



Request for Proposal

Mid-Ohio Valley Transit Parkersburg, WV



October 21, 2010

Joseph Heitker

Joseph Heitker
General Manager - Transportation

RECEIVED

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WV PURCHASING
DIVISION



Thank you for your interest in Galaxy Associates equipment and chemistries.

Since 1967, the focus at Galaxy Associates/Rieskamp Washing Systems has been to engineer, manufacture, install, and service vehicle wash systems for our Bus, Rail, Trucking, Petroleum, Municipal and Military customers around the world. We offer the industry's most complete line of automatic Touchless and bristle brush vehicle wash systems and cleaners for cleaning all types of vehicles. **We offer environmentally-safe cleaning agents which are manufactured using the most reliable components available. We back this up with stringent quality controls and engineering knowledge from 40 years of industry experience.**

Galaxy's quality wash is the result of a "real world" proven chemistries. We take great pride in our ability to manufacture exceptional quality, peak performing, and long-lasting systems and chemistries that provide low operating costs, minimal maintenance, and downtime for our customers.

Our engineering and product management teams are available to assist you in developing specifications and plans to incorporate the very best in your large vehicle wash systems. Galaxy Associates is available to serve your needs.

A few of our satisfied customers include: Swift Transportation throughout the country, Giant Food in Pennsylvania, UPS Freight throughout the country, and Brookshire Food in Texas.

Should you have any question or need additional information, please do not hesitate to call our office at 800-661-9443. Additional information can also be obtained at our website www.galaxy-associates.com.

We look forward to assisting you with your company's vehicle wash system needs.

Sincerely,

Joe Heitker

G.M., Transportation

Galaxy Associates

Rieskamp Washing Systems

jheitker@galaxy-associates.com

CONTRACTOR PROFILE

1. Joseph Heitker is the General Manager of the Transportation Division at Rieskamp Washing Systems, a division of Galaxy Associates. Joe has been involved in the specialty chemical and equipment business since 1989. His responsibilities include:
 - a. Design manufacturing and install of wash bay equipment
 - b. Customer service
 - c. Sales
 - d. Nationwide service department
2. Ray Kirk serves customers as the Operations/Service Manager and has been in the chemical business and vehicle wash industry since 1983. His responsibilities include:
 - a. Management of transportation group, Engineering department, Installation group and Service technicians
3. David Stephenson serves as the project manager for the job. His responsibilities include supporting the customer, our installation crew and any sub-contractors that are assisting with the installation. David works with our engineer to assist in the design and lay out of the system.
4. Ron Grana, our project engineer, will support the project by designing the system and supply drawings for the equipment lay out along with civil drawings for water, electric and gas.

PRICING STRUCTURE

Quotation: Mid-Ohio Valley Transit Authority
Prepared By: David Stephenson

October 21, 2010

AUTOMATIC, DRIVE THROUGH VEHICLE WASH

STEP I

- 1 Step I Activator Arch with roof, sides, front, wheels and rear systems (rear system to have separate concentration control). Arch constructed from 304 Stainless Steel, 2" X 2" square tubing framework. Spray pipes constructed using 1" Sch. 80 PVC.
- 9 PVC nozzles per side for the side spray pipes.
 - 6 PVC nozzles for the top front spray pipe.
 - 6 PVC nozzles for the top rear spray pipe.
 - 6 PVC nozzles per side for the wheel wash spray pipes.
 - 42 PVC Diaphragm check valves (1 per nozzle)

STEP II

- 1 Step II Detergent Arch with roof, sides, front, wheel, and rear systems (rear system to have separate concentration control). Arch constructed from 304 Stainless Steel, 2" X 2" square tubing framework. Spray pipes constructed using 1" Sch. 80 PVC.
- 9 PVC nozzles per side for the side spray pipes.
 - 6 PVC nozzles for the top front spray pipe.
 - 6 PVC nozzles for the top rear spray pipe.
 - 6 PVC nozzles per side for the wheel wash spray pipes.
 - 42 PVC Diaphragm check valves (1 per nozzle)

CHEMICAL APPLICATION

- 1 Activator Chemical Injector Module (4 Water driven chemical pumps – 2 for Step I, 2 for Step II)
- 1 5 HP Chemical Injector Booster Pump, 60 GPM @ 60-80 PSI, 480 volts- three phase.
- 1 198,000 BTU, Natural Gas Water Heater with 100 gallon storage tank

STEP III

- 1 Step IV Rinse Arch with roof, sides, front, wheel, rear and undercarriage systems. Arch constructed from 304 Stainless Steel, 2" X 2" X 1/8" wall square tubing framework. Spray pipes constructed using 2" Sch. 40 Galvanized pipe.
- 10 Brass nozzles per side for the front side spray pipes.
 - 10 Brass nozzles per side for the rear side spray pipes.
 - 6 Brass nozzles for the top front spray pipe.
 - 6 Brass nozzles for the top rear spray pipe.
 - 6 Brass nozzles per side for the wheel wash spray pipes.
 - 6 Brass nozzles for the undercarriage spray pipe.
- 1 50HP Front Rinse pump, 160 GPM @ 324 PSI, 480 volts – three phase.
- 1 25HP Rear Rinse pump, 60 GPM @ 333 PSI, 480 volts – three phase.
- 1 Rinse Water storage tank, 1000 gallons, poly.

MISCELLANEOUS

- 3 Each Telco Receivers, Transmitters, and Amplifiers for system activation
- 1 Computerized Control Panel with integrated touch screen and counter
- 1 Set of Pacer Lights (8) for driver assistance
- 1 Remote Start-Stop Station Control Box
- 1 Emergency Stop Station Control Box
- 1 5 HP 480 Volt Starter - across line
- 1 25 HP 480 Volt Starter – across line
- 1 50 HP 480 Volt Starter - across line
- 1 Red / Green Start-Stop Traffic Signal for Driver Entrance
- 1 Red / Amber Traffic signal at wash exit for Rear Rinse System
- 6 Wheel Washers Sets – two with each step
- 3 8' Entrance Guard Rail sets, 4" Cold Rolled Steel, powder coated "Safety Yellow"



- Scale drawings for equipment placement, electrical, plumbing, and wiring diagrams.
- 2 Copies of the Operating and Maintenance Manuals for equipment.
- 1 CD with .pdf version of Operating and Maintenance Manual.
- Miscellaneous bolts, fittings, etc., necessary to anchor equipment, and tie Rieskamp wash equipment into owner provided utility service.
- 3 Year Extended Warranty

AUTOMATIC VEHICLE WASH EQUIPMENT ----- \$141,572.40

OPTION #1:

If Galaxy cleaning chemicals are used in the wash bay during the three (3) year extended warranty period, **\$12,800** can be deducted from the cost of the system.

Automatic Vehicle Wash Equipment with three (3) year warranty, with Galaxy chemicals used in wash equipment ----- \$128,772.40

TERMS:

- Contract pricing valid for 90 days with system being shipped prior to March 28, 2011.
- Contract pricing will be reviewed if system is not installed prior to April 28, 2010.
- 50 % down with purchase order, 40 % invoiced and payment received before the systems ship date, 10% invoiced 30 days after start-up.

ALTERNATE BENEFITS

- 1) Water driven chemical pumps used instead of 2 hp and 10 hp chemical pumps.
 - a) No 480 volt power needed to drive chemical pumps.
 - b) No pre-mixing of chemicals in holding tank.
 - c) Precise dilution of chemical.
 - d) No tank to "cool down" during slow periods.

- 2) Using chemical saver check valves.
 - a) Application pipes remain full.
 - b) Application of chemical is instant.
 - c) Constant water temperature.
 - d) Conservation of chemical usage.

- 3) 1" Schedule 80 PVC piping instead of stainless steel piping at Step II.
 - a) Cost and ease of repairs to replace piping due to damage is lessened.
 - b) No solenoid valves required for spray pipes.
 - c) Life of PVC spray pipes is equivalent to stainless steel pipes.

- 4) 2" Galvanized piping instead of stainless steel piping at Step III.
 - a) Cost of repairs to replace piping due to damage is lessened.
 - b) No solenoid valves required for spray pipes.
 - c) Life of Galvanized spray pipes is equivalent to stainless steel pipes.

- 5) Guide Rails are powder coated instead of epoxy painted.
 - a) Powder Coated rails are more resistant to chipping and flaking than painted rails.
 - b) Surface of Powder Coated smoother and more uniform than painted rails.

IMPLEMENTATION PLAN

RIESKAMP WASHING SYSTEMS SHALL FURNISH THE FOLLOWING:

- 1) Complete "turn key" Automatic Vehicle Wash System, as per quote.
- 2) Scale drawings showing Rieskamp Wash Equipment and the location and utility services to be furnished and installed by General Contractor
- 3) Scale drawings shall include layout of equipment, layout of concrete slab and drains, water supply piping and connections required electrical power requirements for pumps and motors, electrical control conduit and wiring required, gas requirements for water heater and location of water heater and location of water heater flue
- 4) Rieskamp Washing Systems shall provide on-site supervision of plumbing, mechanical and electrical contractors. Installation of equipment by Galaxy employees on a 1 trip / 5 days maximum and start-up of wash bay by Galaxy employees on a 1 trip / 3 day maximum basis. Any additional time required, due to situations arising, not of Rieskamp Washing Systems / Galaxy Associates fault, to be billed to the General Contractor / Owner at a rate of \$85.00 per hour. All other costs incurred to remain on site will also be billed to the General Contractor / Owner.
- 5) Rieskamp Washing Systems shall train owner's employees for correct operation, use and maintenance of the equipment.
- 6) Rieskamp Washing Systems shall set up all truck wash equipment in the actual location and secure



IMPLEMENTATION PLAN (con't)

**GENERAL, PLUMBING, ELECTRICAL CONTRACTORS AND/OR CUSTOMER SHALL FURNISH THE FOLLOWING:
(GALAXY ASSOCIATES WILL NOT FURNISH THE FOLLOWING):**

GENERAL CONTRACTOR TO FURNISH:

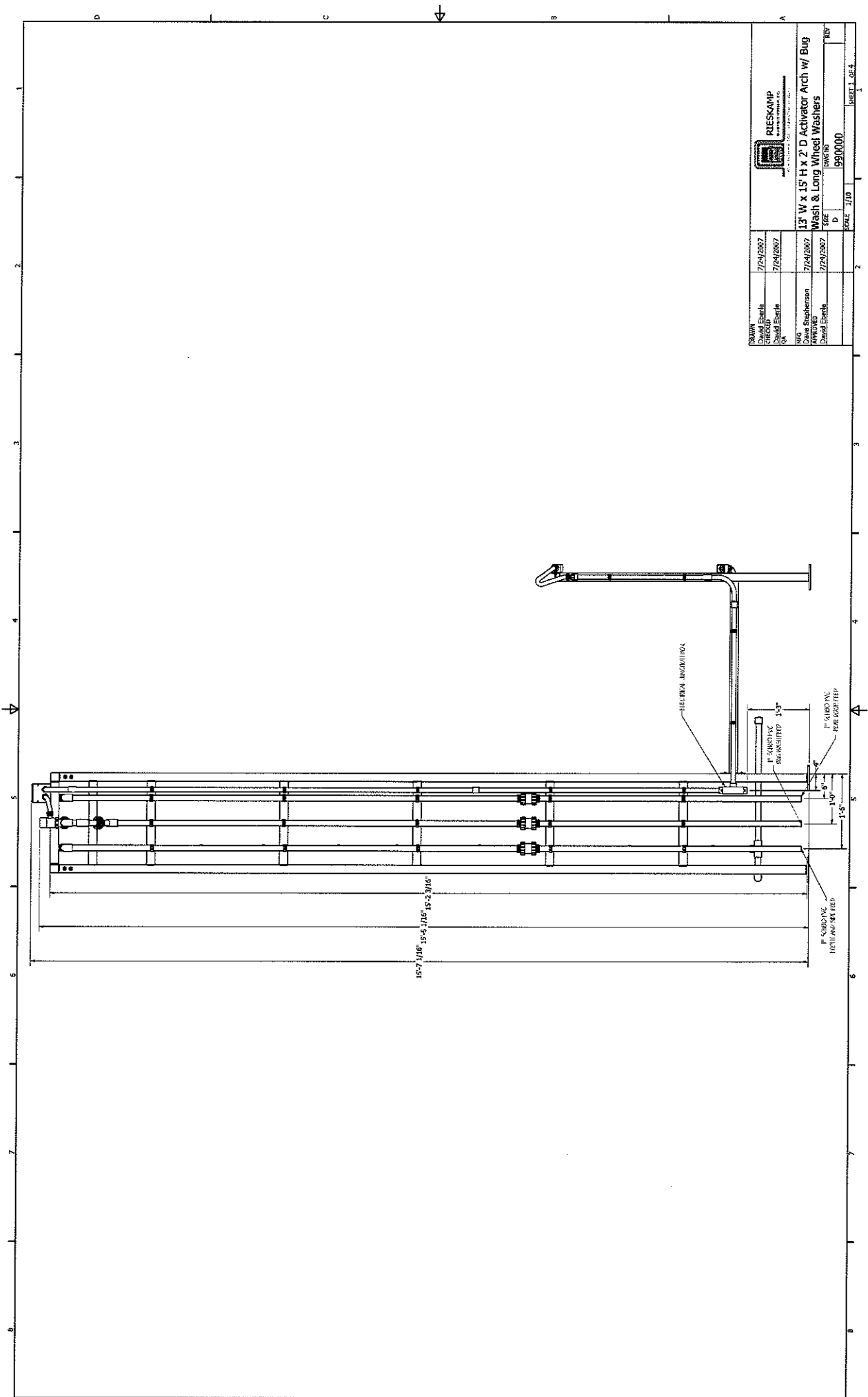
- 1) Building, including wash bay and mechanical room.
- 2) Electrical service and main distribution panel.
- 3) Main water connection and Back flow preventer.
- 4) Concrete slab, main drains, separation pits, trenches and gutters.
- 5) Taxes, permits, and miscellaneous fees.
- 6) Natural gas supply at building, including gas meter.


ELECTRICAL CONTRACTOR (Working for Galaxy Associates) TO FURNISH:

- 1) 480 Volt Power Wiring, 480 Volt Breaker Panel
 - 1 – 15 Amp Breaker to 5 HP Pump Motor, through starter
 - 1 – 70 Amp Breaker to 25 HP Pump Motor, through starter
 - 1 – 100 Amp Breaker to 50 HP Pump Motor, through starter
 - 1 – 125 Amp Breaker to 75 HP Pump Motor, through starter
- 2) 240 Volt Power Wiring, 240 Volt Breaker Panel
 - 1 – 30 Amp Breaker to Control Panel
- 3) 120 Volt Power Wiring 120 Volt Breaker Panel
 - 1 – 15 Amp Breaker to Water Heater
- 4) EC shall provide and install all interconnection for service, power and control wiring that is required.
- 5) EC shall install all starters, control switches, pacer lights, & traffic lights furnished by Rieskamp Washing Systems

PLUMBING CONTRACTOR (Working for Galaxy Associates) TO FURNISH:

- 1) Interconnecting piping between wash bay and equipment room
- 2) City water connections to tanks
- 3) Natural Gas supply to water heater, 7 – 10" Water Column
- 4) 6 inch flue, through the roof, for water heater
- 5) Six inch drain to sewer



 RIESKAMP <small>MANUFACTURING CO.</small>	7/24/2007 7/24/2007	13' W x 15' H x 2' D Activator Arch w/ Bug Wash & Long Wheel Washers	9990000
DRAWN BY David Eberle	7/24/2007	CHECKED BY Dave Stephenson	7/24/2007
DATE 7/24/2007	7/24/2007	SCALE 1:10	SHEET 1 OF 4

15'-7 1/16" 15'-5 1/16" 15'-3 3/16"

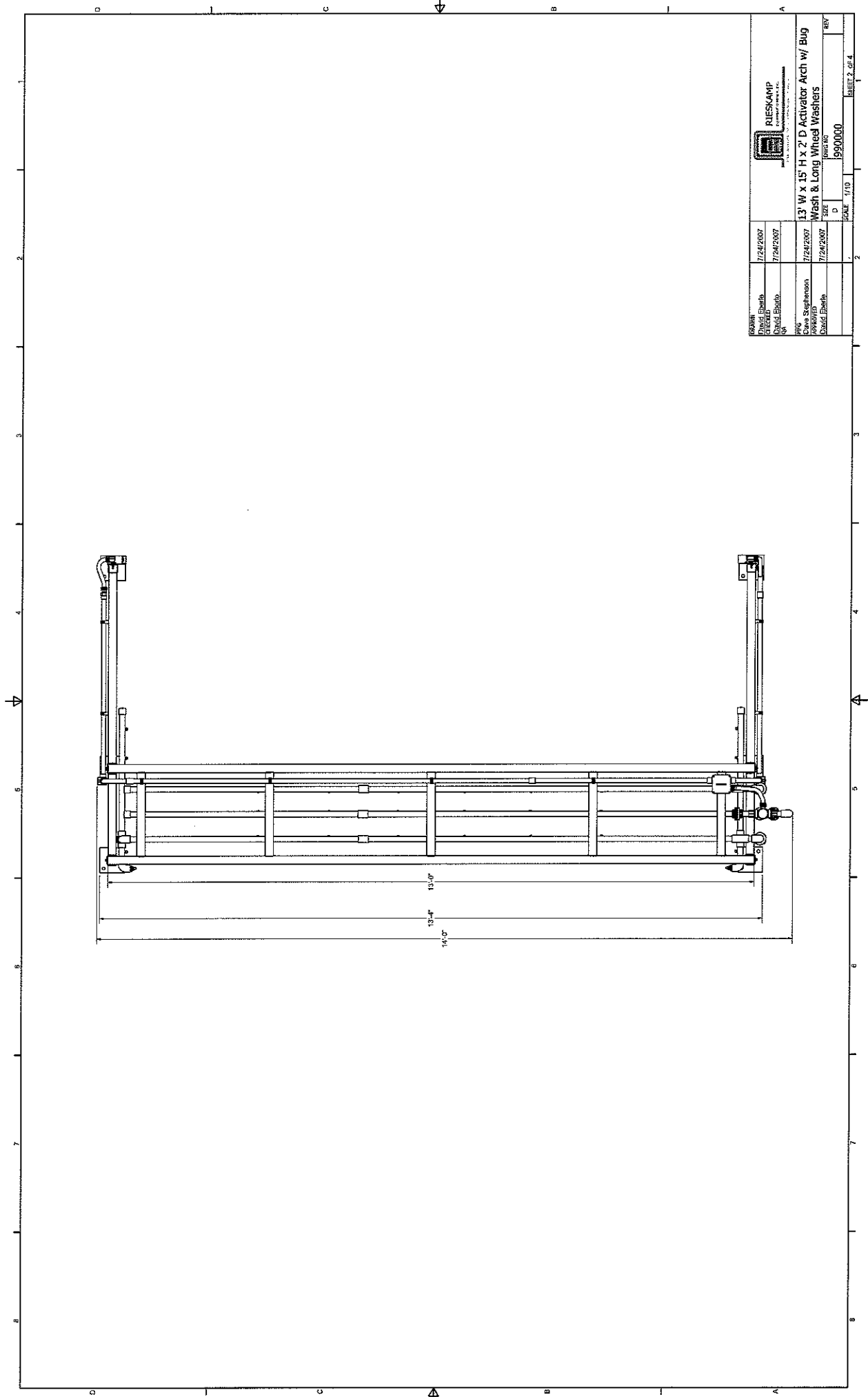
ELECTRICAL CONNECTION


1" 45° WHEEL WASH SHIP 1'-3"

