WATER HAMMER ARRESTERS

650 & 660 SERIES — Hydra-Rester™ & Mini-Rester™

ITEM # SUBMITTED _____

JOB NAME _____

LOCATION _____

ENGINEER _____

CONTRACTOR _____

PO# _____ TAG _____

SPECIFICATION

Sioux Chief 650/660 Series piston-type water hammer arresters shall be required in piping systems. Water hammer arresters shall have sufficient volume of air to dissipate the calculated kinetic energy generated in the piping system. Arresters shall be effective when installed at any angle. Arresters shall be approved for installation with no access panel required. Water hammer arresters shall be ANSI/ASSE 1010 2004 certified. Arresters shall be sized and placed per manufacturer's instructions.

MATERIALS

Arrester Body: Type L copper tube
Piston: Poly Piston with two EPDM O-rings
Male Thread Fitting: No-lead brass or copper MIP thread
Piston Lubrication: Dow-Corning, 111 FDA approved silicone compound

WORKING LIMITS

Max. Working Temperature: 250°F
Max. Working Pressure: 350 PSIG
Burst Tested: to 2,900 PSIG

*PEX and CPVC connection specifications are limited to those called out in their respective ASTM Standards for Fittings (CPVC D2846, PEX F1807).

INSTALLATION

Angle: May be installed at any angle
Access Panels: No access panels required

SIZING & PLACEMENT

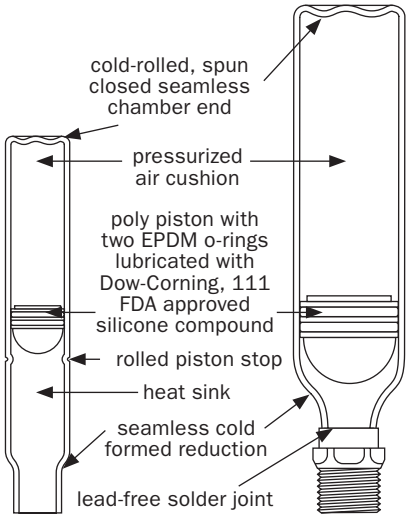
Refer to instructions on product package or in catalog

CERTIFICATIONS/APPROVALS

650 Series: Certified by ASSE to the ANSI/ASSE 1010 standard
660 Series: Certified by ASSE to the ANSI/ASSE 1010 standard

1. Provide type/style specified. Refer to specification section 221119, Part 2 Products, paragraph 2.12.
2. Refer to Plumbing Fixture Schedule on drawing P0601.

660-G2B 652-A



DIMENSIONS

Arrester Size:	AA	A	B	C	D	E	F
Overall Height:							
Male Sweat	6-1/2"	8-1/4"	10"	12-1/2"	11"	13-1/2"	16"
Male Thread	3-3/8"	6-1/2"	8-3/4"	11"	10-1/8"	12-5/8"	15-1/8"
CPVC	4-1/4"	7-1/2"	9-1/2"	12"	—	—	—
PEX Crimp	4-1/4"	6-1/2"	8-3/4"	11"	—	—	—
Chamber Width:	7/8"	1-3/8"	1-3/8"	1-3/8"	2-1/8"	2-1/8"	2-1/8"
Connection Size:	1/2"	1/2"	3/4"	1"	1"	1"	1"
Volume (cu. in.):	1.4	5	7	11	20	29	36
Fixture Units:	1-4	4-11	12-32	33-60	61-113	114-154	155-330

NO LEAD COMPLIES WITH CALIFORNIA LEAD PLUMBING LAW — ASSE 1010

- ☐ 660-G2B AA size, MIP
- ☐ 660-SB AA size, sweat
- ☐ 660-V82B AA size, male CPVC
- ☐ 660-V2B AA size, CPVC socket
- ☐ 660-X2B AA size, PEX crimp
- ☐ 652-A A size, MIP
- ☐ 652-AS A size, sweat
- ☐ 652-AC A size, CPVC socket
- ☐ 652-AX A size, PEX crimp
- ☐ 653-B B size, MIP
- ☐ 653-BS B size, sweat
- ☐ 653-BC B size, CPVC socket
- ☐ 653-BX B size, PEX crimp
- ☐ 654-C C size, MIP
- ☐ 654-CS C size, sweat
- ☐ 654-CC C size, CPVC socket
- ☐ 654-CX C size, PEX crimp
- ☐ 655-D D size, MIP
- ☐ 655-DS D size, sweat
- ☐ 656-E E size, MIP
- ☐ 656-ES E size, sweat
- ☐ 657-F F size, MIP
- ☐ 657-FS F size, sweat

WM TAO & ASSOCIATES
CONSULTING ENGINEERS

Shop Drawing Submittal Review

Transmitted To: Cannon Design

Date: June 13, 2016

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

Contact Person / WTA Field Inspector: Patrick Garner

Project Name: Webster University-**ISB**

Reviewed by: Mike Whitworth (WES)

Project No. WT 14127.01
WES 607

[ ] UPS [ ] Courier [X] **Email**

Copies	No.	Description
1 PDF	221119P02	(Submittal No.'s)
		(Cannon #22 1119-004) – (Paric #15051-) – (WES #607)
		• **Domestic Water Piping Specialties**

*Remarks: See Submittal Review from Webb Enginnering.

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

[X] ***Reviewed**

[X] ***No Exceptions Taken**

[X] ***Make Corrections Noted**
***Amend & Resubmit**

[X] ***Make Corrections As Noted,**
No Resubmittal Required

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.

WEBB
ENGINEERING
SERVICES INC.

