	(222.2)	6 1/8"	(155.6)	6"	(152.4)
B3100-6 *	6"	(150)	3/4"-10	1/2"-13	10 5/16"	(261.9)	6 15/16"	(176.2)	7"	(177.8)
B3100-8	8"	(200)	3/4"-10	1/2"-13	12 3/4"	(323.8)	8 7/16"	(214.3)	7 1/8"	(181.0)
B3100-10	10"	(250)	7/8"-9	5/8"-11	15 1/8"	(384.2)	9 3/4"	(247.6)	8 3/8"	(212.7)
B3100-12	12"	(300)	7/8"-9	5/8"-11	17 1/2"	(444.5)	11 1/8"	(282.6)	9 11/16"	(246.1)
B3100-14	14"	(350)	1"-8	--	19 3/8"	(492.1)	12 3/8"	(314.3)	10 5/8"	(269.9)
B3100-16	16"	(400)	1"-8	--	21 3/8"	(542.9)	13 3/8"	(339.7)	11 9/16"	(293.7)
B3100-18	18"	(450)	1"-8	--	25"	(635.0)	16"	(406.4)	14 3/16"	(360.3)
B3100-20	20"	(500)	1 1/4"-7	--	28 3/4"	(730.2)	17 3/4"	(450.8)	16 5/8"	(422.3)
B3100-24	24"	(600)	1 1/4"-7	--	32 3/4"	(831.8)	19 3/4"	(501.6)	18 5/8"	(473.1)
B3100-30	30"	(750)	1 1/4"-7	--	39 15/16"	(1014.4)	24 15/16"	(633.4)	22 3/4"	(577.8)
B3100-36	36"	(900)	1 1/4"-7	--	46"	(1168.4)	28"	(711.2)	25"	(635.0)

All dimensions in charts and on drawings are in inches. Dimensions shown in parentheses are in millimeters unless otherwise specified.

B3170CT - Adjustable Swivel Hanger for Copper Tubing (TOLCO Fig. 202)
B3170CTC - Adjustable Swivel Hanger for Copper Tubing - Plastic Coated

Size Range: 1/2" (15mm) thru 6" (150mm) copper tubing

Material: Steel

Function: Recommended for the suspension of copper tubing, allowing for vertical adjustment. (Available with plastic coating to provide additional separation between tubing and hanger.)

Approvals: Conforms to Federal Specification WW-H-171E & A-A-1192A, Type 10 and Manufacturers Standardization Society ANSI/MSS SP-69 & SP-58, Type 10.

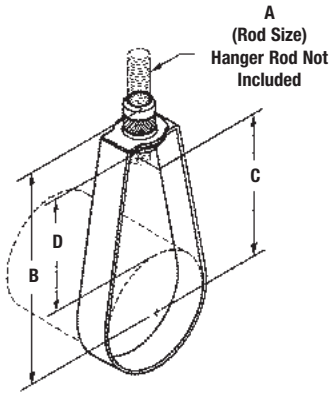
Standard Finish: DURA-COPPER™

Order By: Part number and finish.

B
Center of pipe to top of knurled hanger rod nut.

C
Rod Take-Out Center of pipe to bottom of hanger rod.

D
Top of pipe to bottom of hanger rod nut.



Part No.	Nominal Pipe Size		Rod Size A	B in.	B (mm)	C in.	C (mm)	D in.	D (mm)
B3170CT-1/2	1/2"	(15)	3/8"-16	2 1/16"	(52.4)	1 1/8"	(28.6)	31/32"	(24.6)
B3170CT-3/4	3/4"	(20)	3/8"-16	2 5/16"	(58.7)	1 5/16"	(33.3)	1 1/32"	(26.2)
B3170CT-1	1"	(25)	3/8"-16	2 1/2"	(63.5)	1 9/16"	(39.7)	1 5/32"	(29.3)
B3170CT-1 1/4	1 1/4"	(32)	3/8"-16	2 1/2"	(63.5)	1 9/16"	(39.7)	1"	(25.4)
B3170CT-1 1/2	1 1/2"	(40)	3/8"-16	2 15/16"	(74.6)	2"	(50.8)	1 5/16"	(33.3)
B3170CT-2	2"	(50)	3/8"-16	3 1/8"	(79.4)	2 1/8"	(54.0)	1 3/16"	(30.2)
B3170CT-2 1/2	2 1/2"	(65)	1/2"-13	4 1/16"	(103.2)	2 9/16"	(65.1)	1 3/8"	(34.9)
B3170CT-3	3"	(75)	1/2"-13	3 15/16"	(100.0)	3 3/4"	(95.2)	1 1/4"	(31.7)
B3170CT-3 1/2	3 1/2"	(90)	1/2"-13	4 7/16"	(112.7)	3 1/4"	(82.5)	1 1/2"	(38.1)
B3170CT-4	4"	(100)	1/2"-13	4 11/16"	(119.1)	3 9/16"	(89.6)	1 9/16"	(39.7)
B3170CT-5	5"	(125)	1/2"-13	5 15/16"	(150.8)	4 5/16"	(109.5)	1 25/32"	(45.2)
B3170CT-6	6"	(150)	1/2"-13	6 11/16"	(169.9)	5 3/16"	(131.8)	2 1/8"	(54.0)