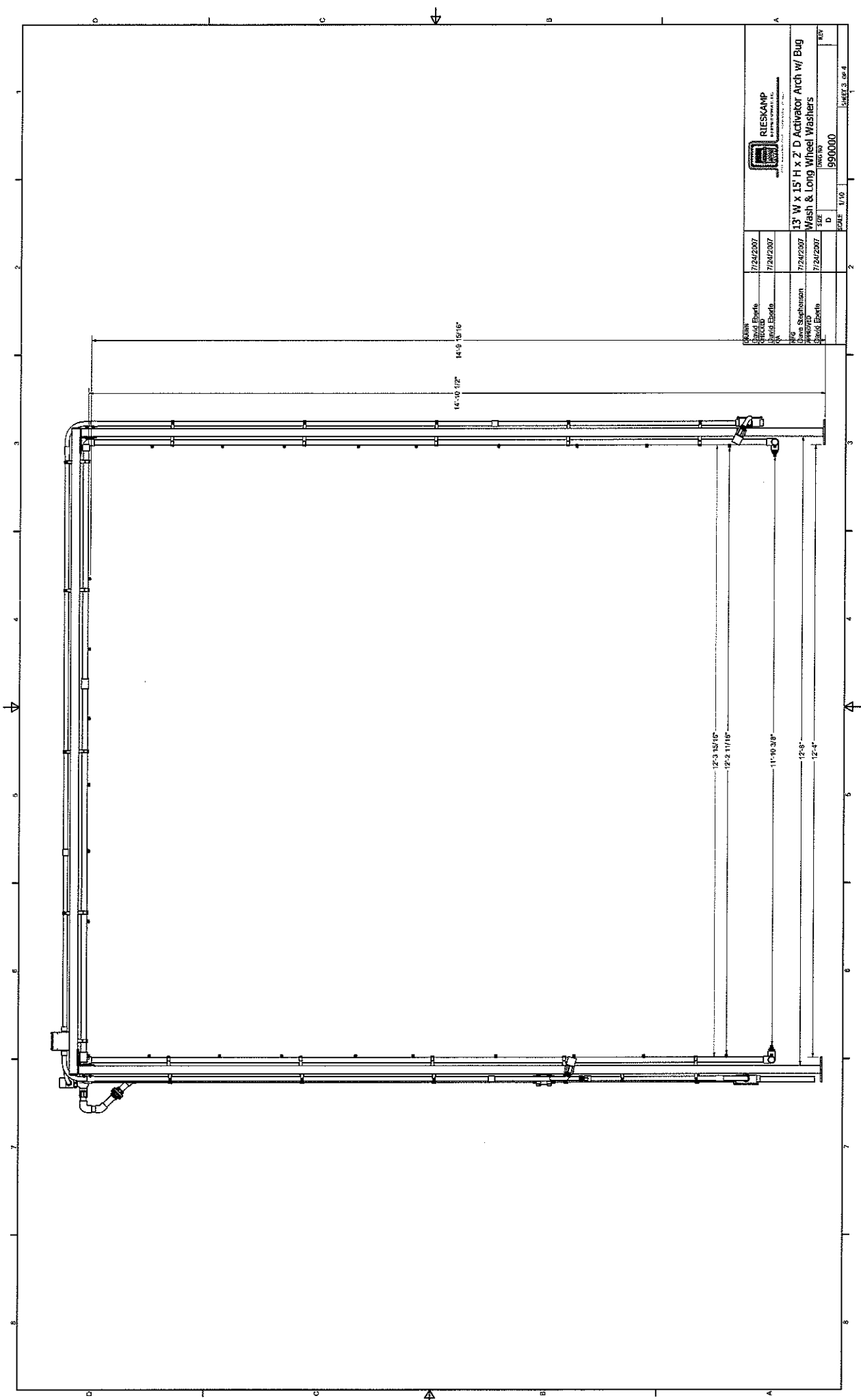
1" 45° WHEEL WASH SHIP 1'-3"


1'-4" 1'-0"

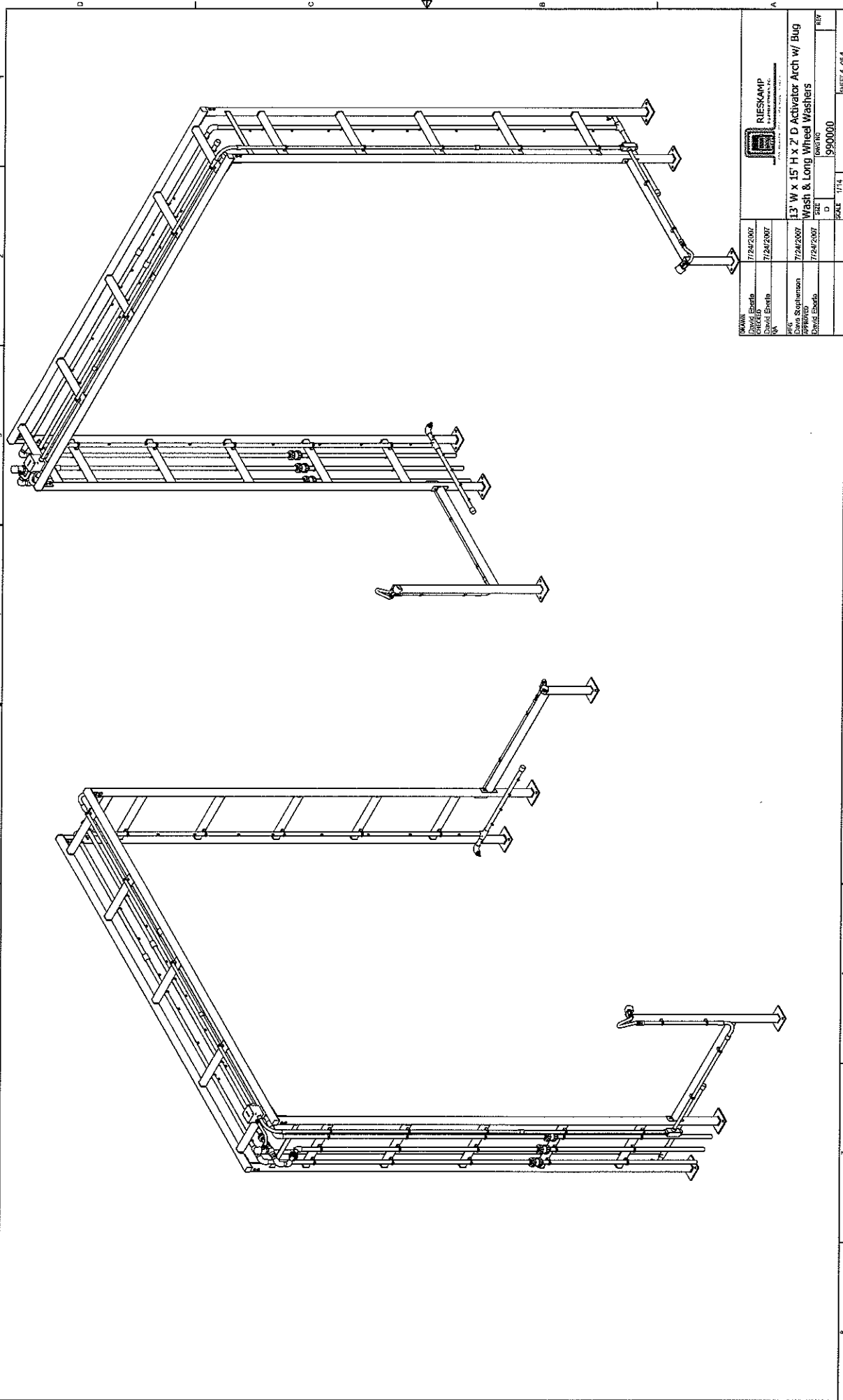
1" 45° WHEEL WASH SHIP 1'-3"



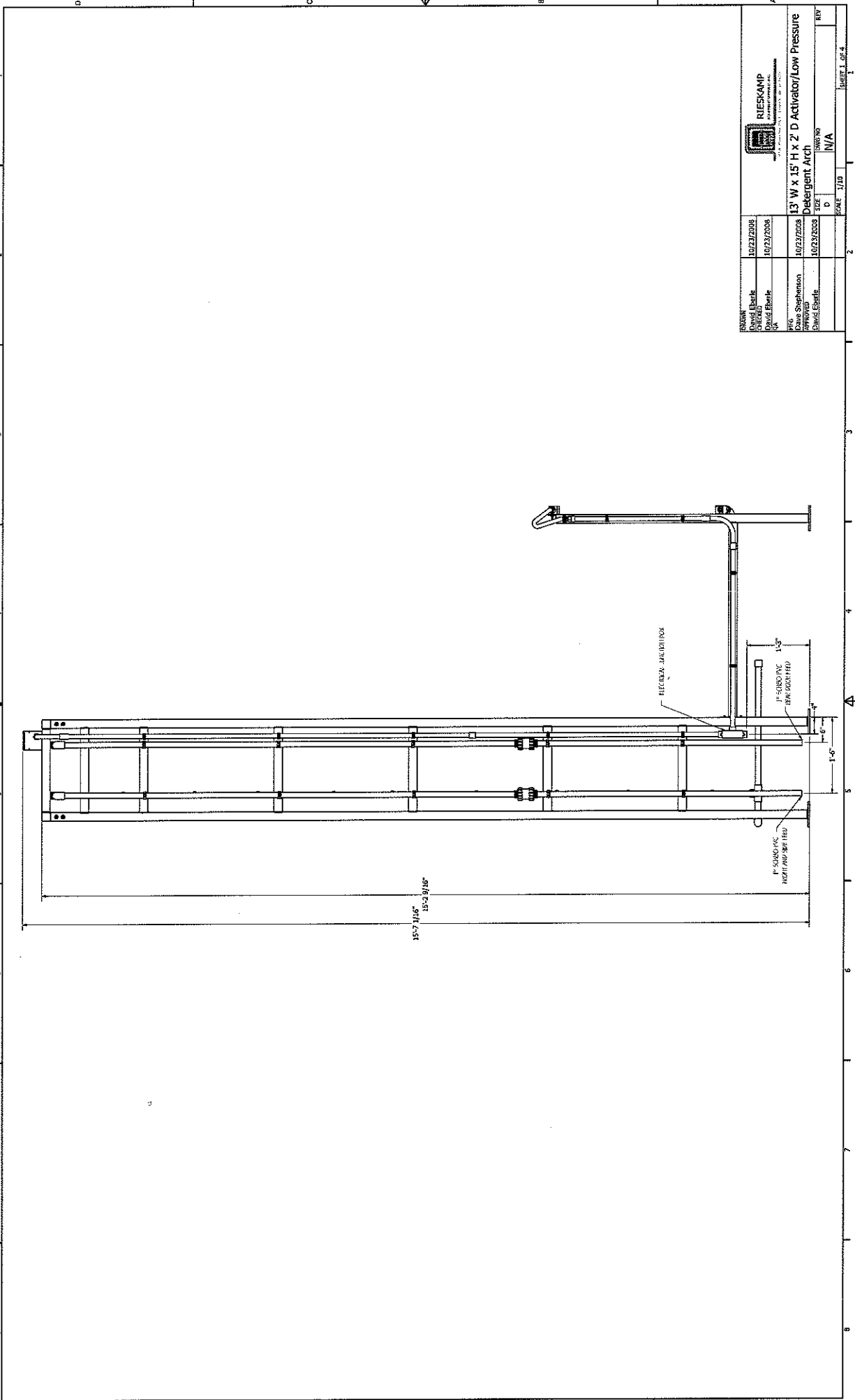
OWNER City of Portland 1200 NE Oregon Street Portland, OR 97232	7/24/2007 7/24/2007	 RIESKAMP <small>AN ASSOCIATE OF THE HOK GROUP</small> 1000 NE Oregon Street Portland, OR 97232 Phone: 503.281.4000 Fax: 503.281.4001 www.rieskamp.com	PROJECT 13' W x 15' H x 7' D Activator Arch w/ Bug Wash & Long Wheel Washers	DATE 7/24/2007	BY JEB	CHK JEB	APP JEB	SCALE 1/10	SHEET 2 OF 4
DESIGNER David Eberle	DATE 7/24/2007								



 RIESKAMP <small>ARCHITECTURAL FABRICATORS, INC.</small>	
7/24/2007 Date David Eberle Title	7/24/2007 Date David Eberle Title
13' W x 15' H x 2' D Activator Arch w/ Bug Wash & Long Wheel Washers	
7/24/2007 Date David Eberle Title	7/24/2007 Date David Eberle Title
Project No. 9900000	
Scale: 1/10	
Sheet: 3 of 4	



 RIESKAMP <small>MANUFACTURING, INC.</small>	
<small>DRAWN</small> David Eberdt <small>CHECKED</small> David Eberdt <small>QA</small>	7/24/2007 7/24/2007
<small>REV</small> 1 Sciphaman 07/24/07 David Eberdt	7/24/2007 7/24/2007
13' W x 15' H x 2' D Activator Arch w/ Bug Wash & Long Wheel Washers	
<small>SCALE</small> 1/16" = 1'-0"	
<small>PART NO.</small> 9900000	
<small>SHEET</small> 2 OF 4	



DATE	10/23/2008	SCALE	1/10	SHEET	1 OF 4
DESIGNED BY	David Eberle	DATE	10/23/2008	REV	
CHECKED BY	David Eberle	DATE	10/23/2008	REV	
PROJECT	13' W x 15' H x 2' D Activator/Low Pressure Detergent Arch	DATE	10/23/2008	REV	
DESIGNED BY	David Eberle	DATE	10/23/2008	REV	
CHECKED BY	David Eberle	DATE	10/23/2008	REV	



RIEFSKAMP
 13' W x 15' H x 2' D Activator/Low Pressure
 Detergent Arch

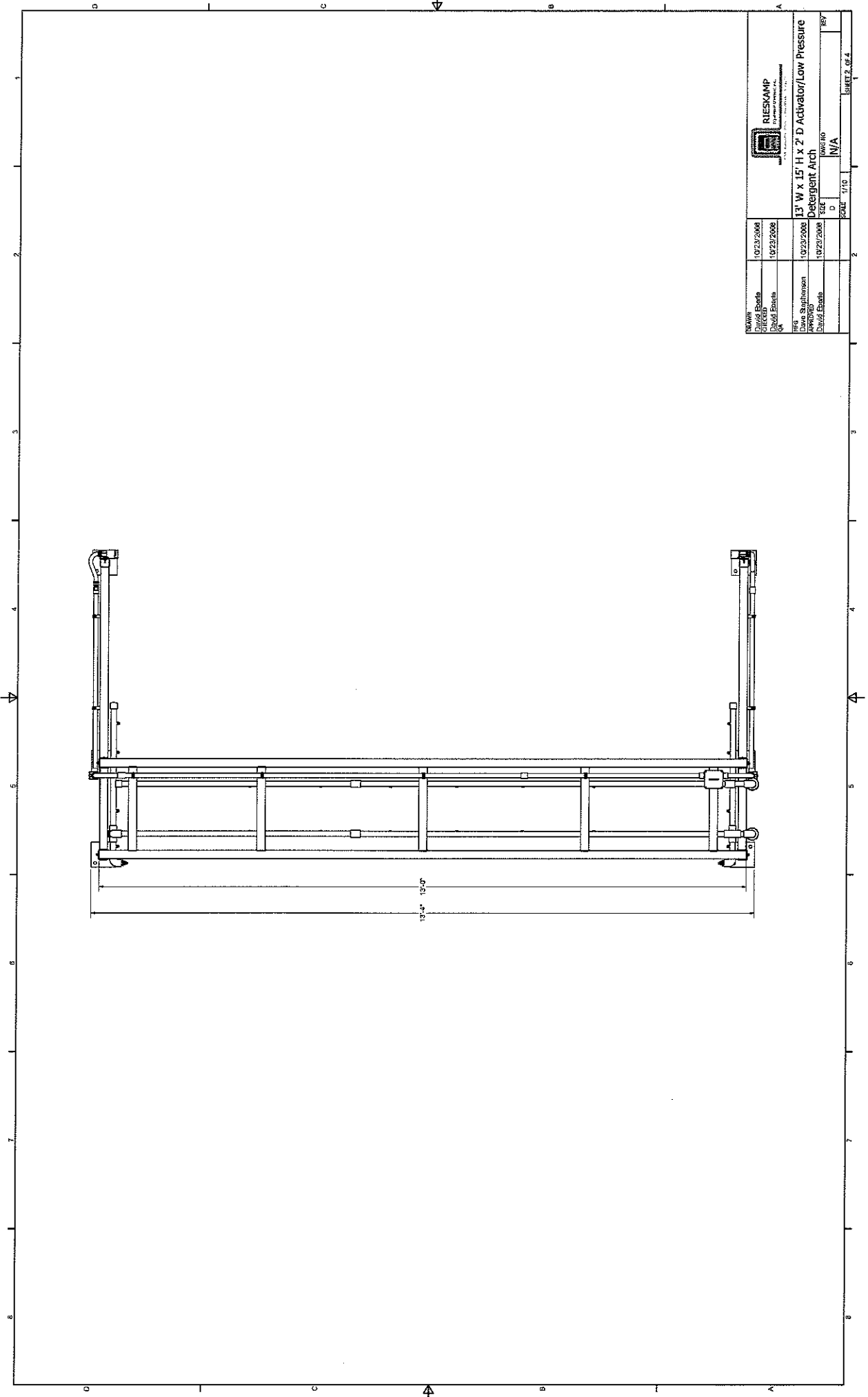
15'-7 1/8"
 15'-2 9/16"

