



a xylem brand

A-C FIRE PUMP SYSTEMS

Dimensions – Horizontal Electric
Motor Driven Fire Pumps

FP 2.1

Page 311

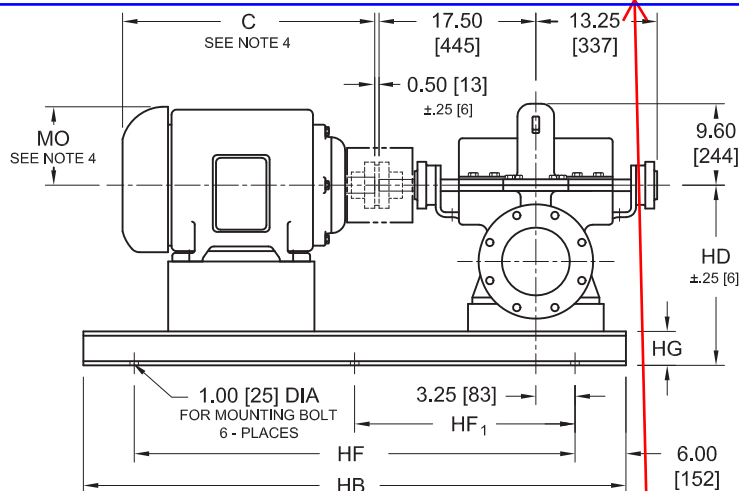
March 08

210513 - Motor Requirements for Fire Suppression

(H)8x6x12F - 8100 SERIES

213113 - Electric-Drive, Centrifugal Fire Pumps

Supersedes all previous issues

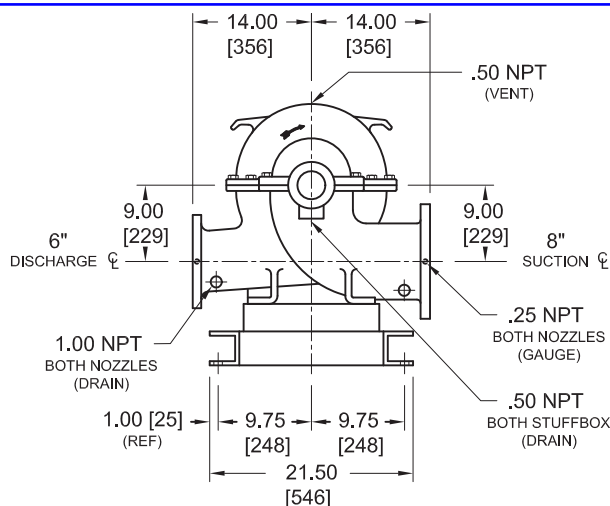


MOTOR FRAME	C	MO	HB	HF	HF ₁	HD	HG
254	23.30 [592]	7.10	54.00	42.00	21.00	21.25	4.0
256	25.00 [635]	[181]	[1372]	[1067]	[534]	[540]	[102]
284	24.80 [630]	7.80					
286	26.30 [669]	[199]					
324	28.20 [717]	8.60					
326	29.70 [755]	[219]					
364	30.00 [762]	9.20	60.00	48.00	24.00		
365	31.00 [788]	[234]	[1524]	[1220]	[610]		

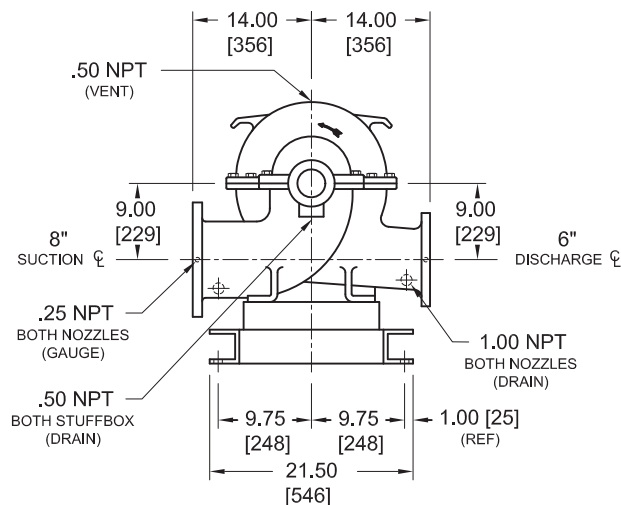
Verify correct size number. Different number listed on different sheets.