Part No.	Max. Rec. Load lbs.	Max. Rec. Load (kN)	Approx. Wt./100 lbs.	Approx. Wt./100 (kg)
B3170CT-1/2	180	(0.80)	8	(6.6)
B3170CT-3/4	180	(0.80)	10	(4.5)
B3170CT-1	180	(0.80)	10	(4.5)
B3170CT-1 1/4	180	(0.80)	12	(5.4)
B3170CT-1 1/2	180	(0.80)	12	(5.4)
B3170CT-2	180	(0.80)	12	(5.4)
B3170CT-2 1/2	200	(0.89)	31	(24.0)
B3170CT-3	250	(1.11)	33	(14.9)
B3170CT-3 1/2	300	(1.33)	39	(17.2)
B3170CT-4	360	(1.60)	40	(18.1)
B3170CT-5	480	(2.13)	95	(43.1)
B3170CT-6	630	(2.80)	118	(53.5)

B3170CT

B3170CTC

All dimensions in charts and on drawings are in inches. Dimensions shown in parentheses are in millimeters unless otherwise specified.

B3106 - Vee Bottom Clevis Hanger (TOLCO Fig. 1V)

Size Range: 1/2" (15mm) to 4" (100mm) pipe

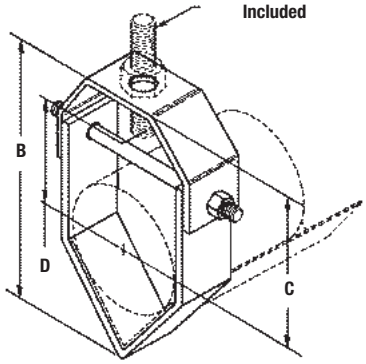
Material: Steel

Function: Recommended for the suspension of flexible plastic pipe. Use with B3106V support trough for plastic pipe.

Approvals: Complies with Manufacturers Standardization Society ANSI/MSS SP-69 & SP-58 Type 1.

Standard Finish: Plain & Electro-Galvanized. Contact B-Line for alternative finishes and materials.

Order By: Part number and finish.



B
Overall Height
C
Center of pipe to top of hanger.
D
Rod Take-Out
Center of pipe to bottom of hanger rod.
E
Minimum thread length of hanger rod.

Part No.	Pipe Size in.	Pipe Size (mm)	Rod Size A	B in.	B (mm)	C in.	C (mm)
B3106-2	1/2" to 2"	(15 to 50)	3/8"-16	5 15/16"	(150.8)	4 1/16"	(103.2)
B3106-4	2 1/2" to 4"	(65 to 100)	1/2"-13	9 3/8"	(238.1)	6"	(152.4)

Part No.	Rod Take-Out D in.	Rod Take-Out D (mm)	Adjustment E in.	Adjustment E (mm)	Design Load Lbs.	Design Load (kN)	Approx Wt./100 Lbs.	Approx Wt./100 (kg)
B3106-2	3 5/16"	(84.1)	1 5/8"	(41.3)	150	(.67)	60	(27.2)
B3106-4	4 13/16"	(122.2)	2 3/16"	(55.6)	150	(.67)	143	(64.8)

B3106V - Plastic Pipe Support Channel (TOLCO Fig. 1VT)

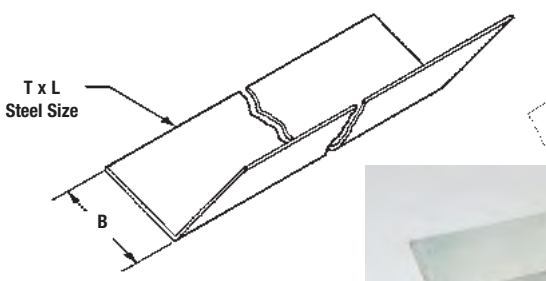
Size Range: 1/2" (15mm) to 4" (100mm) pipe

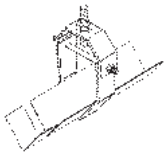
Material: Steel

Function: Designed for use with B3106 as a support for plastic or other flexible pipe systems.