REVERSE JACKBOLT

1" 5080 PVC
 1/4" DIA. DOWEL PIN

1" 5080 PVC
 1/4" DIA. DOWEL PIN

1'-6"



DESIGNER	10/23/2008
Checked	
Draft	10/23/2008
APPROVED	10/23/2008
DRAWN BY	
SCALE	1/16"

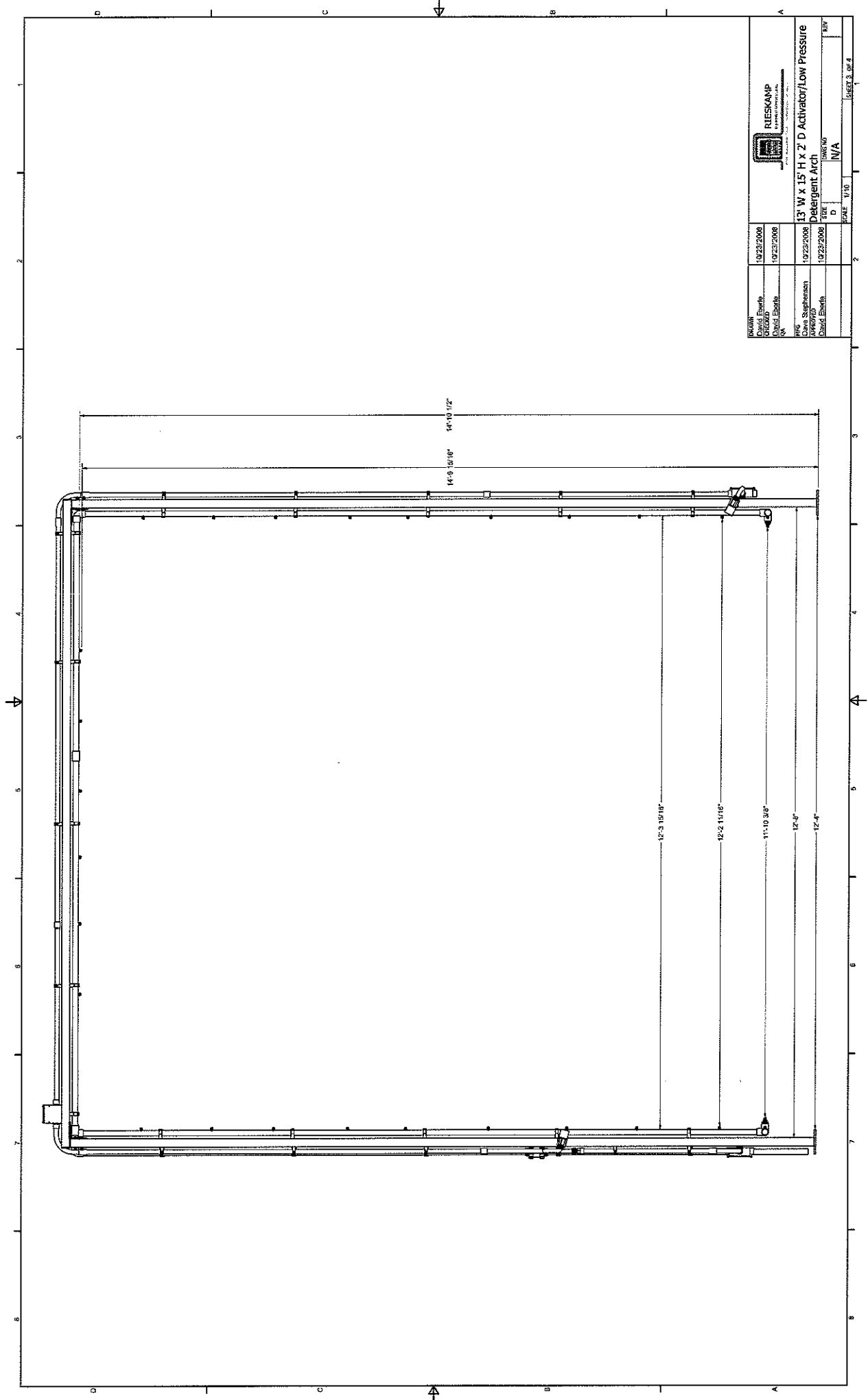



RIESKAMP
 Environmental Engineering, Inc.
 10000 W. Highway 169, Suite 200, Denver, CO 80231

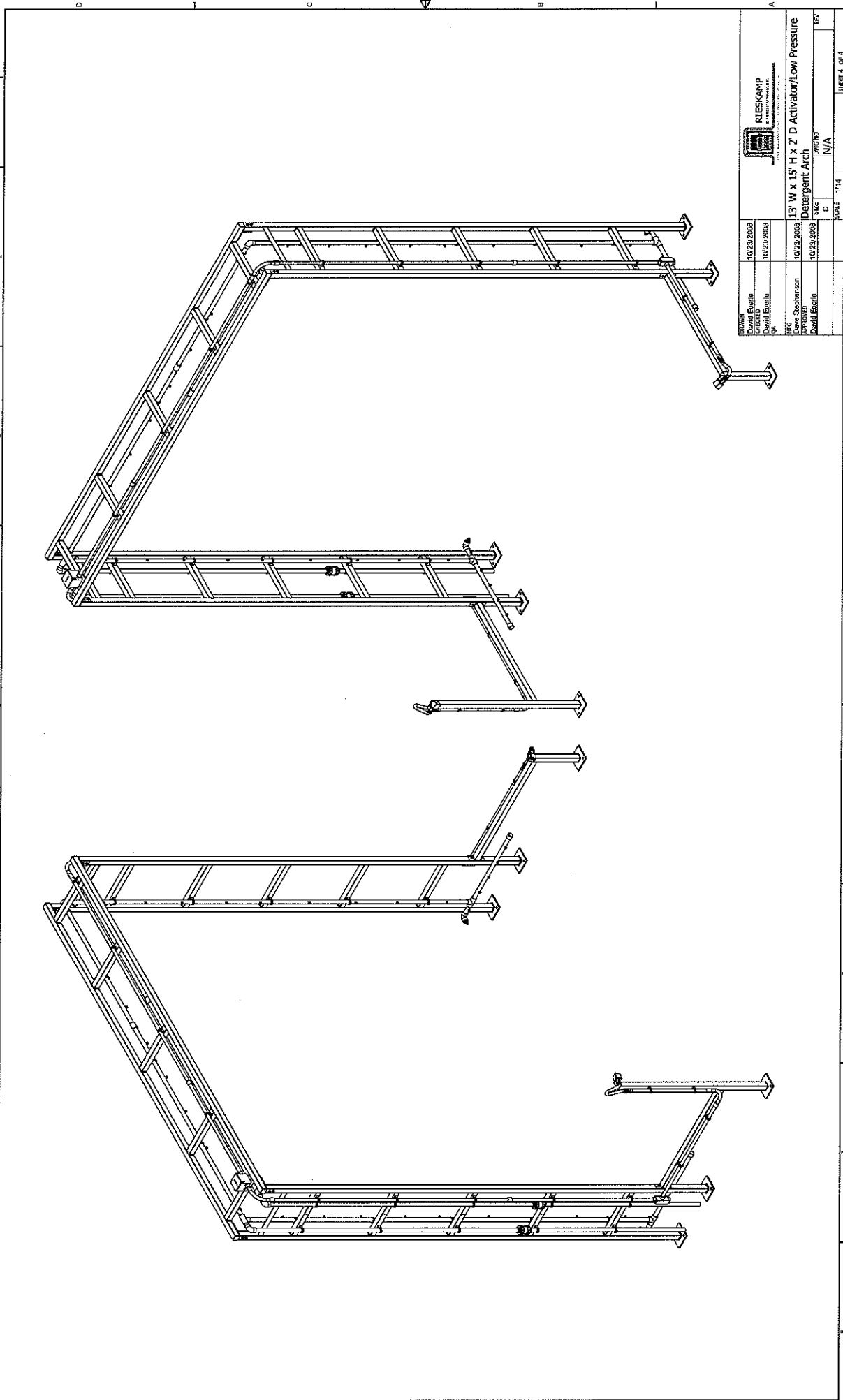
13' W x 15' H x 2' D Activator/Low Pressure
 Detergent Arch


PROJECT NO	1066300
DATE	
SCALE	N/A
DRAWN BY	
CHECKED	
DATE	
APPROVED	
DATE	

SHEET 2 OF 4



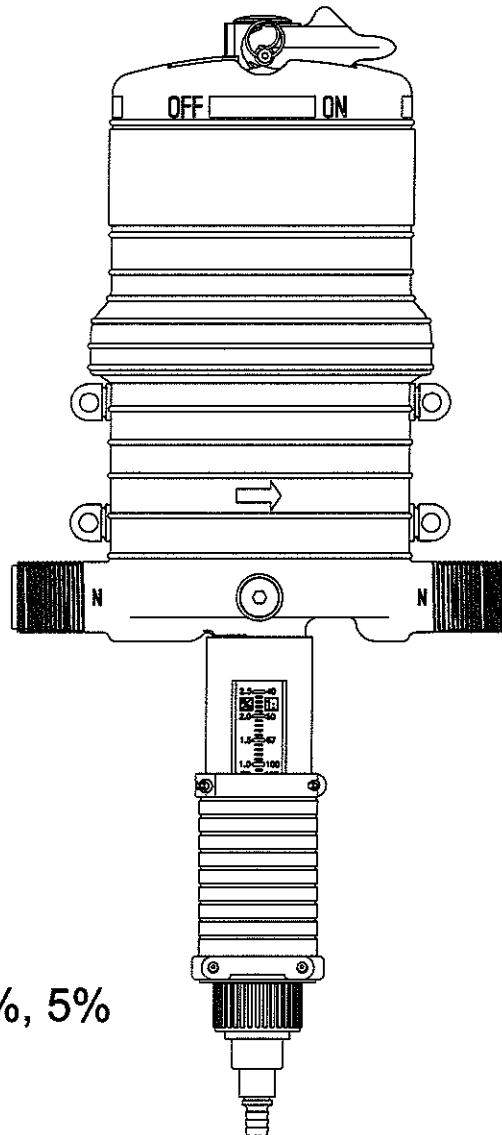
 RIESKAMP <small>MANUFACTURING SYSTEMS</small> <small>10000 RIESKAMP DRIVE, HAZELWOOD, MO 63043</small>	10/22/2008 10/22/2008
DWG: Stephen 10/22/2008 David Eberle N/A	10/22/2008 10/22/2008
P/N: David Stephenson 10/22/2008 David Eberle 10/22/2008	13' W X 15' H X 2' D Activator/Low Pressure Detergent ACCH
S D N/A	1/10 N/A
SCALE:	1/10
SHEET:	3 OF 4



 <small>RIESKAMP</small> <small>by FRIEDRICH WILHELM</small>	
DATE	10/23/2008
DESIGNED	DAVID BRADY
CHECKED	DAVID BRADY
BY	N/A
REV	10/23/2008
APPROVED	DAVID BRADY
DATE	10/23/2008
BY	DAVID BRADY
SCALE	1/14
SHEET NO.	187
TITLE	13' W x 15' H x 2' D Activator/Low Pressure Detergent Arch
D	N/A
SHEET 4 OF 4	

SUPERDOS

Installation & Operating Instructions



Model No.

SuperDos 30 - 4ml, 2.5%, 5%



SPECIFICATIONS:

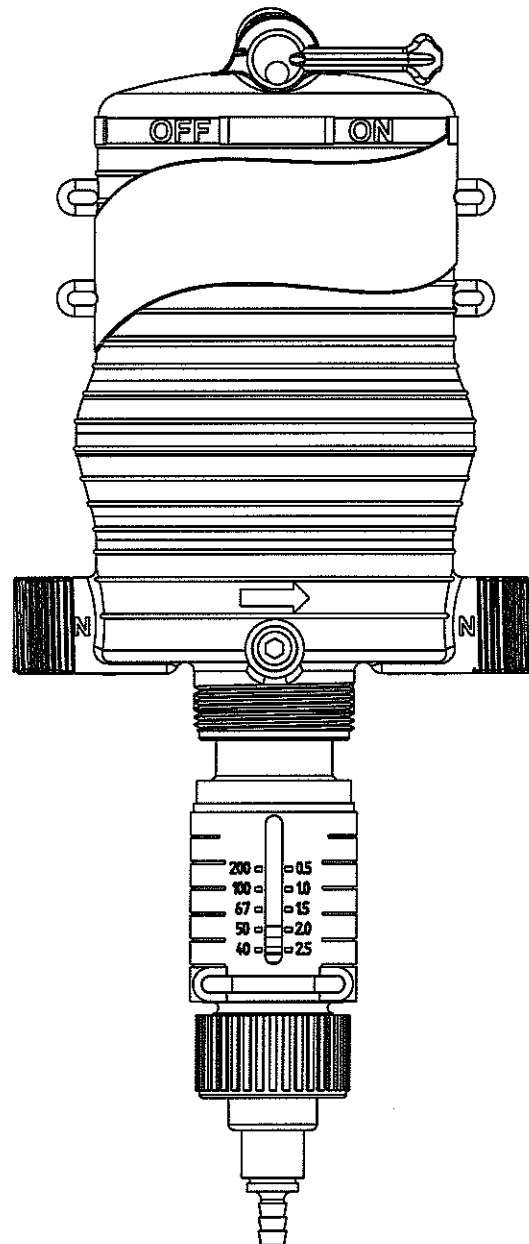
CARACTÉRISTIQUES:

TECHNISCHE DATEN:

Model	Part #	Part #	Flow Rate		Feed Ratio		Operating Pressure	Inlet/Outlet Pipe Connection
	NPT	BSP	Minimum	Maximum	Minimum	Maximum		
SuperDos 30 – 4ml	113208	113708	0.15 gpm	30 gpm	0.025%	0.40%	5 – 100 psi	¾" hose/1" npt
			0,57 lpm	113,56 lpm	1:4000	1:250	0,34 – 6,9 bar	¾" bsp/1" bsp
SuperDos 30 – 2.5%	113209	113709	0.15 gpm	30 gpm	0.20%	2.50%	5 – 100 psi	¾" hose/1" npt
			0,57 lpm	113,56 lpm	1:500	1:40	0,34 – 6,9 bar	¾" bsp/1" bsp
SuperDos 30 – 5%	113210	113710	0.15 gpm	30 gpm	0.40%	5.00%	5 – 100 psi	¾" hose/1" npt
			0,57 lpm	113,56 lpm	1:250	1:20	0,34 – 6,9 bar	¾" bsp/1" bsp

MINIDOS®

Installation & Operating Instructions



Model No.

MiniDos - 0.4%, 2.5%, 5%, 10%, 20%

SPECIFICATIONS:

Model	Flow Rate		Feed Ratio		Operating Pressure	Inlet/Outlet Pipe Connection
	Minimum	Maximum	Minimum	Maximum		
MiniDos 0.4%	0.03 gpm	12 gpm	0.025%	0.40%	6 – 140 psi	3/4" npt
	0,11 lpm	45,42 lpm	1:4000	1:250	0,41 – 9,7 bar	3/4" bsp
MiniDos 1%	0.03 gpm	12 gpm	0.20%	1.00%	6 – 140 psi	3/4" npt
	0,11 lpm	45,42 lpm	1:500	1:100	0,41 – 9,7 bar	3/4" bsp
MiniDos 2.5%	0.03 gpm	12 gpm	0.50%	2.50%	6 – 140 psi	3/4" npt
	0,11 lpm	45,42 lpm	1:200	1:40	0,41 – 9,7 bar	3/4" bsp
MiniDos 5%	0.03 gpm	12 gpm	1.00%	5.00%	6 – 140 psi	3/4" npt
	0,11 lpm	45,42 lpm	1:100	1:20	0,41 – 9,7 bar	3/4" bsp
MiniDos 10%	0.07 gpm	10 gpm	2.0%	10.0%	6 – 65 psi	3/4" npt
	0.25 lpm	37,85 lpm	1:50	1:10	0,41 – 4,5 bar	3/4" bsp
MiniDos 20%	0.07 gpm	7 gpm	4.00%	20.00%	6 - 65 psi	3/4" npt
	0.25 lpm	27 lpm	1:25	1:5	0,41 - 4,5 bar	3/4" bsp

Contents

Item No.	Specifications	Selection Chart	Performance Curve	Pump Dimensions	Sectional View
EVMU3	803	805	806	816	824, 825
EVMU5			807		826, 827
EVMU10			808	818	830-832
EVMU18			809		833-835
EVMUG32	804		810	820, 822	840
EVMUG45			811		842
EVMUG64			812	821	
EVMUL3	803		806	816	824, 825
EVMUL5			807		826, 827
EVMUL10			808	818	830-832
EVMUL18			809		833-835
EVMUL32	804		810	820, 822	840
EVMUL45		811	842		
EVMUL64		812		821	

Features

- **Standard NEMA motors**
- **Integral thrust bearing on 5 HP and larger pumps to handle axial thrust loads**
- **Air vent** in casing cover allows proper venting preventing air entrapment and dry run
- **Liner ring** is a self-aligning, floating design constructed to prevent swelling at high temperatures
- **Tungsten carbide lower pump bearings** and sleeves are standard construction for all services, providing maximum operating life
- **Direct drive** pump and motor shafts are keyed for positive, reliable power transmission with **no adjustments necessary**
- **“Flexible” floating outer casing** allows for thermal expansion in hot water applications, preventing deformation due to pressure fluctuations
- **Anti-erosion measures** – a dish-shaped insert is fitted to the intermediate casing designed to promote smooth flow and prevent high velocity areas that accelerate erosion
- **Square-edge six spline shaft** (EVMU3-18) or twelve spline shaft (EVMU 32-64) provides positive location and drive of impellers eliminating wear
- **Dimensions & flanges** – installation is to market accepted dimensions for easy upgrade of existing installations
- **Mechanical seal** – Silicon/Carbon/Viton mechanical shaft seal
- **Positive Sealing** – O-rings between intermediate casings provide positive sealing and increased efficiencies

Typical Applications

- **Water Supply**
- **Reverse Osmosis**
- **Water Boosting**
- **Washing Systems**
- **Fire Fighting**
- **Water Treatment Plants**
- **Boiler Feed**
- **Hot & Cold Water**
- **Circulation**
- **Irrigation**
- **Sprinkler Systems**
- **Filtration**
- **Heat Exchangers**