NOTES:

- ALL DIMENSIONS ARE INCHES [mm].
- SUCTION AND DISCHARGE CONNECTIONS ARE DRILLED PER 125# ANSI B16.1. PUMPS WITH "H" PREFIX HAVE DISCHARGE CONNECTION DRILLED PER 250# ANSI B16.1. FLANGE HOLES STRADDLE CENTERLINE.
- BASE PLATE SETTING (BEFORE PIPING), GROUTING PROCEDURES, AND FINAL ALIGNMENT MUST BE IN ACCORDANCE WITH A-C FIRE PUMPS SYSTEMS RECOMMENDED PROCEDURES OUTLINED IN THE INSTRUCTION MANUAL ASSOCIATED WITH THIS PUMP TYPE.
- MOTOR DIMENSIONS ARE APPROXIMATE FOR A GIVEN NEMA FRAME. CONSULT FACTORY IF SPACE IS LIMITED.
- BOTH SUCTION AND DISCHARGE PIPES MUST BE SUPPORTED INDEPENDENTLY NEAR THE PUMP TO REDUCE STRAIN ON THE PUMP CASING. ALSO EXPANSION JOINTS, IF USED, MUST NOT EXERT FORCE ON CASING.
- COUPLING GUARD MEETS ANSI/OSHA REQUIREMENTS.
- CONSULT FACTORY FOR BASE MOUNTED CONTROLLER.



CW ROTATION VIEWED FROM COUPLING END



CCW ROTATION VIEWED FROM COUPLING END

NOT FOR CONSTRUCTION, INSTALLATION OR APPLICATION PURPOSES UNLESS CERTIFIED

CERTIFIED FOR: Webster University - ISB

APPROVAL UL FM ULC
☒ ☒ ☐

CUSTOMER ORDER NO.:

TAG NO.

FLANGES

PUMP DATA

SIZE
8X6X12F

MODEL
8100

CURVE NO.
A-7524-6

GPM
1000

HEAD
45 PSI

ROTATION
Specify

SUCTION
8" 125#

DISCH.
6" 125#

MOTOR DATA

HP
40

RPM
1770

VOLTS
460

PHASE
3

HERTZ
60

FRAME SIZE
324

ENCLOSURE
ODP

SHOP ORDER:

CERTIFIED BY:

DATE:

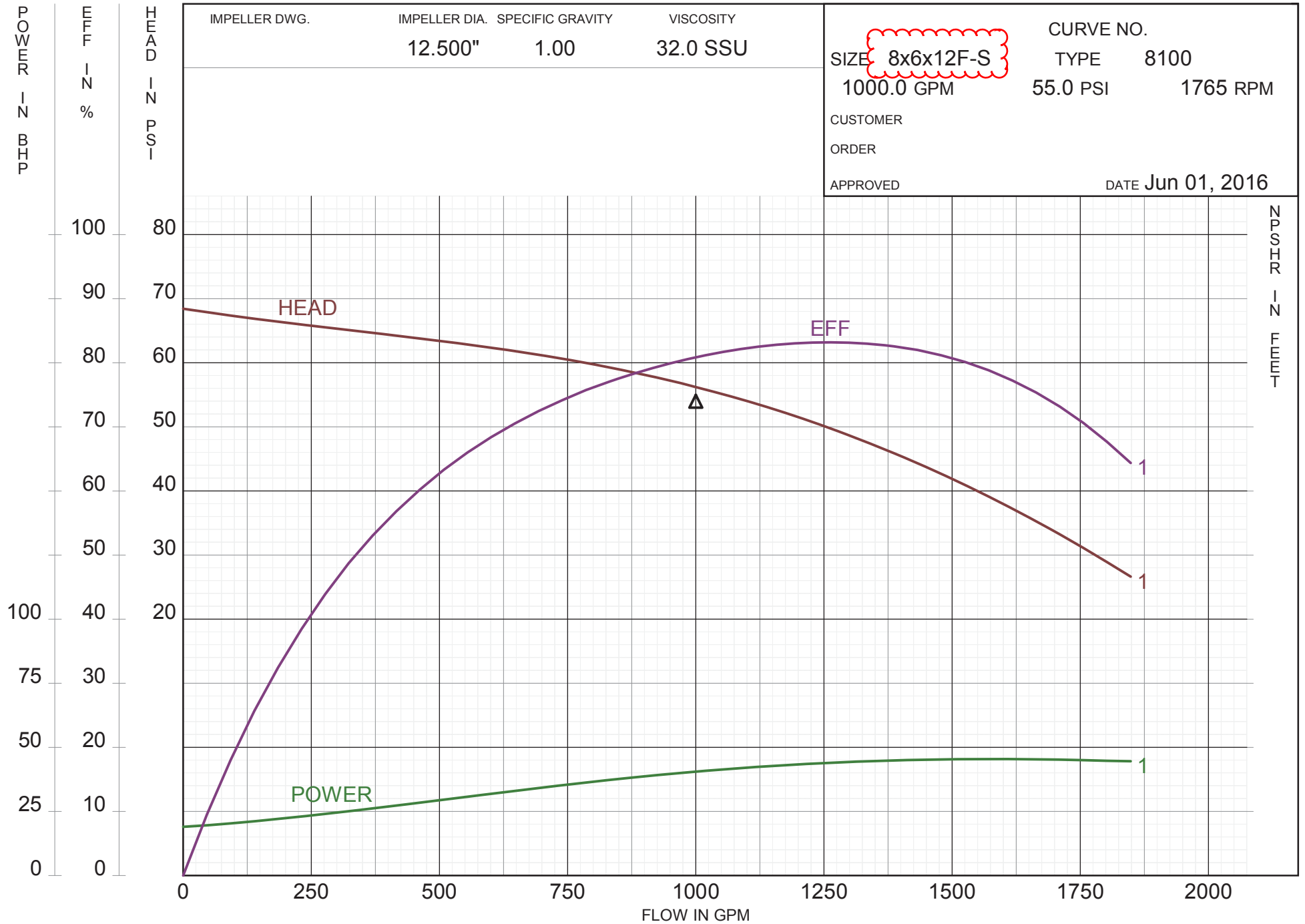
1000 GPM

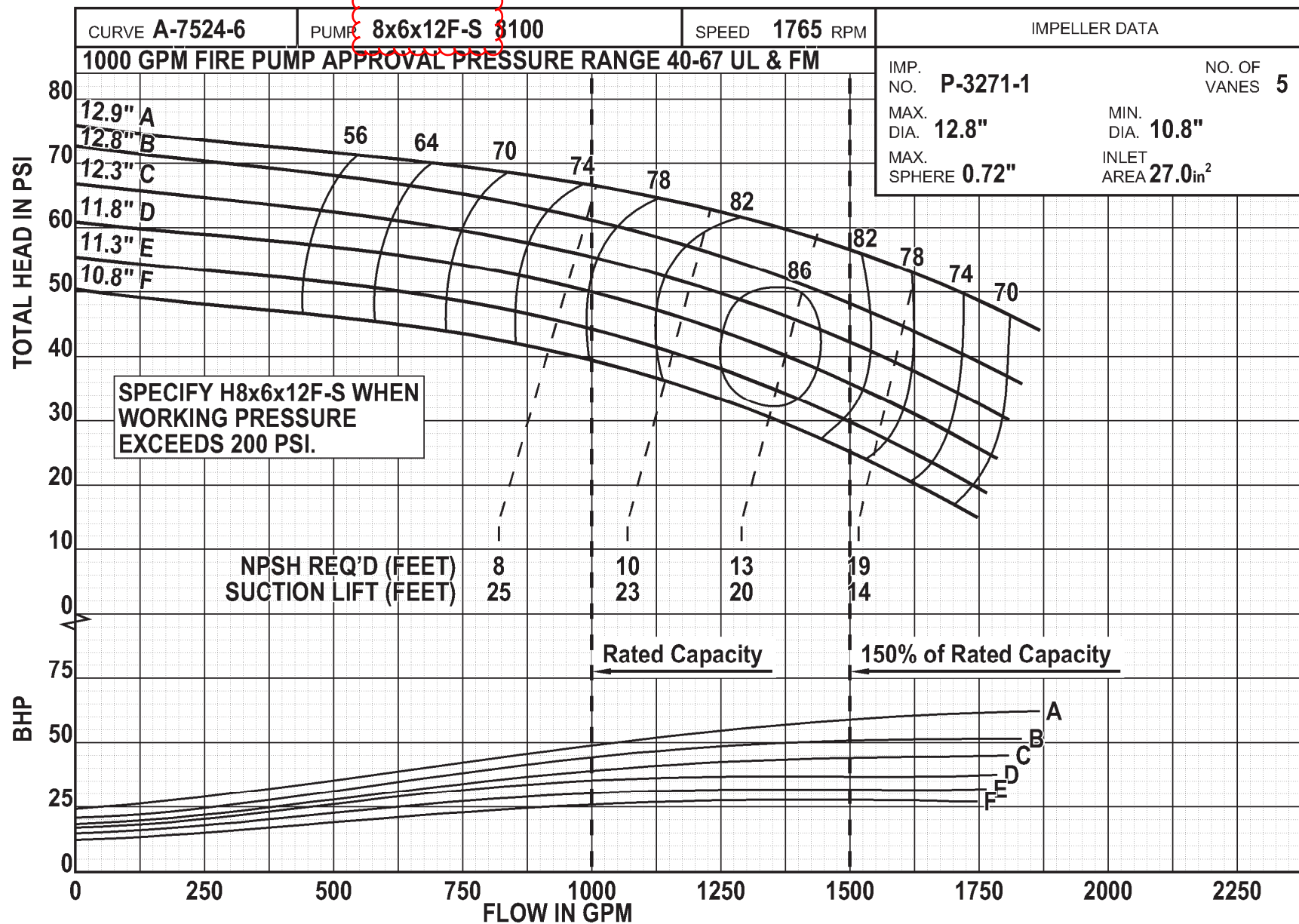
SUPERSEDES ALL PREVIOUS ISSUES



RATED PSI	PUMP SIZE	SERIES	RPM	MOTOR HP	MAX HP	UL	FM
40	8x6x12F-S	8100	1765	30	30	x	x
45	8x6x12F-S	8100	1765	30	32	x	x
	8x6x13F	8100	1780	40	39	x	x
50	8x6x13F	8100	1780	40	44	x	x
	8x6x12F-S	8100	1765	40	40	x	x
→ 55	8x6x12F-S	8100	1765	40	45	x	x
	8x6x13F	8100	1780	50	50	x	x
60	8x6x12F-S	8100	1765	50	51	x	x
	8x6x13F	8100	1780	60	67	x	x
65	8x6x12F-S	8100	1765	50	54	x	x
70	8x6x9F	8100	3550	50	57	x	x
75	8x6x9F	8100	3550	60	60	x	x
	8x6x18F	8100	1780	75	70	x	x
80	8x6x9F	8100	3550	60	66	x	x
	8x6x18F	8100	1780	75	75	x	x
85	8x6x9F	8100	3550	75	73	x	x
	8x6x18F	8100	1780	75	81	x	x
90	8x6x9F	8100	3550	75	82	x	x
	8x6x18F	8100	1780	75	86	x	x
95	8x6x9F	8100	3550	75	84	x	x
	8x6x18F	8100	1780	100	91	x	x
100	8x6x9F	8100	3550	75	86	x	x
	8x6x18F	8100	1780	100	96	x	x
105	8x6x9F	8100	3550	100	93	x	x
	8x6x18F	8100	1780	100	102	x	x
110	8x6x9F	8100	3550	100	100	x	x
	8x6x18F	8100	1780	100	108	x	x
115	8x6x9F	8100	3550	100	106	x	x
	8x6x18F	8100	1780	125	116	x	x