Standard Finish: Pre-Galvanized. Contact B-Line for alternative finishes and materials.

Order By: Part number and finish.





Part No.	For Nominal Pipe Sizes in.	For Nominal Pipe Sizes (mm)	Steel Size T x L in.	Steel Size T x L (mm)	B in.	B (mm)	Maximum Hanger Spacing Ft.	Maximum Hanger Spacing (M)	Design Load Lbs.	Design Load (kN)	Approx. Wt./100 Lbs.	Approx. Wt./100 (kg)
B3106V-2	1/2" to 2"	(15 to 50)	18 Ga. x 96"	(1.2 x 2438.4)	1 9/16"	(39.7)	8	(2.44)	150	(.67)	449	(203.6)
B3106V-4	2 1/2" to 4"	(65 to 100)	18 Ga. x 120"	(1.2 x 3048.0)	3 1/8"	(79.4)	10	(3.05)	150	(.67)	1123	(509.4)

All dimensions in charts and on drawings are in inches. Dimensions shown in parentheses are in millimeters unless otherwise specified.

WM TAO & ASSOCIATES
CONSULTING ENGINEERS

Shop Drawing Submittal Review

Transmitted To: Cannon Design

Date: August 26, 2016

Attention: **stl-cac@cannondesign.com**

Contact Person / WTA Field Inspector: Patrick Garner

Project Name: Webster University-**ISB**

Reviewed by: Mark Schaefer

Project No. WT 14127.01

☐ UPS ☐ Courier ☒ **Email**

Copies	No.	Description
1 PDF	230600M02	(Submittal No.'s) ~~(R&B CxSRC)~~
		(Cannon #230600-005) - (Paric #15051-0193) – ~~(WES #607)~~
		• **Pipe Hangers & Supports**

Remarks:

c: **Kelvin Patel**
Kpatel@cannondesign.com

☒ **Furnish as Submitted** ☐ Furnish as Noted

☐ Rejected ☐ Revise & Resubmit

☐ Reviewed ☐

Corrections or comments made on shop drawings during this review do not relieve contractor from compliance with requirements of drawings and specifications. This check is only for review of general conformance with the design concept of project and general compliance with information given in contract documents. Contractor is responsible for: confirming and correlating all quantities and dimensions; selecting fabrication processes and techniques of construction; coordinating his work with that of all other trades; and performing his work in a safe and satisfactory manner.

WTASHOP - Webster ISB - 23 0600-005

From: STL-CAC <STL-CAC@CANNONDESIGN.COM>
To: 'Patrick Garner' <pgarner@wmtao.com>, WTASHOP <wtashop@wmtao.com>
Date: 8/19/2016 1:04 PM
Subject: Webster ISB - 23 0600-005
Cc: "Patel, Kelvin" <kpatel@CANNONDESIGN.COM>
Attachments: 230600-005 Piping Hangers and Supports.pdf

Attached for review.

Melissa Pirtle
Construction Admin
CANNONDESIGN
1100 Clark Ave
St. Louis, Missouri 63102
T 314.425.8797 • M
cannondesign.com

CANNONDESIGN

SUBMITTAL IDENTIFICATION SHEET

To be completed by Contractor/CM

WEBSTER UNIVERSITY ISB
PROJECT NAME

8274 BIG BEND BLVD
ADDRESS

NUMBER

WEBSTER UNIVERSITY
OWNER

CANNON DESIGN
ARCHITECT / ENGINEER

Joe Voypick
SUBMITTED BY

230600-005
CONTRACTOR / CM SUBMITTAL NO.

CANNON DESIGN SUBMITTAL NO.

DRAWING / DETAIL REFERENCE

230600
SPECIFICATION SECTION / PARAGRAPH

Icon Mechanical
MANUFACTURER / SUPPLIER

ITEM / PRODUCT ID

REQUIRED DATE

PRIORITY

☐ CRITICAL

ITEM BEING SUBMITTED (check only one)

- ○ Shop Drawings
- ○ Samples (_____ copies)
- ○ LEED Submittal
- ○ Certification / Qualifications
- ○ Record Documents
- ○ Product Data
- ○ Coordination Drawing
- ○ Calculations
- ○ Schedules
- ○ O&M Manuals
- ○ Other _____

ITEM BEING SUBMITTED FOR (check only one)

○ Action ○ Information Only ○ Record

REMARKS OR DEVIATIONS

CONTRACTOR / CM CERTIFICATION
(SUBMITTALS NOT CERTIFIED WILL BE RETURNED WITHOUT REVIEW)

PARIC

PARIC CORPORATION
SUBMITTAL STAMP

THIS SHOP DRAWING HAS BEEN REVIEWED BY PARIC CORPORATION

Subcontractor remains responsible for dimensions, quantities, coordination with other trades and compliance with contract documents.