Model EVMU / EVMUL

EBARA Stainless Steel Vertical Multistage

Specifications

Models **EVMU 3, 5, 10, 18**
EVMUL 3, 5, 10, 18

	EVMU	EVMUL
Size Suction Discharge	ANSI raised face 1 1/4" for EVMU 3 and 5 2" for EVMU 10 and 18 ANSI raised face 1 1/4" for EVMU 3 and 5 2" for EVMU 10 and 18	
Range of HP	1/2 to 25HP	
Range of Performance Capacity Head	at 3450 RPM 4 to 118 GPM 27 to 830 feet	
Liquid handled Type of liquid Temperature Working pressure	Clean water (<i>for other clean liquids, consult factory</i>) 5° to +248°F (-15° to 120°C) 360 PSI (25 Bar) max. (<i>see page 813 for specifics</i>)	
Materials Impeller Intermediate casing Bottom casing Casing cover Outer casing Shaft Liner ring Motor bracket Base Pump Bearing Shaft Seal Mechanical seal	AISI 304 AISI 304 AISI 304 AISI 304 AISI 304 AISI 316 Cast iron/304 Cast iron/304	AISI 316 AISI 316 AISI 316 AISI 316 AISI 316 AISI 316 Cast iron/316 Cast iron/316 Sealed ball bearing/tungsten carbide Silicon/Carbide/Carbon/FPM (<i>see page 814 for construction details</i>)
Motor Type Speed Three Phase	NEMA C/TC/TSC frame 60 Hz, 3450 RPM (2 poles) 208-230/460V	<i>Consult factory for optional motor types</i>
Direction of Rotation	Clockwise when viewed from motor end	
Test standard	ISO 9906 annex A	



EVMU

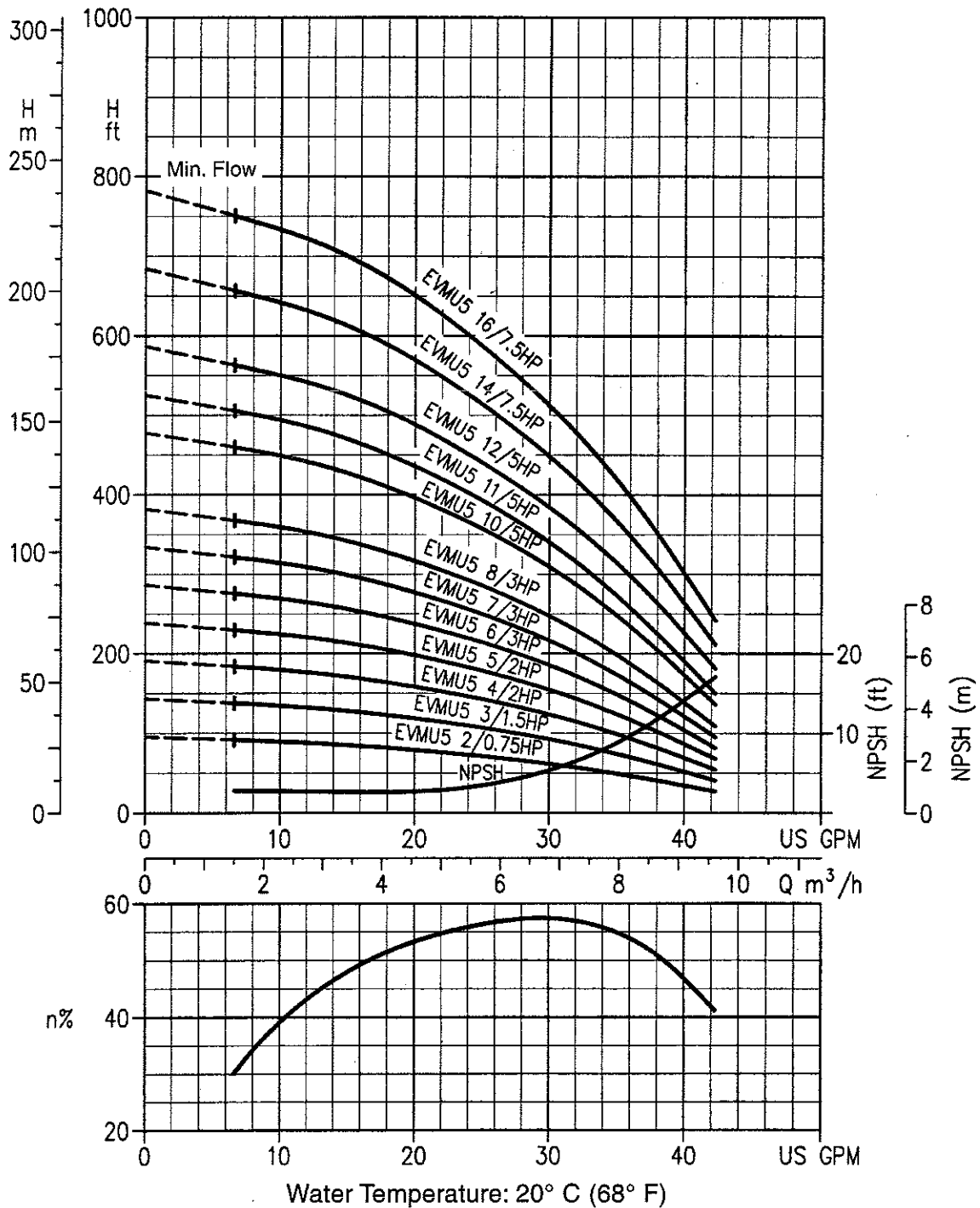
Model EVMU / EVMUL
Performance Curves

EBARA Stainless Steel Vertical Multistage
EVMU5 3/4 HP - 7 1/2 HP

EVMU5 2 - EVMU5 16

Synchronous Speed: 3450 RPM

250# ANSI 1 1/4" 4-Bolt



Model EVMU / EVMUL

EBARA Stainless Steel Vertical Multistage

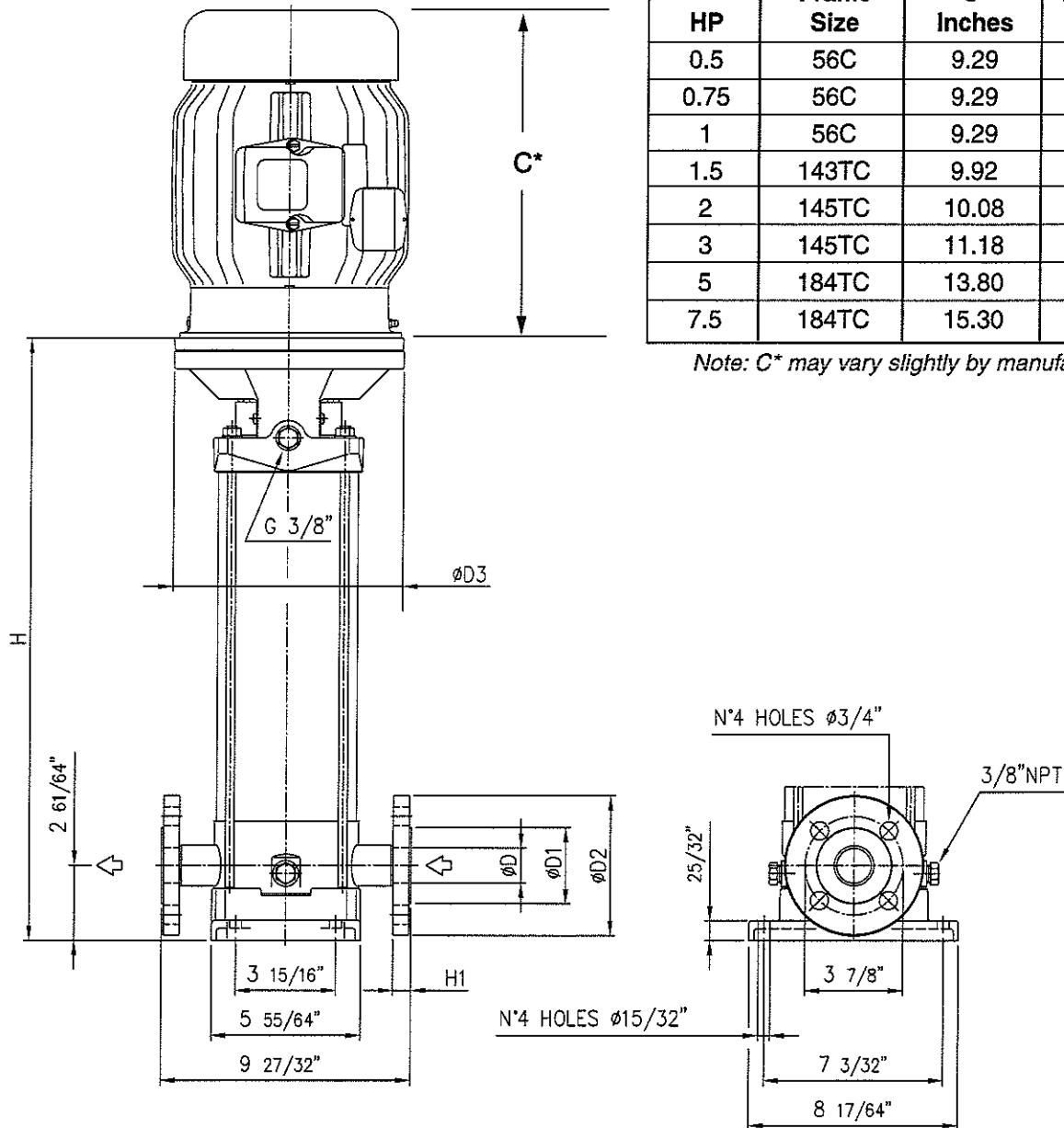
Dimensions

Models EVMU(L)3
EVMU(L)5

Approximate Motor Dimensions C*
for 3 phase, TEFC, NEMA Motors

HP	Frame Size	C* Inches	Motor Wt LBS.
0.5	56C	9.29	19
0.75	56C	9.29	21
1	56C	9.29	23
1.5	143TC	9.92	30
2	145TC	10.08	33
3	145TC	11.18	45
5	184TC	13.80	69
7.5	184TC	15.30	88

Note: C* may vary slightly by manufacturer

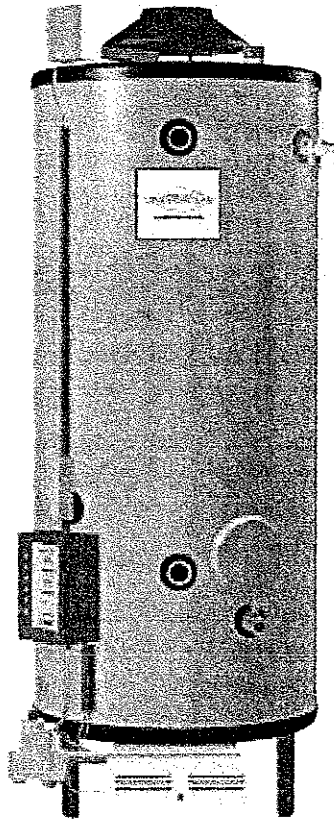


Flange Detail:

EVMU(L)3 250Lb. ANSI
EVMU(L)5 250Lb. ANSI

Refer to page 817 for dimension details.





Small Jacket
Diameters

Short
Floor-to-Vent
Heights

Multiple
Water Connection
Options



(On Selected
Models)



(With Optional
Leg Kit)



Available in Sizes Ranging From 35 - 100 Gallon Tank-Type Models

► 98,000 BTU/Hr. thru 400,000 BTU/Hr.

Universal Gas Commercial Water Heaters are specifically designed to minimize the difficulty of replacing failed water heaters and are versatile for new installations. These products are designed for applications requiring large quantities of hot water.

Construction Features:

- **Universal tank design** – maximizes installation adaptability by offering models with Top, Front Side and Rear Side Inlet/Outlet water connections.
- **Universal space saver design** – short heights and small jacket diameters result in greater installation flexibility.
- **Patented multi-flue tank design** – proprietary steel formulation, patented multi-flue design, and two coats of high temperature porcelain enamel to maximize corrosion resistance result in a superior heat exchanger design.
- **Low profile automatic flue damper** – low profile design minimizes overall product height. New heavy duty vent hood supports are designed to withstand rigors of installation.
- **Spark-To-Pilot ignition system** – standard on all models. Provides reliable and energy saving ignition sequencing by igniting the pilot only when the thermostat calls for heat.
- **System Sentinel™ LED diagnostic system** – our exclusive diagnostic system, with glowing LED lights, verifies system operation sequence by sequence.
- **Full port, full flow brass drain valve**

Certifications and Ratings:

- **Efficiency** – these models have been tested according to ANSI test procedures, and meet or exceed the thermal efficiency and standby loss requirements of current ASHRAE standard (Part of the Federally mandated Energy Policy Act (EPact)). Also exceeds energy efficiency codes of all states including California Energy Commission (CEC).
- **Safety and construction** – these products are design certified by the CSA: a) For operation at 180°F. b) To meet all safety and construction requirements of ANSI Z21.10.3. c) As an automatic storage or instantaneous water heater. d) As an automatic circulating tank water heater. e) For operation on combustible floors and in alcove installations. All models are North Carolina Code compliant.
CERTIFIED FOR A 150 PSI MAXIMUM WORKING PRESSURE (160 PSI FOR ASME MODELS).
- **Optional constructions** – ASME construction is available on designated models. UL Sanitation (NSF5) compliant models are available when equipped with optional leg kit. (Part No. AE35450)

Universal Gas continued.

MAXIMUM DELIVERY In U.S. Gallons and Liters. (Includes useable storage and recovery for indicated times.)															
MODEL NUMBER	TANK CAPACITY		INPUT BTU/HR. NAT. & L.P.	TEMP. RISE	UNITS	5	10	15	20	30	45	60	120	180	Min. to Rec. Contents
	GALLONS	LITERS				Min.	Min.	Min.	Min.	Min.	Min.	Min.	Min.	Min.	
G50-98	50	189	98,000	100°F	GAL.	43	51	59	67	83	106	130	225	320	32
				37.7°C	LTR.	162	192	222	252	312	402	492	852	1212	
G75-125	75	284	125,000	100°F	GAL.	63	73	83	93	113	143	174	295	416	37
				37.7°C	LTR.	237	275	313	352	428	543	658	1116	1575	
G82-156	82	310	156,000	100°F	GAL.	70	83	95	108	133	171	209	360	511	33
				37.7°C	LTR.	265	313	360	408	504	647	790	1363	1935	
G76-180	76	288	180,000	100°F	GAL.	68	82	97	111	140	184	228	402	577	26
				37.7°C	LTR.	256	311	367	422	532	697	862	1523	2183	
G37-200	35	132	199,900	100°F	GAL.	41	56	72	88	119	167	214	403	562	11
				37.7°C	LTR.	155	212	273	333	451	633	811	1527	2130	
G76-200	76	288	199,900	100°F	GAL.	69	86	102	118	150	199	247	441	635	24
				37.7°C	LTR.	263	324	385	446	568	752	935	1669	2403	
G91-200	91	344	199,900	100°F	GAL.	80	96	112	128	161	209	258	451	645	28
				37.7°C	LTR.	302	363	425	486	608	791	975	1709	2442	
G100-200(A)	100	379	199,900	100°F	GAL.	86	102	118	135	167	215	264	458	652	31
				37.7°C	LTR.	326	387	448	510	632	815	999	1732	2486	
G72-250(A)	72	273	250,000	100°F	GAL.	71	91	111	131	172	232	293	535	778	18
				37.7°C	LTR.	267	344	420	497	650	879	1108	2026	2944	
G100-250(A)	100	379	250,000	100°F	GAL.	90	110	131	151	191	252	312	555	797	25
				37.7°C	LTR.	341	418	494	571	724	953	1183	2100	3018	
G100-270(A)	100	379	270,000	100°F	GAL.	92	114	135	157	201	266	332	594	855	23
				37.7°C	LTR.	348	430	513	595	761	1008	1256	2247	3238	
G72-300(A)	72	273	300,000	100°F	GAL.	75	99	123	147	196	269	341	632	923	15
				37.7°C	LTR.	283	374	466	558	741	1017	1292	2393	3494	
G85-300(A)	85	344	300,000	100°F	GAL.	83	108	132	157	205	278	350	641	932	17
				37.7°C	LTR.	317	409	501	593	777	1052	1328	2430	3533	
G100-310(A)	100	379	310,000	100°F	GAL.	95	120	145	170	220	295	371	671	972	20
				37.7°C	LTR.	360	455	549	644	834	1118	1403	2541	3679	
G65-360(A)	65	246	360,000	100°F	GAL.	75	104	133	162	220	307	395	744	1093	11
				37.7°C	LTR.	282	392	503	613	833	1163	1494	2815	4136	
G65-400(A)	65	246	399,900	100°F	GAL.	78	110	142	175	239	336	433	821	1209	10
				37.7°C	LTR.	295	417	539	662	906	1273	1640	3108	4576	
G85-400(A)	85	322	399,900	100°F	GAL.	92	124	156	189	253	350	447	835	1223	13
				37.7°C	LTR.	348	470	592	715	959	1326	1693	3161	4629	
G100-400(A)	100	379	399,900	100°F	GAL.	102	135	167	199	264	361	458	846	1233	15
				37.7°C	LTR.	387	510	632	754	999	1366	1733	3201	4669	



Universal Gas continued.