★ WHEN SHUT OFF HEAD PLUS SUCTION PRESSURE EXCEEDS MAXIMUM ALLOWABLE DISCHARGE PRESSURE PLEASE SPECIFY (H) INDICATING DUCTILE IRON CONSTRUCTION AND OR 250# FLANGES WHERE APPLICABLE.





Curves show performance with clear water at 85°F. If specific gravity is other than 1.0, BHP must be corrected.

A-C FIRE PUMP SYSTEMS

General Information and
Engineering Data

FP 1.0

Page 9

April 09

Supersedes all previous issues

① PUMP	SIZE	8x6x12F-S	H8x6x12F-S	8x6x12F-M	H8x6x12F-M	8x6x13F	H8x6x13F
	TYPE	8100	8100	8100	8100	8100	8100
STAGES		1	1	1	1	1	1

CASING DESIGN

FLANGE RATING	SUCTION	125	250	125	250	125	250
	DISCHARGE	125	250	125	250	125	250
CASING MATERIAL		CAST IRON ASTM A48 CLASS 35	DUCTILE IRON ASTM A536 GR 65-45-12	CAST IRON ASTM A48 CLASS 35	DUCTILE IRON ASTM A536 GR 65-45-12	CAST IRON ASTM A48 CLASS 35	DUCTILE IRON ASTM A536 GR 65-45-12
MAX DISCHARGE PRESSURE (PSIG)		200	375	200	375	200	375
MAX SUCTION PRESSURE (PSIG)		100	200	100	200	75	200
MAX HYDROSTATIC PRESSURE (PSIG)		338	563	375	563	315	563
CASING WALL THICKNESS		0.44	0.44	0.5	0.44	0.44	0.44