By:
Devin D. Gates

Joe Voypick
REVIEWED BY

8/19/16
DATE

To be completed by Reviewer

23 0600-005
CANNON DESIGN SUBMITTAL NUMBER

8/19/16
RECEIVED DATE

- ○ A. No Exceptions Taken
  No further review of submittal is required.
- ○ B. Make Corrections Noted
  Incorporate corrections in work; resubmission is not required.
- ○ C. Revise and Resubmit
  Revise as noted, and resubmit for review.
- ○ D. Rejected
  Submittal is not in compliance with Contract Documents; provide new submittal.
- ○ E. For Record / Information Only
  Submittal was reviewed for Record / Information purposes only.
- ○ F. Not Required for Review
  Submittal is not required by Contract Documents and has not been reviewed.

Review is for conformance with the design concept of this project and for general compliance with contract documents. Contractor is responsible for quantities, dimensions and compliance with contract documents and for information that pertains to fabrication processes, construction techniques and coordination of this work with all trades which will be affected thereby. This review is null and void if submittal deviates from contract documents and does not indicate or note deviations.

A/E COMMENTS ○ See attached sheet(s) for additional comments

REVIEWED BY

DATE

77 Westport Plaza
Suite 250
St. Louis, MO 63146

TRANSMITTAL

No. 15051-0193

Paric Corporation

PROJECT: 15051-Webster University Interdisciplinary Science Building

DATE: 08/18/2016

TO: Cannon Design
1100 Clark Ave
St Louis MO 63102

RE: Piping Hangers and Supports

ATTN: Kelvin Patel

JOB: 15051

WE ARE SENDING:	SUBMITTED FOR:	ACTION TAKEN:
☐ Shop Drawings	☑ Approval	☐ Approved as Submitted
☐ Letter	☐ Your Use	☐ Approved as Noted
☐ Prints	☐ As Requested	☐ Returned After Loan
☐ Change Order	☐ Review and Comment	☐ Resubmit
☐ Plans		☐ Submit
☐ Samples	**SENT VIA:**	☐ Returned
☐ Specifications	☐ Attached	☐ Returned for Corrections
☑ Other: Product Data	☐ Separate Cover Via:	☐ Due Date:

Item	*Package*	*Code*	*Rev.*	*Copies*	*Date*	*Description*	*Status*
Submittal		230600-005	1		08/18/2016	Piping Hangers and Supports	Submitted

NOTES:

CC:

Signed: _____

Devin Gates

icon Mechanical

LETTER OF TRANSMITTAL

TO: Paric Corporation
77 West Port Plaza #250
St. Louis, MO 63146

ATTN: Jason Szachnieski, Devin Gates

DATE: 8/17/16
JOB # : 5768
RE: Webster ISB

We are sending you
( ) Attached ( ) Under separate cover
(X) Shop drawings ( ) Prints ( ) Plans ( ) Samples ( ) Specifications
( ) Copy of letter ( ) Change order ( ) Other

COPIES	DATE	NO.	DESCRIPTION
1	8/17/16	230600-2.5	Piping Hangers and Supports

These are transmitted as checked below:

( ) For signature ( ) Approved as submitted ( ) Resubmit ( ) copies for approval
( ) For your use ( ) Approved as noted (X) Submit ( ) copies for distribution
( ) As requested ( ) Returned for corrections ( ) Return ( ) corrected prints
( ) For bids due ( ) Prints returned after loan to us
(X) For review and comment ( ) Other

Remarks: Please return by 8/24/16

COPY TO: file

SIGNED: Alex Chambers

Webster University ISB
Webster Groves, MO

Submittal #:	230600-2.5
Submittal Description:	Piping Hangers and Supports
Return By:	8/24/16

Please Note: To avoid scheduling delays and equipment release delays, please submit by the "Return By" date.

CHECKED BY:

DESIGNER: ENGINEER:

X	NO EXCEPTION TAKEN		MAKE CORRECTIONS NOTED
	SUBMIT SPECIFIED ITEM		REVISE AND RESUBMIT
	REJECTED		

Checking is only for general conformance with the design concept of the project and general compliance with the information given in the contract documents. Any action shown is subject to the requirements of the plans and specifications. Equipment supplier is responsible for: dimensions which shall be confirmed and correlated at the job site; fabrication processes and techniques of construction; coordination of his work with that of all other trades; and satisfactory performance of his work.

icon Mechanical	Job #:	5768
	Date:	8/17/16
	By:	ARC