RECOVERY CAPACITIES Recovery in U.S. Gallons/Hr. (GPH) and Liters/Hr. (LPH) at Various Temperature Rises.														
MODEL NUMBER	INPUT BTU/HR. NATURAL & L.P.	THERMAL EFFICIENCY	UNITS	40°F	50°F	60°F	70°F	80°F	90°F	100°F	110°F	120°F	130°F	140°F
				22°C	28°C	33°C	39°C	45°C	50°C	56°C	61°C	67°C	72°C	78°C
G50-98	98,000	80%	GPH	238	190	158	136	119	106	95	86	79	73	68
			LPH	899	719	600	514	450	400	360	327	300	277	257
G75-125	125,000	80%	GPH	303	242	202	173	152	135	121	110	101	93	87
			LPH	1147	918	765	655	574	510	459	417	382	353	328
G82-156	156,000	80%	GPH	378	303	252	216	189	168	151	138	126	116	108
			LPH	1432	1145	954	818	716	636	573	521	477	440	409
G76-180	180,000	80%	GPH	436	349	291	249	218	194	175	159	145	134	125
			LPH	1652	1321	1101	944	826	734	661	601	551	508	472
G37-200	199,900	80%	GPH	485	388	323	277	242	215	194	176	162	149	138
			LPH	1834	1468	1223	1048	917	815	734	667	611	564	524
G76-200	199,900	80%	GPH	485	388	323	277	242	215	194	176	162	149	138
			LPH	1834	1468	1223	1048	917	815	734	667	611	564	524
G91-200	199,900	80%	GPH	485	388	323	277	242	215	194	176	162	149	138
			LPH	1834	1468	1223	1048	917	815	734	667	611	564	524
G100-200(A)	199,900	80%	GPH	485	388	323	277	242	215	194	176	162	149	138
			LPH	1834	1468	1223	1048	917	815	734	667	611	564	524
G72-250(A)	250,000	80%	GPH	606	485	404	346	303	269	242	220	202	186	173
			LPH	2294	1835	1529	1311	1147	1020	918	834	765	706	655
G100-250(A)	250,000	80%	GPH	606	485	404	346	303	269	242	220	202	186	173
			LPH	2294	1835	1529	1311	1147	1020	918	834	765	706	655
G100-270(A)	270,000	80%	GPH	655	524	436	374	327	291	262	238	218	201	187
			LPH	2478	1982	1652	1416	1239	1101	991	901	826	762	708
G72-300(A)	300,000	80%	GPH	727	582	485	416	364	323	291	264	242	224	208
			LPH	2753	2202	1835	1573	1376	1224	1101	1001	918	847	787
G85-300(A)	300,000	80%	GPH	727	582	485	416	364	323	291	264	242	224	208
			LPH	2753	2202	1835	1573	1376	1224	1101	1001	918	847	787
G100-310(A)	310,000	80%	GPH	752	601	501	429	376	334	301	273	251	231	215
			LPH	2845	2276	1896	1626	1422	1264	1138	1034	948	875	813
G65-360(A)	360,000	80%	GPH	873	698	582	499	436	388	349	317	291	269	249
			LPH	3304	2643	2202	1888	1652	1468	1321	1201	1101	1016	944
G65-400(A)	399,900	80%	GPH	969	776	646	554	485	431	388	353	323	298	277
			LPH	3670	2936	2446	2097	1835	1631	1468	1334	1223	1129	1048
G85-400(A)	399,900	80%	GPH	969	776	646	554	485	431	388	353	323	298	277
			LPH	3670	2936	2446	2097	1835	1631	1468	1334	1223	1129	1048
G100-400(A)	399,900	80%	GPH	969	776	646	554	485	431	388	353	323	298	277
			LPH	3670	2936	2446	2097	1835	1631	1468	1334	1223	1129	1048

Recovery ratings are based on thermal efficiencies obtained in a CSA certified laboratory. Recovery rate shown on the rating plate (75%) Thermal Efficiency in accordance with ANSI Z21.10.3 labeling requirements. (A) indicates available ASME model.



Universal Gas continued.

DIMENSIONAL INFORMATION All Dimensions Shown in English and Metric.										WATER CONNECTIONS			APPROXIMATE SHIPPING WEIGHT	
MODEL NUMBER	UNITS	A	B	C	D	E	F	G	H	TOP IN/OUT	FRONT SIDE	REAR SIDE	STD.	ASME
G50-98	inches	62-3/4	57-1/8	22-1/2	22-5/8	5	50-1/2	1/2	15	1	1-1/2	1-1/2	270 lbs.	N/A
	mm	1594	1451	667	575	127	1283	13	381	25	38	38	122 kgs.	N/A
G75-125	inches	65-1/2	61	26-1/4	25	5	56	3/4	20	1-1/2	1-1/2	1-1/2	480 lbs.	N/A
	mm	1664	1549	667	635	127	1422	19	508	38	38	38	217 kgs.	N/A
G82-156	inches	68-13/16	64	26-1/4	25	6	58-5/8	3/4	20	1-1/2	1-1/2	1-1/2	490 lbs.	N/A
	mm	1748	1626	667	635	152	1489	19	508	38	38	38	222 kgs.	N/A
G76-180	inches	68-13/16	64	26-1/4	25	6	58-5/8	3/4	20	1-1/2	1-1/2	1-1/2	540 lbs.	N/A
	mm	1748	1626	667	635	152	1489	19	508	38	38	38	245 kgs.	N/A
G37-200	inches	49-1/4	43-3/8	26-1/4	25	6	37-5/8	3/4	20	1-1/2	1-1/2	1-1/2	405 lbs.	N/A
	mm	1251	1102	667	635	152	956	19	508	38	38	38	184 kgs.	N/A
G76-200	inches	68-13/16	64	26-1/4	25	6	58-5/8	3/4	20	1-1/2	1-1/2	1-1/2	540 lbs.	N/A
	mm	1748	1626	667	635	152	1489	19	508	38	38	38	245 kgs.	N/A
G91-200	inches	76-5/16	71-13/16	26-1/4	30-5/8	6	66-3/8	3/4	20	1-1/2	1-1/2	1-1/2	600 lbs.	N/A
	mm	1938	1824	667	778	152	1686	19	508	38	38	38	272 kgs.	N/A
G100-200(A)	inches	73-1/16	66-1/8	30-1/4	23-1/4	6	57-1/2	3/4	23	1-1/2	2	2	780 lbs.	835 lbs.
	mm	1856	1680	768	591	152	1460	19	584	38	51	51	353 kgs.	378 kgs.
G72-250(A)	inches	71-1/16	64-1/2	26-1/4	25	6	58-5/8	3/4	20	1-1/2	1-1/2	1-1/2	590 lbs.	630 lbs.
	mm	1805	1638	667	635	152	1489	19	508	38	38	38	267 kgs.	285 kgs.
G100-250(A)	inches	73-1/4	66-1/8	30-1/4	23-1/4	8	57-1/2	3/4	23	1-1/2	2	2	795 lbs.	835 lbs.
	mm	1861	1680	768	591	203	1460	19	584	38	51	51	360 kgs.	378 kgs.
G100-270(A)	inches	73-7/8	66-1/8	30-1/4	23-1/4	8	57-1/2	3/4	23	1-1/2	2	2	805 lbs.	845 lbs.
	mm	1876	1680	768	591	203	1460	19	584	38	51	51	365 kgs.	383 kgs.
G72-300(A)	inches	71	64-1/8	26-1/4	25	8	58-5/8	3/4	20	1-1/2	1-1/2	1-1/2	590 lbs.	630 lbs.
	mm	1803	1629	667	635	203	1489	19	508	38	38	38	267 kgs.	285 kgs.
G85-300(A)	inches	78-7/16	72-5/16	26-1/4	30-5/8	8	66-3/8	3/4	20	1-1/2	1-1/2	1-1/2	640 lbs.	680 lbs.
	mm	1992	1837	667	778	203	1686	19	508	38	38	38	290 kgs.	308 kgs.
G100-310(A)	inches	75	68-1/2	30-1/4	32-1/4	7	61-3/4	3/4	23	1-1/2	2	2	770 lbs.	810 lbs.
	mm	1905	1740	768	819	178	1568	19	584	38	51	51	349 kgs.	367 kgs.
G65-360(A)	inches	70-11/16	64-1/2	26-1/4	25	8	58-5/8	3/4	N/A	N/A	1-1/2	1-1/2	640 lbs.	680 lbs.
	mm	1795	1638	667	635	203	1489	19	N/A	N/A	38	38	290 kgs.	308 kgs.
G65-400(A)	inches	70-11/16	64-1/2	26-1/4	25	8	58-5/8	3/4	N/A	N/A	1-1/2	1-1/2	640 lbs.	680 lbs.
	mm	1795	1638	667	635	203	1489	19	N/A	N/A	38	38	290 kgs.	308 kgs.
G85-400(A)	inches	78-13/16	72-5/16	26-1/4	30-5/8	10	66-3/8	3/4	20	1-1/2	1-1/2	1-1/2	640 lbs.	680 lbs.
	mm	2002	1837	667	778	254	1686	19	508	38	38	38	290 kgs.	308 kgs.
G100-400(A)	inches	76	68-1/2	30-1/4	32-1/4	8	61-3/4	1*	23	1-1/2	2	2	770 lbs.	810 lbs.
	mm	1930	1740	768	819	203	1568	25*	584	38	51	51	349 kgs.	367 kgs.

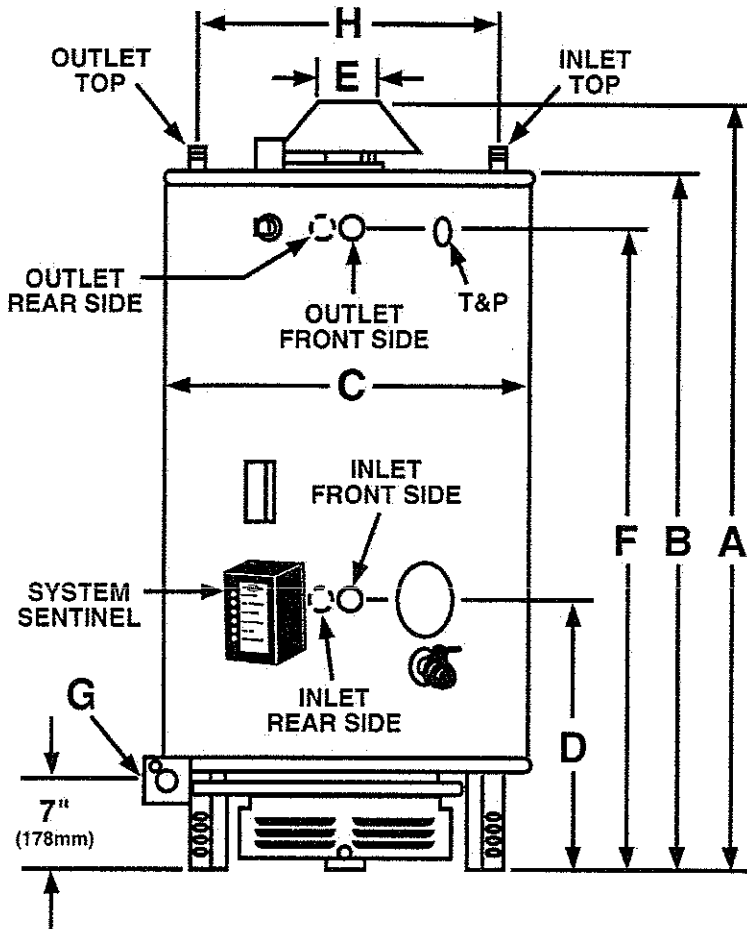
*3/4" (19mm) for L.P. Models. Increase Height 3-5/8" (92mm) for NSF Models.

All Models Require a 120V Power Source/0.3 amps. (A) Suffix Indicates ASME Tank Construction Available.



Universal Gas continued.

DIMENSIONAL DIAGRAM



CLEARANCES TO COMBUSTIBLES

MODEL NUMBER	UNITS	SIDE	REAR	TOP
G50-98	inches	2	2	12
	mm	51	51	305
G75-125	inches	2	2	12
	mm	51	51	305
G82-156	inches	2	2	12
	mm	51	51	305
G76-180	inches	2	2	12
	mm	51	51	305
G37-200	inches	2	2	12
	mm	51	51	305
G76-200	inches	2	2	12
	mm	51	51	305
G91-200	inches	2	2	12
	mm	51	51	305
G100-200(A)	inches	2	4	12
	mm	51	102	305
G72-250(A)	inches	6	6	12
	mm	152	152	305
G100-250(A)	inches	2	4	12
	mm	51	102	305
G100-270(A)	inches	2	4	12
	mm	51	102	305
G72-300(A)	inches	6	6	12
	mm	152	152	305
G85-300(A)	inches	6	6	12
	mm	152	152	305
G100-310(A)	inches	6	6	12
	mm	152	152	305
G65-360(A)	inches	6	6	12
	mm	152	152	305
G65-400(A)	inches	6	6	12
	mm	152	152	305
G85-400(A)	inches	6	6	12
	mm	152	152	305
G100-400(A)	inches	6	6	12
	mm	152	152	305

Allow a minimum of 18" (457mm) front clearance for servicing.



Universal Gas continued.

Other Features:

- **Insulation** – sag and moisture proof fiberglass insulation surrounds the storage tank to minimize heat loss. In addition, heavy mineral wool insulation surrounds the combustion chamber.
- **Anode rods** – patented design utilizes multiple magnesium rods to ensure long life and corrosion resistance.
- **Temperature and pressure relief valve** – AGA/ASME rated and factory installed.
- **Hand-hole cleanout** – for removal of lime/sediment deposits.
- **Manual reset high limit** – all ASME models are factory equipped with a manual reset high limit to meet the code requirements of many states.
- **Gas control system** – Fully adjustable thermostat from 100°F to 180°F, 24 volt combination gas valve includes main gas pressure regulation, On-Off manual valve, 120/24 volt transformer, and high limit temperature cut-out.
- **Stainless steel burners** – Precision burners of raised port design are formed from high chromium stainless steel. Entire burner assembly is built like a drawer which slides out easily for quick inspection and simple maintenance.
- **LED diagnostics** – On damper assembly for easier service.

Recommended Specifications (for trade reference only)

Water heater(s) shall be UNIVERSAL model _____, manufactured by RHEEM-RUUD, having gas input of _____ Btu/hr. and a recovery rate of _____ GPH at a 100°F temperature rise when tested and certified at _____ thermal efficiency. Water heater(s) shall have a storage capacity of _____ gallons. Water heater(s) shall have the CSA seal of certification and supplied with a factory installed AGA/ASME rated temperature and pressure relief valve. Tank(s) shall be furnished with a tube bundle having a double coating of high temperature porcelain enamel and furnished with magnesium anode rods rigidly supported. Water heater(s) shall meet or exceed the thermal efficiency and standby loss requirements of ASHRAE. Tanks shall have a working pressure rating of 150 psi, and shall be completely factory assembled, including a pressure regulator properly adjusted for operation on _____ gas with stainless steel burners. Controls will be arranged for safety shutoff in event of pilot failure. Water heater(s) with inputs less than 360,000 Btu/hr. shall have top, front and rear side inlet/outlet water connections. Water heater(s) shall be covered by a three year limited warranty against tank leaks.

• Add for ASME construction –

Water heater(s) shall be constructed in accordance with the requirements of the ASME Boiler and Pressure Vessel Code, Section IV Part HLW.

Limited Warranty

This product features a three year limited warranty against tank leaks. Please refer to Commercial Warranty Information brochure for complete warranty information.



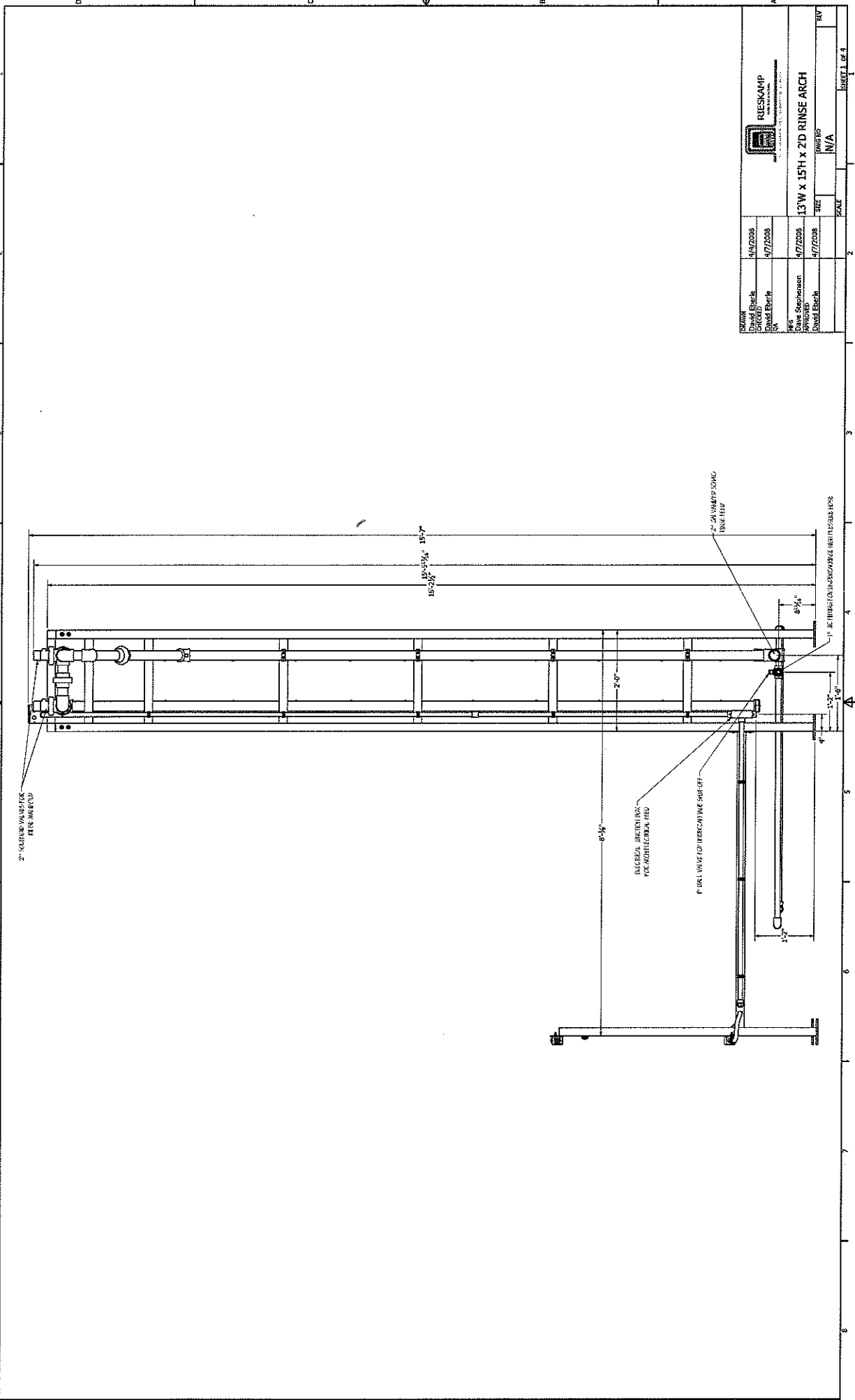
In keeping with its policy of continuous progress and product improvement, Rheem-Ruud reserves the right to make changes without notice.