STUFFING BOX DESIGN

BORE	2.62	2.62	3.25	3.25	3.25	3.25
DEPTH	2.56	2.56	3.50	3.50	3.50	3.50
PACKING: # RINGS / SIZE SQUARE	5 / .38	5 / .38	5 / .50	5 / .50	5 / .50	5 / .50
SEAL CAGE WIDTH	0.50	0.50	0.75	0.75	0.75	0.75
SHAFT SLEEVE O.D.	1.88	1.88	2.25	2.25	2.25	2.25

IMPELLER DESIGN

# OF VANES	5	5	5	5	7	7
INLET AREA (IN ²)	27.00	27.00	19.60	19.60	44.40	44.40
MAX DIAMETER	12.80	12.80	11.60	11.60	13.10	13.10
MIN DIAMETER	7.00	7.00	6.50	6.50	7.00	7.00
MAX SPHERE	0.72	0.72	0.70	0.70	1.00	1.00
WR ² FOR MAX DIA (LBS-FT ²)	3.60	3.60	3.00	3.00	5.30	5.30
WEAR RING CLEARANCE - DIAMETRICAL	.015-.017	.015-.017	.015-.017	.015-.017	.015-.017	.015-.017

SHAFT AND BEARING DATA

DIA THRU IMPELLER		1.687	1.687	1.937	1.937	1.937	1.937
DIA THRU SLEEVE		1.499	1.499	1.874	1.874	1.874	1.874
DIA AT COUPLING		1.125	1.125	1.375	1.375	1.375	1.375
SHAFT SPAN - BRG TO BRG		22.90	22.90	25.25	25.25	27.25	27.25
BALL BEARING	INBOARD BRG #	6206	6206	6208	6208	6208	6208
	DIA THRU BRG	1.1816	1.1816	1.5753	1.5753	1.5753	1.5753
	OUTBOARD BRG #	5206	5206	5307	5307	5307	5307
	DIA THRU BRG	1.1816	1.1816	1.3785	1.3785	1.3785	1.3785
FRAME NUMBER		F20-C4	F20-C4	F20-B4	F20-B4	F20-D4	F20-D4
INSTRUCTION BOOK		AC2515	AC2515	AC2515	AC2515	AC2515	AC2515

① "H" PREFIX INDICATES HIGH PRESSURE CASING

Shop Drawing Submittal Review

Transmitted To: Cannon Design

Date: December 15, 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 ☒ **Email**

Copies	No.	Description
1 PDF	213113F01	(Submittal No.'s:)
		(Cannon #213113-008) - (Paric #15051-0352) – (WES #607)
		➤ Electric Drive Centrifugal Fire Pumps Product Data

***Remarks: See Submittal Review from Webb Engineering.**

c: Kelvin Patel
Kpatel@cannondesign.com

☒ ***Reviewed**

☐ *No Exceptions Taken

☐

☒ ***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.



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: **December 14, 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 – (213113-001) 213113 Electric Drive, Centrifugal Pumps	1	12/14/16

•Signature: Mike Whitworth

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
SPECIFICATION SECTION: 213113
Electric-Drive
Centrifugal Pumps
SUBMITTAL ITEM: See Below -

CONTRACTOR: J.F. Ahern Co.
CTR. SUBMITTAL #: 21 3113-001
SUBMITTAL DATE: November 30, 2016
DATE RECEIVED: December 07, 2016
RECEIVED VIA: E-Mail
RECEIVED FROM: WTA
DATE RETURNED: DECEMBER 14, 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
	X				Fire Pump AC Fire Pump Model – 8100 Series
					REMARKS
					1. Verify correct size number. Different number listed first and last page.

REVIEWED BY: Michael R. Whitworth DATE: December 14, 2016

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



77 Westport Plaza
Suite 250
St. Louis, MO 63146

TRANSMITTAL

No. 15051-0358

Paric Corporation

PROJECT: 15051-Webster University Interdisciplinary Science Building

DATE: 11/30/2016

TO: Cannon Design
1100 Clark Ave
St Louis MO 63102

Fax;
314-241-2203

RE: Electric-Drive Centrifugal Fire Pumps
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		213113-001	1		11/30/2016	Electric-Drive Centrifugal Fire Pumps Product Data	Submitted

NOTES:

CC:

Signed: _____
Devin Gates