1400 S. 3rd Street, Suite 201
St. Louis, Missouri 63104
Phone: (314) 588-0600
Fax: (314) 588-0604

Letter of Transmittal

To: wtashop@wmtao.com

From: Mike Whitworth

Date: June 11, 2016

Re: Webster University ISB

WES No: 607

☐ For your Files ☐ For Review ☐ Please Comment ☐ Please Reply

Item No.	Description	No. of Copies	Date
1	Shop Drawing Review – 22 1119 Domestic Water Piping Specialties	1	06-11-2016

•Signature: Mike Whitworth

1400 S. 3rd Street, Suite 201 • St. Louis, Missouri 63104 • 314.588.0600 • *fax* 314.588.0604

WEBB ENGINEERING SERVICES INC.

www.webb-engineering.com

The review of this submittal is limited to the general conformance with the designated design concept and intent of this project and with the general compliance of the information provided in the contract documents. All comments, remarks and notations made on the submittal(s) as a result of this review do not relieve the contractor from full compliance with requirements of the contract documents. Approval for a specific item shall not include approval of an assembly of which the item is not a component. The contractor is solely responsible for rough-in and installation confirming and correlating all quantities and dimensions; selecting fabrication processes and techniques of construction; coordination of this work with that of other trades on this project; and in a safe and satisfactory manner. All work shall be installed in full compliance with the manufacturer's recommendation, Federal, State and Local rules and regulation and the Authority Having Jurisdiction (AHJ) and applicable adopted codes and standards.

PROJECT NAME: Webster University ISB
LOCATION: St. Louis Missouri
CLIENT PROJ. NO.: N/A
WES PROJ. NO.: 607
SPEC SECTION: 22 1119 Domestic Water Piping Specialties
SUBMITTAL ITEM: See Below -

CONTRACTOR: Deluca Plumbing, LLC.
CTR. SUBMITTAL #: 22 1119-004
SUBMITTAL DATE: June 06, 2016
DATE RECEIVED: June 08, 2016
RECEIVED VIA: E-Mail
RECEIVED FROM: WTA
DATE RETURNED: JUNE 11, 2016
RETURNED VIA: E-MAIL
RETRURNED TO: WTASHOP@WMTAO.COM

STATUS KEY:

NO EXCEPTION TAKEN
MAKE CORRECTIONS NOTED, NO RESUBMITTAL:
AMEND AND RESUBMIT
REJECTED, SEE REMARKS:
REVIEWED ONLY

NEC	MCN	AAR	REJ	REV	ITEM	REMARKS
	X				BFP-1 Backflow Preventer Zurn Model – 375ASTP	1. Provide caps and tethers for each test cock.
X					Strainer Wilkens a Zurn Company Model - FSCP	
X					Air Gap Fitting Zurn Model – AG6	
	X				PRV Pressure Reducing Valve Zurn Model – ZW209	1. Coating to be FDA approved or comply with AWWA C550.
	X				BFP-2 Backflow Preventer Zurn Model – 375XLSF With Strainer	1. Provide caps and tethers for each test cock.
X					Air Gap Fitting Zurn Model – AG4	
	X				BFP-3 Backflow Preventer Zurn Model – 375XLSG With Strainer	1. Provide caps and tethers for each test cock.
X					Air Gap Fitting Zurn Model – AG4	

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WEBB ENGINEERING SERVICES INC.

www.webb-engineering.com

	X				BFP-4 Backflow Preventer Zurn Model – 375XLSH With Strainer	1. Provide caps and tethers for each test cock.
X					Air Gap Fitting Zurn Model – AG5	
		X			Trap Primer PPP Model – PR-500	1. This type/style of trap primer is not specified for this project. Is contractor proposing to use this type/style rather than the waste arm trap primer?
		X	X		Water Hammer Arrester Sioux Chief Model 650-660 Series	1. Provide type/style specified. Refer to specification section 22 1119. Part 2 Products, paragraph 2.12. 2. Refer to Plumbing Fixture Schedule on drawing P0601.

REVIEWED BY: Michael R. Whitworth DATE: June 11, 2016

THESE COMMENTS ARE TO BE ATTACHED TO ALL COPIES OF THE SHOP DRAWING REFERENCED ABOVE.

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

221119-004
CONTRACTOR / CM SUBMITTAL NO.

CANNON DESIGN SUBMITTAL NO.

DRAWING / DETAIL REFERENCE

221110
SPECIFICATION SECTION / PARAGRAPH

DeLuca
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

6/7/16
DATE

To be completed by Reviewer

22 1119-004
CANNON DESIGN SUBMITTAL NUMBER

6/7/16
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. 15051-0073

Paric Corporation

PROJECT: 15051-Webster University Interdisciplinary Science Building

DATE: 06/07/2016

TO: Cannon Design
1100 Clark Ave
St Louis MO 63102

RE: BFP 1-4 WHA TP Product data

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		221119-04	1		06/07/2016	BFP 1-4 WHA TP Product data	Submitted

NOTES:

CC: Paric Corporation, Kathy Bathe

Project Coordinator: Paric Corporation, Kathy Bathe

Signed: _____
Devin Gates

Shop Drawing Submittal

Project Name:	**WEBSTER ISB**
Specification #	**221119-02**
Specification Description:	Domestic Water Specialties - BFP 1-4 - Trap Primers - Water Hammer Arrestors
Date:	06-06-16

General Contractor / Construction Manager: Paric

Contractor:	DeLuca Plumbing, L.L.C. 8465 Delport Drive St. Louis, MO 63114
Supplier:	Various
Manufacturer:	Various
Reviewed & Approved by:	DeLuca Plumbing 06-06-16
Action:	Forward to GC/CM for Review & Approval