Rheem Water Heating • 101 Bell Road, Montgomery, Alabama 36117-4305 • www.rheem.com
Rheem Canada Ltd./Ltée, 128 Barton Street West, Hamilton, Ontario L8N 3P3

PRINTED IN U.S.A

05/06 WP

FORM NO. RR102C-1 Rev.16



2" SOLID WARE FOR
RINSE ARCH

15'-0 3/8" 15'-7"

2" SOLID WARE FOR
RINSE ARCH

1/2" ALUMINUM
FOR ARCH

1" BALL BEARING
FOR ARCH

1" ALUMINUM
FOR ARCH

8 3/4"

1'-0"

1'-0"

1'-0"


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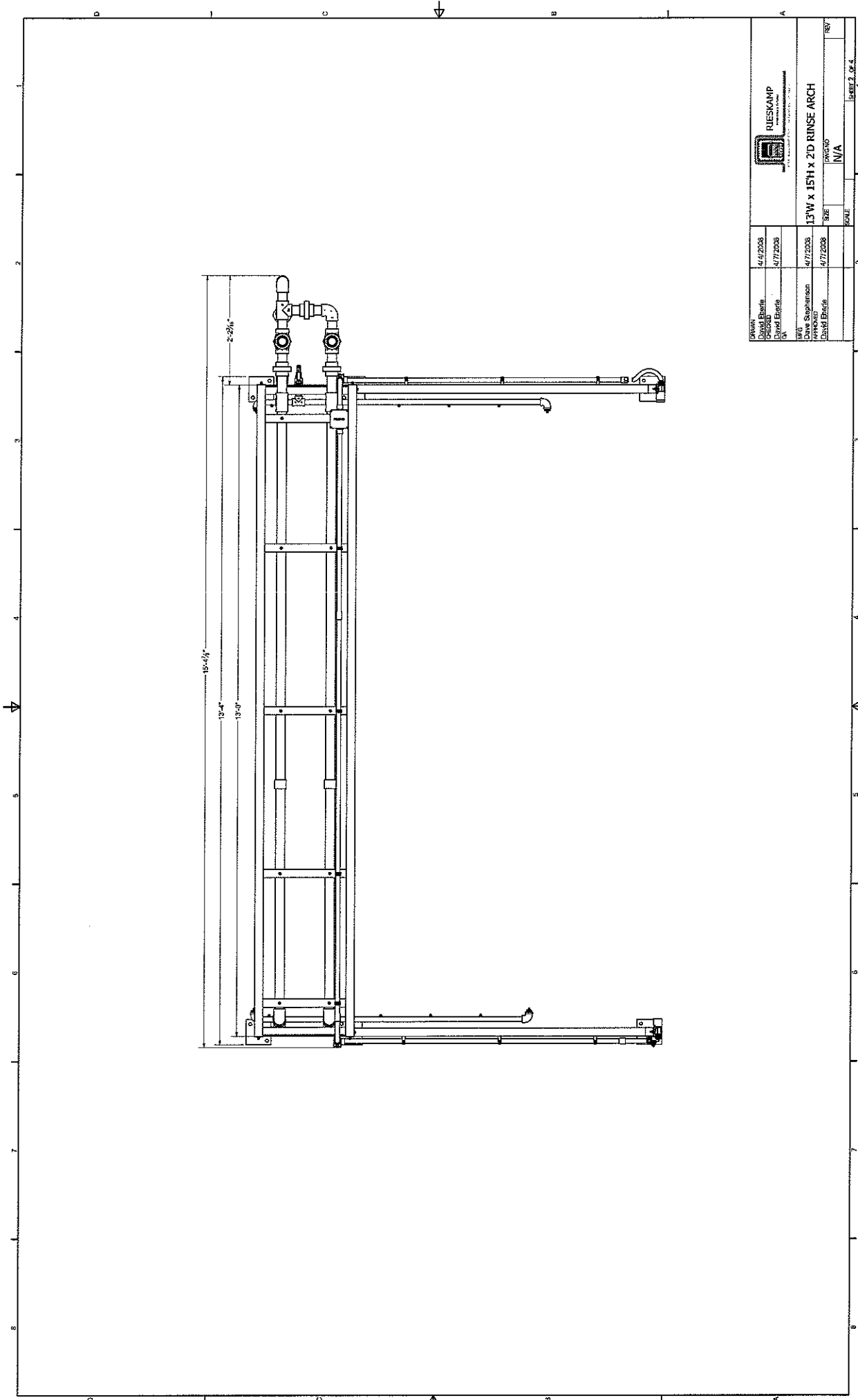
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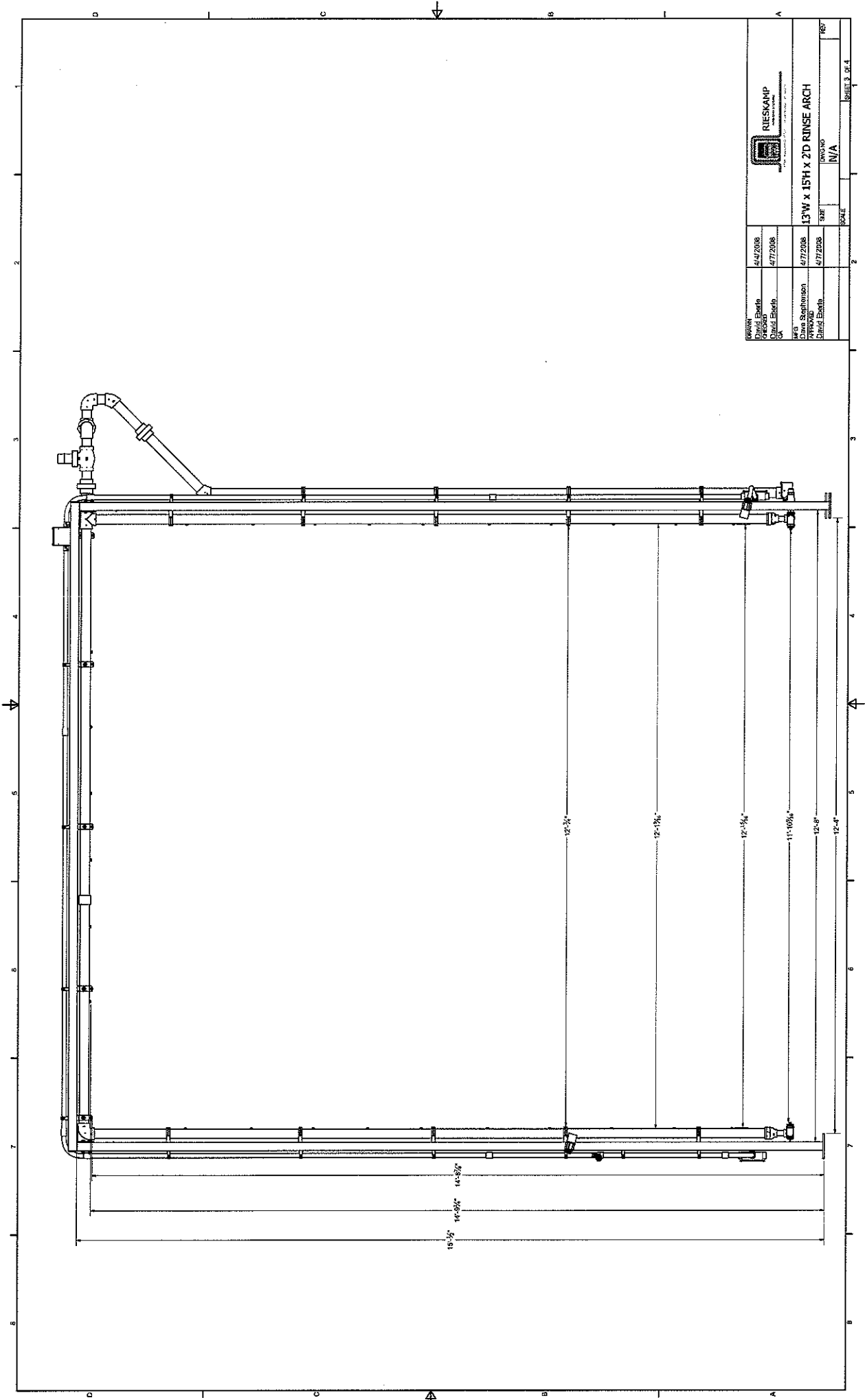
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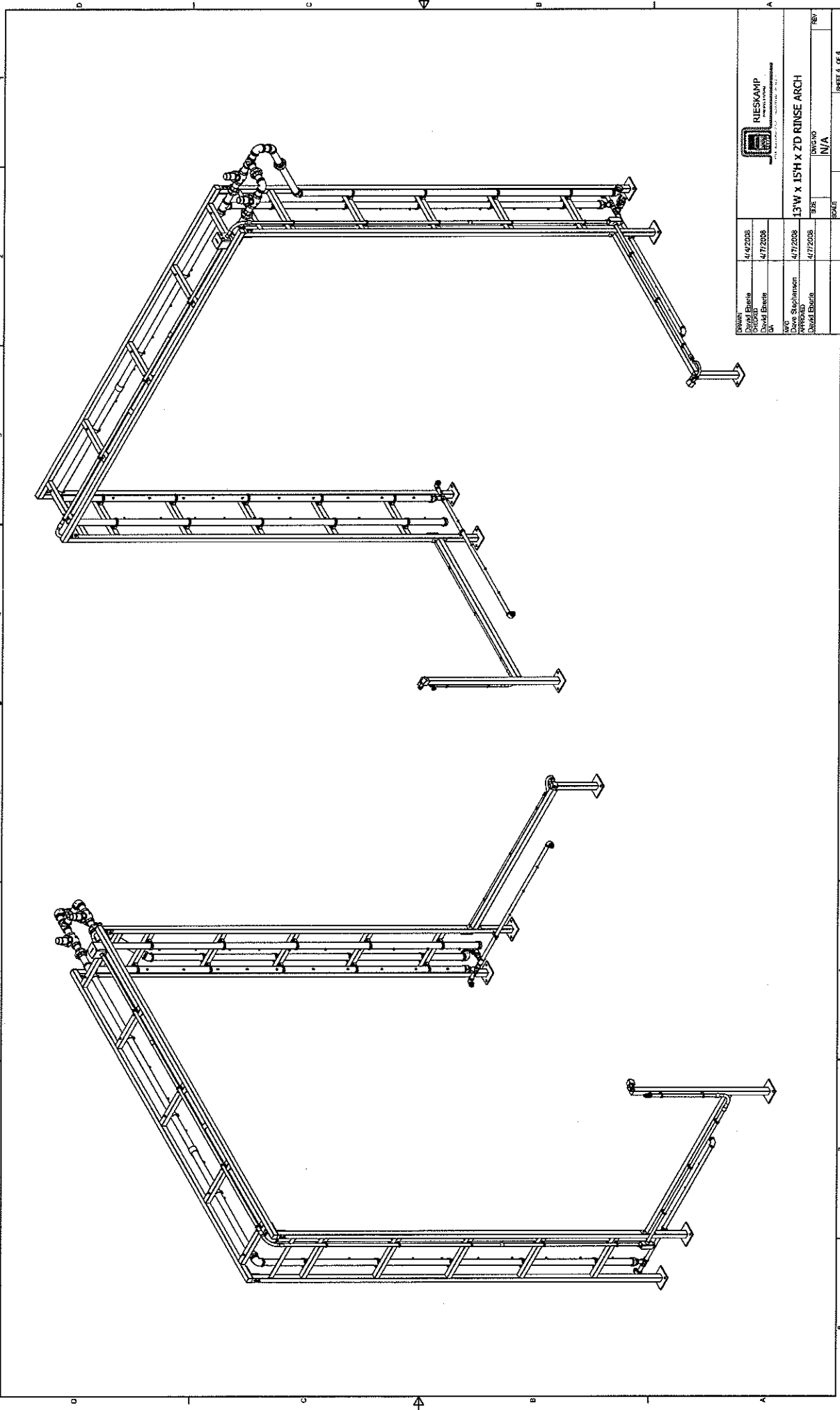
DESIGN	4/7/2008	DATE	4/7/2008
DESIGNED BY	David Eberle	DATE	4/7/2008
BY	David Eberle	DATE	4/7/2008
REV		DATE	
SCALE	N/A	SHEET	1 OF 1
 RIESKAMP 137W x 15H x 2D RINSE ARCH			



 <small>THE RUESKAMP GROUP, INC. • WASHINGTON, D.C. • U.S.A.</small>	4/4/2008 David Brickle	4/7/2008 David Brickle	13'W x 15'H x 2'D RINSE ARCH	8/6 N/A	1 Scale 2, 1/4" = 1'-0"
196 David Stephenson 4/7/2008 David Brickle	4/4/2008 David Brickle	4/7/2008 David Brickle	8/6 N/A	1 Scale 2, 1/4" = 1'-0"	1 Scale 2, 1/4" = 1'-0"

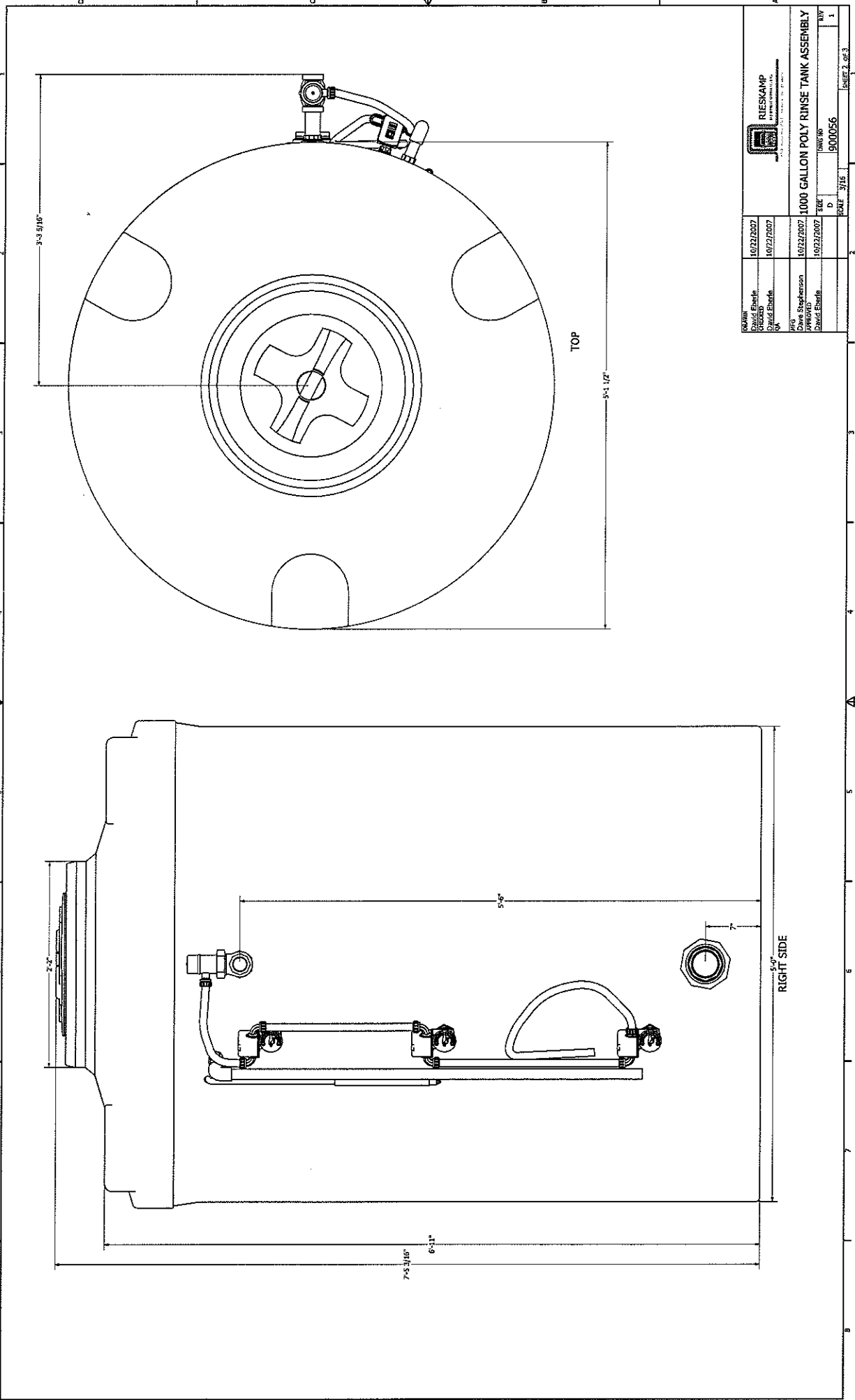


DATE	4/17/2008	2	 RIESKAMP <small>MANUFACTURING COMPANY</small>
DRAWN BY	David Eberle	2	
CHECKED BY	David Eberle	2	13W x 15H x 2D RINSE ARCH
DATE	4/17/2008	2	
SCALE	N/A	2	SHEET 3 OF 4
PROJECT NO.	1000	2	

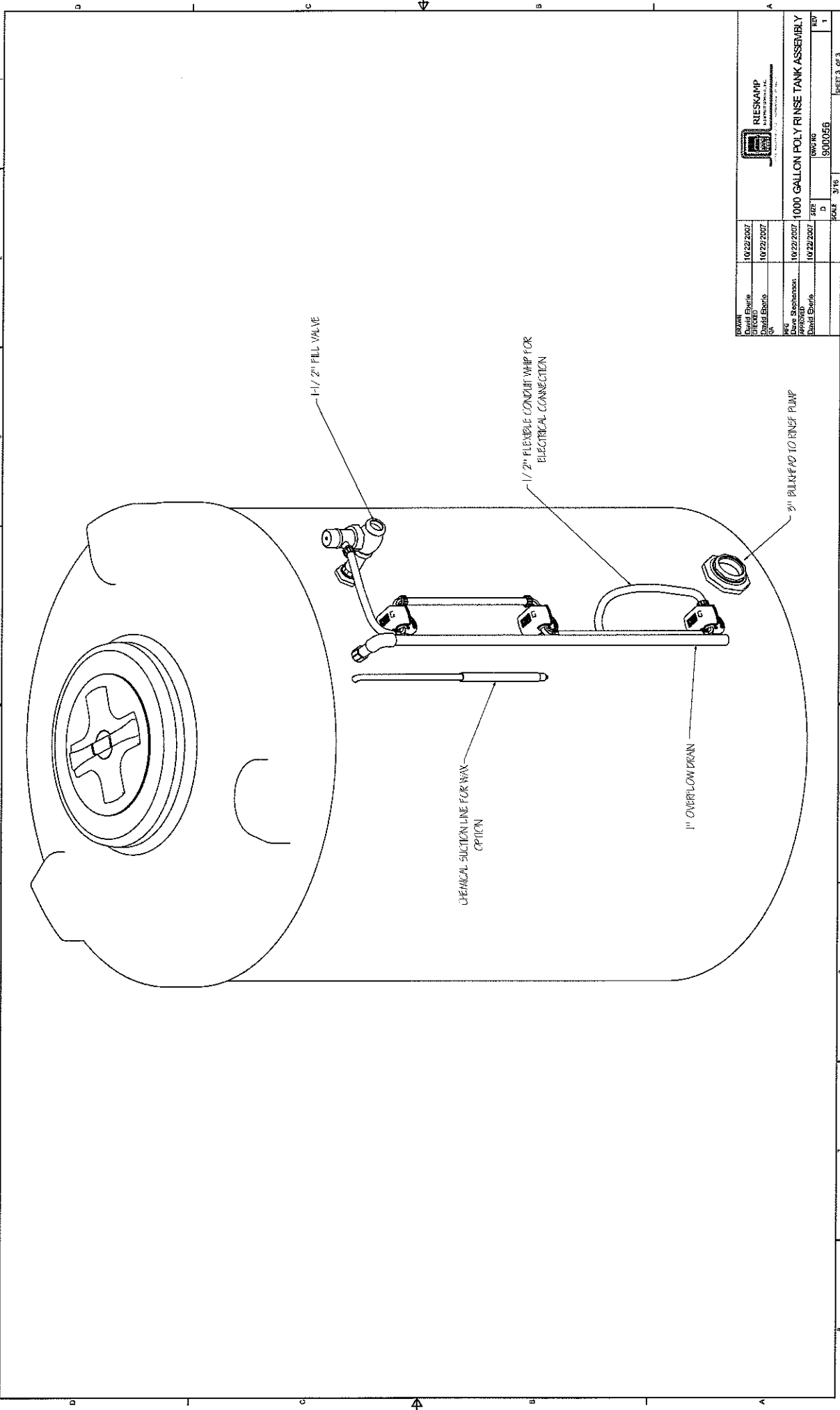



REVISED	4/14/2008	DATE	4/14/2008
DESIGNED BY	DAVID EBERTS	DATE	4/17/2008
BY	DAVID EBERTS	DATE	4/17/2008
PROJECT	13'W x 15'H x 2'D RINSE ARCH		
SCALE	N/A		
PROJECT NO.	187		
SHEET 1 OF 4			

RIESKAMP
 THE RIESKAMP GROUP
 1000 W. 10TH AVENUE
 DENVER, CO 80202
 (303) 733-1100
 WWW.RIESKAMP.COM



 RIESKAMP <small>MANUFACTURING</small>	
DRAWN Dave Eberle Dave Eberle GA	10/22/2007 10/22/2007
P/R Dave Stephenson APPROVED Dave Eberle	10/22/2007 10/22/2007
1000 GALLON POLY RINSE TANK ASSEMBLY	
SIZE D	DWG NO 900056
PART 3/16	REV 1
SHEET 2 OF 3	



DATE	10/22/2007	 RIESKAMP <small>MANUFACTURING, INC.</small>	
DESIGNED BY	David Ehrig		
CHECKED BY	David Ehrig	1000 GALLON POLY RINSE TANK ASSEMBLY	
DATE	10/22/2007		
DESIGNED BY	David Ehrig	REV	1
DATE	10/22/2007	SCALE	3/16" = 1"
PKG. BY: Stephenson, Mark PART NO: 8000056		SHEET 3 OF 3	

Contents

Item No.	Specifications	Selection Chart	Performance Curve	Pump Dimensions	Sectional View
EVMU3	803	805	806	816	824, 825
EVMU5			807		826, 827
EVMU10			808	818	830-832
EVMU18			809		833-835
EVMUG32	804		810	820, 822	840
EVMUG45			811		842
EVMUG64			812	821	
EVMUL3	803		806	816	824, 825
EVMUL5			807		826, 827
EVMUL10			808	818	830-832
EVMUL18			809		833-835
EVMUL32	804		810	820, 822	840
EVMUL45		811	842		
EVMUL64		812		821	



Features

- **Standard NEMA motors**
- **Integral thrust bearing on 5 HP and larger pumps to handle axial thrust loads**
- **Air vent** in casing cover allows proper venting preventing air entrapment and dry run
- **Liner ring** is a self-aligning, floating design constructed to prevent swelling at high temperatures
- **Tungsten carbide lower pump bearings** and sleeves are standard construction for all services, providing maximum operating life
- **Direct drive pump and motor shafts** are keyed for positive, reliable power transmission with **no adjustments necessary**
- **“Flexible” floating outer casing** allows for thermal expansion in hot water applications, preventing deformation due to pressure fluctuations
- **Anti-erosion measures** – a dish-shaped insert is fitted to the intermediate casing designed to promote smooth flow and prevent high velocity areas that accelerate erosion
- **Square-edge six spline shaft** (EVMU3-18) or twelve spline shaft (EVMU 32-64) provides positive location and drive of impellers eliminating wear
- **Dimensions & flanges** – installation is to market accepted dimensions for easy upgrade of existing installations
- **Mechanical seal** – Silicon/Carbon/Viton mechanical shaft seal
- **Positive Sealing** – O-rings between intermediate casings provide positive sealing and increased efficiencies

Typical Applications

- **Water Supply**
- **Reverse Osmosis**
- **Water Boosting**
- **Washing Systems**
- **Fire Fighting**
- **Water Treatment Plants**
- **Boiler Feed**
- **Hot & Cold Water**
- **Circulation**
- **Irrigation**
- **Sprinkler Systems**
- **Filtration**
- **Heat Exchangers**



Model EVMU / EVMUL

EBARA Stainless Steel Vertical Multistage

Specifications

Models EVMU 3, 5, 10, 18
EVMUL 3, 5, 10, 18

	EVMU	EVMUL
Size		
Suction	ANSI raised face 1 1/4" for EVMU 3 and 5 2" for EVMU 10 and 18	
Discharge	ANSI raised face 1 1/4" for EVMU 3 and 5 2" for EVMU 10 and 18	
Range of HP	1/2 to 25HP	
Range of Performance	at 3450 RPM	
Capacity	4 to 118 GPM	
Head	27 to 830 feet	
Liquid handled	Clean water (<i>for other clean liquids, consult factory</i>)	
Type of liquid	5° to +248°F (-15° to 120°C)	
Temperature	360 PSI (25 Bar) max. (<i>see page 813 for specifics</i>)	
Working pressure		
Materials		
Impeller	AISI 304	AISI 316
Intermediate casing	AISI 304	AISI 316
Bottom casing	AISI 304	AISI 316
Casing cover	AISI 304	AISI 316
Outer casing	AISI 304	AISI 316
Shaft	AISI 316	AISI 316
Liner ring	PTFE/AISI 316	
Motor bracket	Cast iron/304	Cast iron/316
Base	Cast iron/304	Cast iron/316
Pump Bearing	Sealed ball bearing/tungsten carbide	
Shaft Seal	Silicon/Carbide/Carbon/FPM	
Mechanical seal	<i>(see page 814 for construction details)</i>	
Motor		
Type	NEMA C/TC/TSC frame	<i>Consult factory for optional motor types</i>
Speed	60 Hz, 3450 RPM (2 poles)	
Three Phase	208-230/460V	
Direction of Rotation	Clockwise when viewed from motor end	
Test standard	ISO 9906 annex A	

Model EVMUG / EVMUL

EBARA Stainless Steel Vertical Multistage

Specifications

Models EVMUG 32, 45, 64
EVMUL 32, 45, 64

	EVMUG	EVMUL
Size		
Suction	ANSI raised face 2½" for EVMUG32 3" for EVMUG45 4" for EVMUG64	
Discharge	ANSI raised face 2½" for EVMUG32 3" for EVMUG45 4" for EVMUG64	
Range of HP	5 to 50HP	
Range of Performance	at 3450 RPM	
Capacity	66 to 390 GPM	
Head	44 to 930 feet	
Liquid handled		
Type of liquid	Clean water (<i>for other clean liquids, consult factory</i>)	
Temperature	5° to +248°F (-15° to 120°C)	
Working pressure	to 430PSI (30 Bar) max. (<i>see page 813 for specifics</i>)	
Materials		
Impeller	AISI 304	AISI 316
Intermediate casing	AISI 304	AISI 316
Bottom casing	Cast iron	AISI 316
Casing cover	Cast iron	AISI 316
Outer casing	AISI 304	AISI 316
Shaft	AISI 316	AISI 316
Liner ring	PTFE/AISI 316	
Motor bracket	Cast iron	Cast iron/316
Base	Cast iron	Cast iron/316
Pump Bearing	Sealed ball bearing/tungsten carbide	
Shaft Seal	Silicon/Carbide/Carbon/FPM	
Mechanical seal	<i>(see page 815 for construction details)</i>	
Motor		
Type	NEMA TC/TSC frame	
Speed	60 Hz, 3450 RPM (2 poles)	
Three Phase	208-230/460V	
Direction of Rotation	Clockwise when viewed from motor end	
Test standard	ISO 9906 annex A	

EVMU

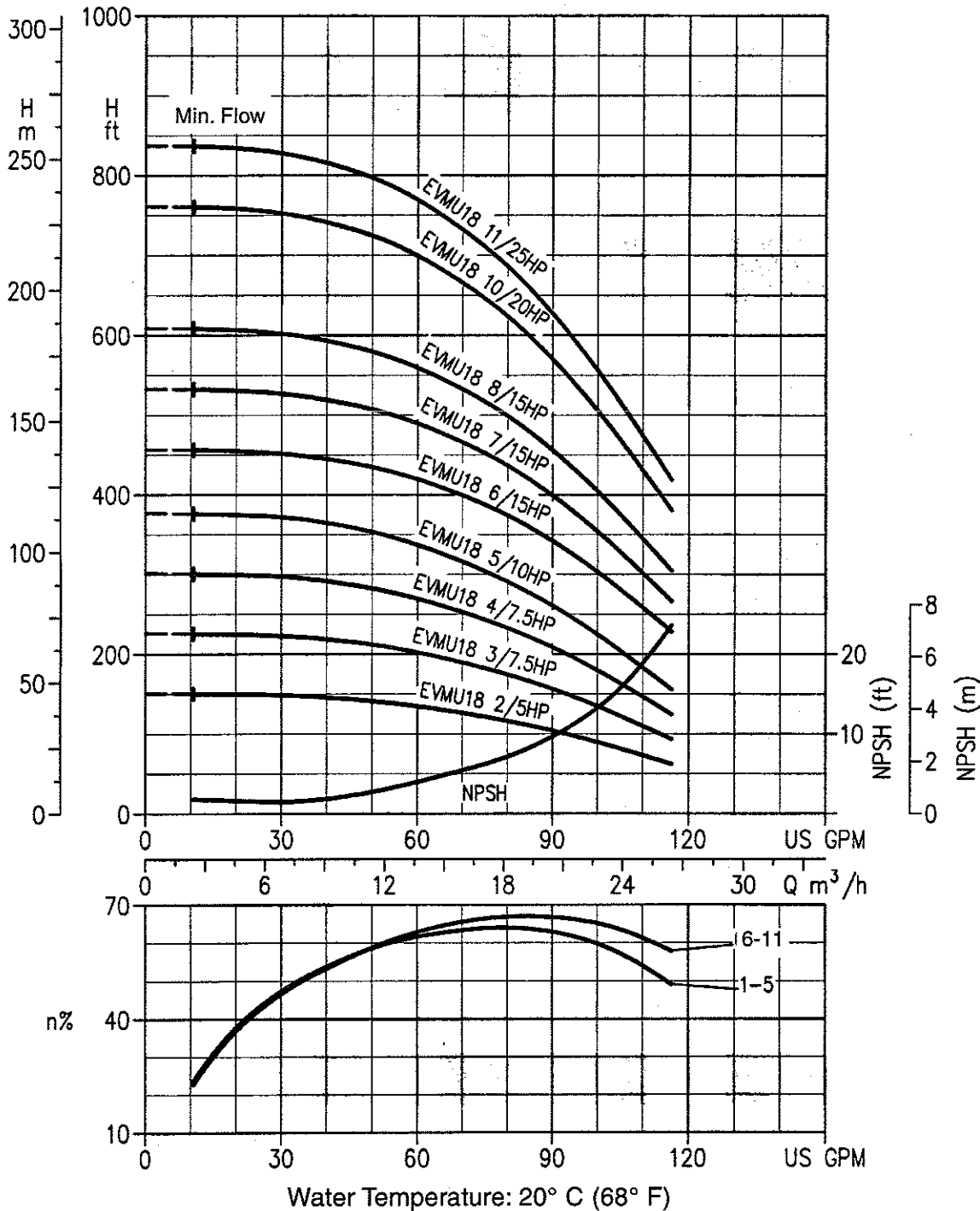
Model EVMU / EVMUL
Performance Curves

EBARA Stainless Steel Vertical Multistage
EVMU18 5HP - 25HP

EVMU18 2 - EVMU18 11

Synchronous Speed: 3450 RPM

250# ANSI 2" 8-Bolt



EVMU

Model EVMUG / EVMUL
Performance Curves

EBARA Stainless Steel Vertical Multistage
EVMU45 7.5HP - 50HP

EVMU45 1-1 – EVMU45 3

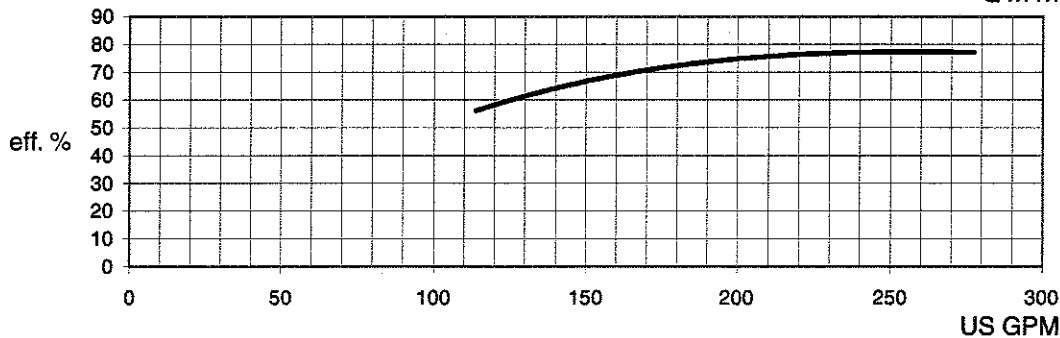
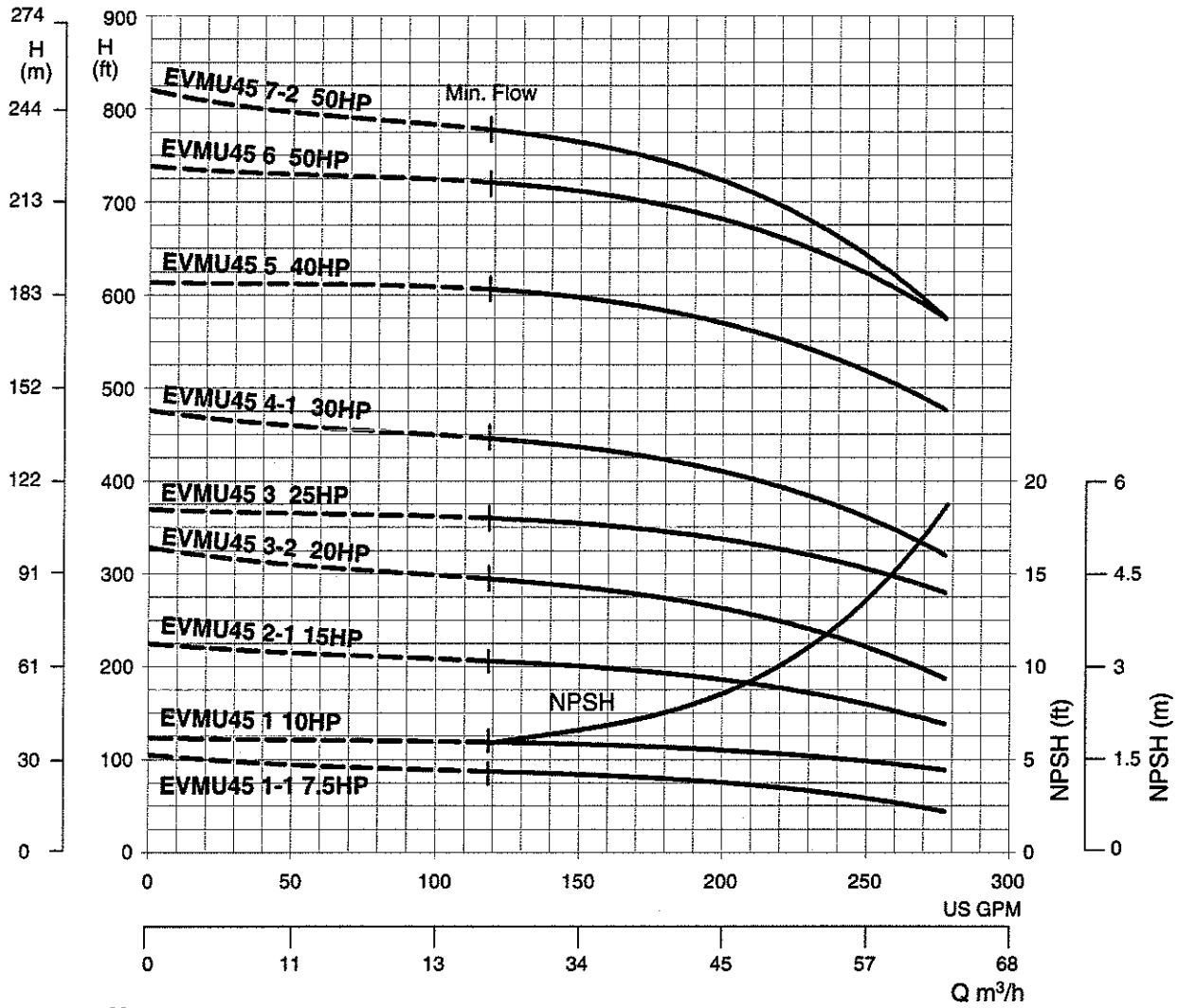
3500RPM

150# ANSI 3" 4-Bolt

EVMU45 4-1 – EVMU45 7-2

3500RPM

300# ANSI 3" 8-Bolt



Water Temperature: 20° C (68° F)



Model EVMU / EVMUL

EBARA Stainless Steel Vertical Multistage

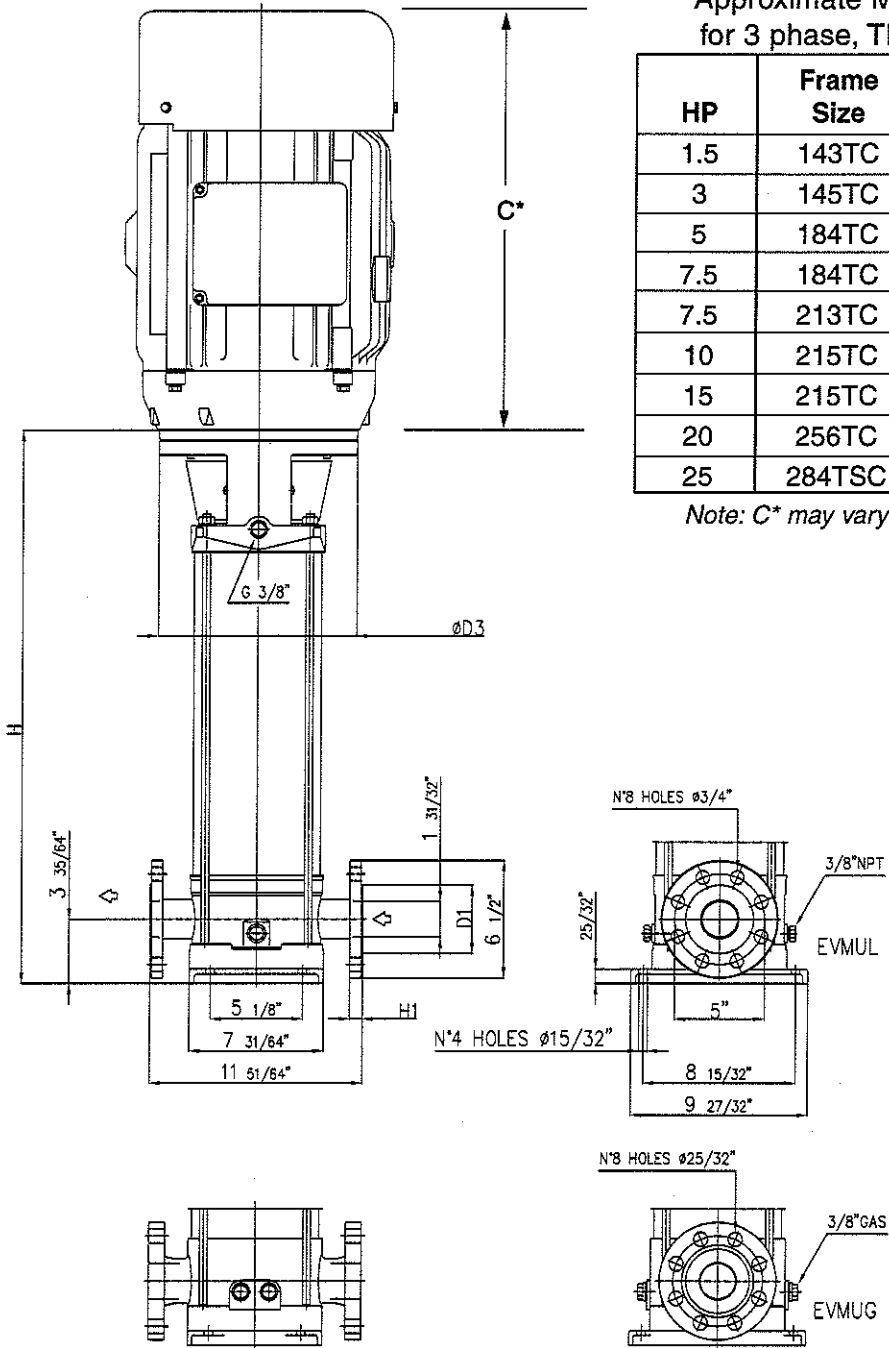
Dimensions

**Models EVMU(L)10
EVMU(L)18**

Approximate Motor Dimensions C*
for 3 phase, TEFC, NEMA Motors

HP	Frame Size	C* Inches	Motor Wt LBS.
1.5	143TC	9.92	30
3	145TC	11.18	45
5	184TC	13.80	69
7.5	184TC	15.30	88
7.5	213TC	15.18	99
10	215TC	15.26	122
15	215TC	16.39	143
20	256TC	16.32	221
25	284TSC	19.03	371

Note: C* may vary slightly by manufacturer



Flange Detail:

EVMU(L)10 250Lb. ANSI
EVMU(L)18 250Lb. ANSI

Refer to page 819 for dimension details.

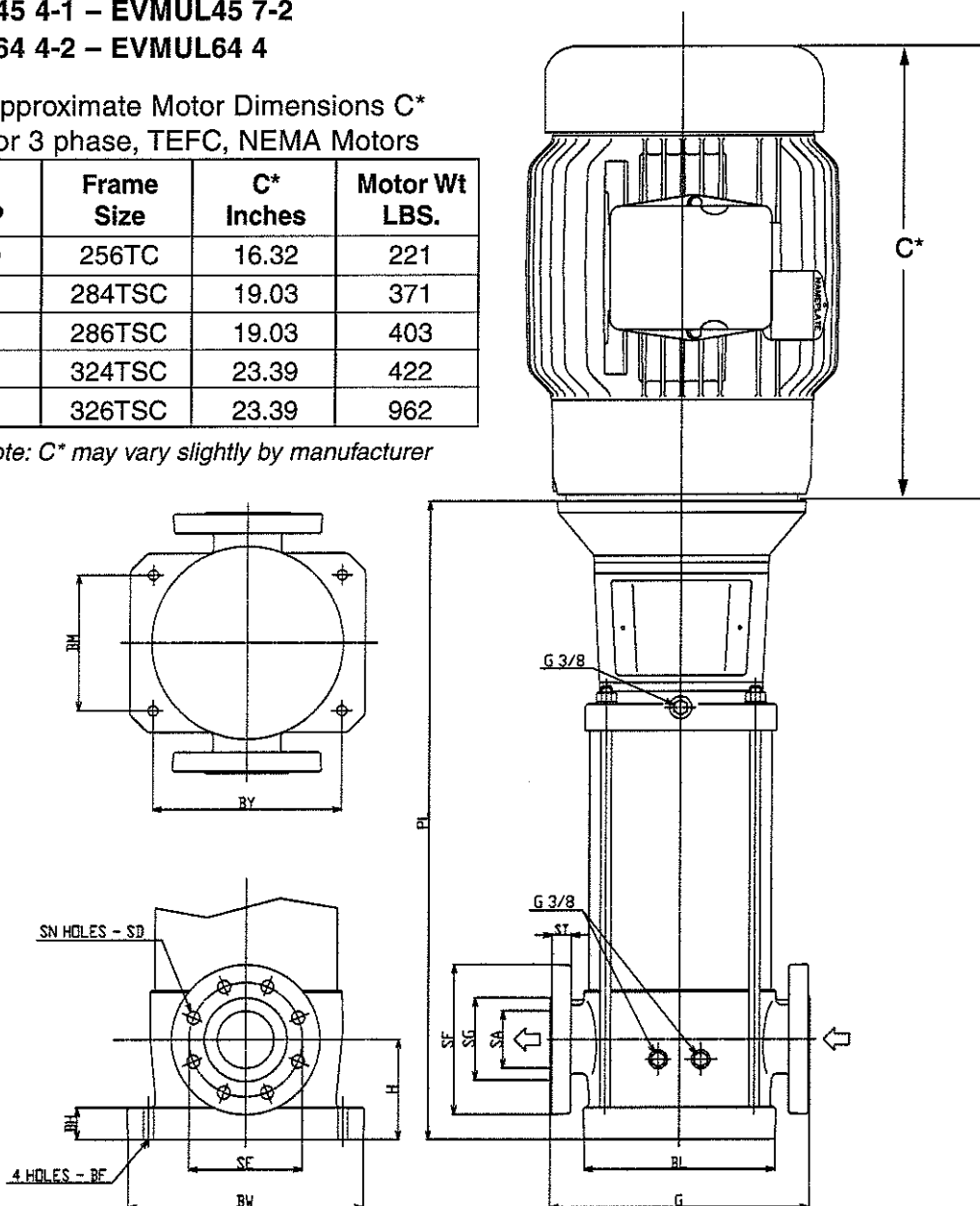
Dimensions

Models EVMUG32 5 – EVMUG32 10-1
 EVMUG45 4-1 – EVMUG45 7-2
 EVMUG64 4-2 – EVMUG64 4
 EVMUL32 5 – EVMUL32 10-1
 EVMUL45 4-1 – EVMUL45 7-2
 EVMUL64 4-2 – EVMUL64 4

Approximate Motor Dimensions C*
 for 3 phase, TEFC, NEMA Motors

HP	Frame Size	C* Inches	Motor Wt LBS.
20	256TC	16.32	221
25	284TSC	19.03	371
30	286TSC	19.03	403
40	324TSC	23.39	422
50	326TSC	23.39	962

Note: C* may vary slightly by manufacturer



Flange Detail:

EVMU32 2 1/2" 300Lb. ANSI
 EVMU45 3" 300Lb. ANSI
 EVMU64 4" 300Lb. ANSI

Refer to page 823 for dimension details.



SAMPLE



GALAXY/RIESKAMP EQUIPMENT CHEMICAL MAINTENANCE CONTRACT

Rieskamp Washing Systems ("Rieskamp") shall guarantee the automatic vehicle washing system, excluding washer pressures, and all component parts thereof against defective material and workmanship for a period of time that Rieskamp or Galaxy products are used in wash equipment. The guarantee shall consist of providing a replacement for defective assemblies or parts, as long as Rieskamp or Galaxy chemical products are used in wash equipment. Labor and shipping costs to replace these parts will be invoiced to the customer after the first year at prevailing labor rates.

THE WARRANTY SET FORTH HEREIN IS THE EXCLUSIVE WARRANTY AND RIESKAMP MAKES NO OTHER WARRANTY, EXPRESS OR IMPLIED, AND THERE ARE EXPRESSLY EXCLUDED ALL IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE.

In no event shall Rieskamp be liable for any other claims, regardless of the form of action, or for any other damages whether direct, indirect, incidental, special or consequential, including without limitation, lost business or lost profits.

The use of unapproved chemicals in truck wash system will void all warranties, written or implied and customer and/or chemical vendor will accept responsibility for damage that may occur to wash equipment.

RIESKAMP WASHING SYSTEMS *LIFETIME* LIMITED WARRANTY CHEMICAL MAINTENANCE PROGRAM

This Maintenance Program insures that Rieskamp's equipment will continue to operate at maximum efficiency. When our products are purchased exclusively, the following items listed below will be provided to the customer at no charge. Our detergent contains a special additive that inhibits the attack on metal surfaces. Repair of the equipment due to accident or misuse will be billed for parts and labor. Terms 30 days will offer for all payments.

- Every 3 months equipment will be given a full service check using our service report form.
- A written copy of this report will be sent to the Director or to any other specified individual.
- Emergency Hot Line for service questions available after standard business hours 7:30A.M. To 5:00P.M. EST.

Approved by:

Agreed to:

()
Galaxy Associates

Date: _____

Date: _____

BID FORM #1

BUY AMERICA CERTIFICATION

Bidder or offerer to complete correct certification.

Certificate of Compliance with Section 165(a)

The bidder or offerer hereby certifies that it will comply with the requirements of section 165(a) of the Surface Transportation Act of 1982, as amended, and the applicable regulations in 49 CFR part 661.

October 22, 2010

Date
David Stephens

Authorized Signature

Rieskamp Washing Systems

Company Name

DAVID STEPHENSON

Name

PROJECT MANAGER

Title

Certificate for Non-Compliance with Section 165(a)

The bidder or offerer hereby certifies that it cannot comply with the requirements of section 165(a) of the Surface Transportation Assistance Act of 1982, as amended, but it may qualify for an exception to the requirement pursuant to section 165(b)(2) or (b)(4) of the Surface Transportation Act of 1982, as amended, and the regulations in 49 CFR 661.7.

Date

Authorized Signature

Company Name

Name

Title

BID FORM #2

VENDOR'S CERTIFICATION OF
UNDERSTANDING AND ACCEPTANCE

The Contractor hereby certifies that all Technical Specifications and Contract Terms and Conditions have been carefully reviewed, are fully understood and shall be adhered to in performance and completion of any contract resulting from this bid.

October 22, 2010

Date

David Stephens

Authorized Signature

PROJECT MANAGER

Title

RIESKAMP WASHING SYSTEMS

Company Name

SPECIFICATION COMPLIANCE

NOTE: Please check if what is offered is in exact compliance with specifications. Any **discrepancies must** be listed as an attachment to the bid proposal. Exact dimensions and/or descriptions must be provided as a part of the Contractor's bid proposal when submitted.

Bid proposal submitted meets and/or exceeds all specification requirements.

Bid proposal submitted contains deviations from specification requirements. Detailed descriptions of these have been provided with this bid proposal.

BID FORM #3

**CERTIFICATION OF PRIMARY PARTICIPANT REGARDING
DEBARMENT, SUSPENSION, AND OTHER RESPONSIBILITY MATTERS**

The Primary Participant (applicant for an ETA grant or cooperative agreement, or potential contractor for a major third party contract),
RIESKAMP WASHING SYSTEMS / GALAXY (COMPANY NAME)
 certifies to the best of its knowledge and belief, that it and its principals:

1. Are not presently debarred, suspended, proposed for debarment, declared ineligible, or voluntarily excluded from covered transactions by any Federal department or agency;
2. Have not within a three-year period preceding this proposal been convicted of or had a civil judgment rendered against them for commission of fraud or a criminal offense in connection with obtaining, attempting to obtain, or performing a public (Federal, State or local) transaction or contract under a public transaction; violation of Federal or State antitrust statutes or commission of embezzlement, theft, forgery, bribery, falsification or destruction of records, making false statements, or receiving stolen property;
3. Are not presently indicted for or otherwise criminally or civilly charged by a governmental entity (Federal, State or local) with commission of any of the offenses enumerated in paragraph (2) of this certification; and
4. Have not within a three-year period preceding this application/proposal had one or more public transactions (Federal, State or local) terminated for cause or default.

(If the primary participant (applicant for an ETA grant, or cooperative agreement, or potential third party contractor) is unable to certify to any of the statements in this certification, the participant shall attach an explanation to this certification.)

THE PRIMARY PARTICIPANT (APPLICANT FOR AN FTA GRANT OR COOPERATIVE AGREEMENT, OR POTENTIAL CONTRACTOR FOR A MAJOR THIRD PARTY CONTRACT),

Joseph Heitkes CERTIFIES OR AFFIRMS THE
 TRUTHFULNESS AND ACCURACY OF THE CONTENTS OF THE STATEMENTS
 SUBMITTED ON OR WITH THIS CERTIFICATION AND UNDERSTANDS THAT THE
 PROVISIONS OF 31 U.S.C. SECTIONS 3801 ET SEQ. ARE APPLICABLE THERETO.

Joseph Heitkes
 Signature and Title of Authorized Official

G.M. Transportation

BID FORM #4

CERTIFICATION OF RESTRICTIONS ON LOBBYING

The undersigned (Vendor, Contractor) certifies, to the best of his or her knowledge and belief, that:

1. No Federal appropriated funds have been paid or will be paid, by or on behalf of the undersigned, to any person for influencing or attempting to influence an officer or employee of an agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with the awarding of any Federal contract, the making of any Federal grant, the making of any Federal loan, the entering into of any cooperative agreement, and the extension, continuation, renewal, amendment, or modification of any Federal contract, grant, loan, or cooperative agreement.

2. If any funds other than Federal appropriated funds have been paid or will be paid to any person for making lobbying contacts to an officer or employee of any agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with this Federal contract, grant, loan, or cooperative agreement, the undersigned shall complete and submit Standard Form-LLL, "Disclosure Form to Report Lobbying," in accordance with its instructions. [as amended by "Government Wide Guidance for New Restrictions on Lobbying," 61 Fed. Reg. 1413 (1/19/96). Note: Language in paragraph (2) herein has been modified in accordance with Section 10 of the Lobbying Disclosure Act of 1995 (P.L. 104-65, to be codified at 2 U.S.C. 1601, et seq.)]

3. The undersigned shall require that the language of this certification be included in the award documents for all subawards at all tiers (including subcontracts, subgrants, and contracts under grants, loans, and cooperative agreements) and that all subrecipients shall certify and disclose accordingly.

This certification is a material representation of fact upon which reliance was placed when this transaction was made or entered into. Submission of this certification is a prerequisite for making or entering into this transaction imposed by 31 U.S.C. § 1352 (as amended by the Lobbying Disclosure Act of 1995). Any person who fails to file the required certification shall be subject to a civil penalty of not less than \$10,000 and not more than \$100,000 for each such failure. [Note: Pursuant to 31 U.S.C. § 1352(c)(1)-(2)(A), any person who makes a prohibited expenditure or fails to file or amend a required certification or disclosure form shall be subject to a civil penalty of not less than \$10,000 and not more than \$100,000 for each such expenditure or failure.]

The Vendor, RIESKAMP WASHING SYSTEMS, certifies or affirms the truthfulness and accuracy of each statement of its certification and disclosure, if any. In addition, the Vendor understands and agrees that the provisions of 31 U.S.C. § 3801, et seq., apply to this certification and disclosure, if any.

10/22/10
Date

David Stephen
Authorized Signature
PROJECT MANAGER
Title

STATE OF WEST VIRGINIA
Purchasing Division

PURCHASING AFFIDAVIT

West Virginia Code §5A-3-10a states: No contract or renewal of any contract may be awarded by the state or any of its political subdivisions to any vendor or prospective vendor when the vendor or prospective vendor or a related party to the vendor or prospective vendor is a debtor and the debt owed is an amount greater than one thousand dollars in the aggregate.

DEFINITIONS:

"Debt" means any assessment, premium, penalty, fine, tax or other amount of money owed to the state or any of its political subdivisions because of a judgment, fine, permit violation, license assessment, defaulted workers' compensation premium, penalty or other assessment presently delinquent or due and required to be paid to the state or any of its political subdivisions, including any interest or additional penalties accrued thereon.

"Debtor" means any individual, corporation, partnership, association, limited liability company or any other form or business association owing a debt to the state or any of its political subdivisions. "Political subdivision" means any county commission; municipality; county board of education; any instrumentality established by a county or municipality; any separate corporation or instrumentality established by one or more counties or municipalities, as permitted by law; or any public body charged by law with the performance of a government function or whose jurisdiction is coextensive with one or more counties or municipalities. "Related party" means a party, whether an individual, corporation, partnership, association, limited liability company or any other form or business association or other entity whatsoever, related to any vendor by blood, marriage, ownership or contract through which the party has a relationship of ownership or other interest with the vendor so that the party will actually or by effect receive or control a portion of the benefit, profit or other consideration from performance of a vendor contract with the party receiving an amount that meets or exceed five percent of the total contract amount.

EXCEPTION: The prohibition of this section does not apply where a vendor has contested any tax administered pursuant to chapter eleven of this code, workers' compensation premium, permit fee or environmental fee or assessment and the matter has not become final or where the vendor has entered into a payment plan or agreement and the vendor is not in default of any of the provisions of such plan or agreement.

Under penalty of law for false swearing (*West Virginia Code §61-5-3*), it is hereby certified that the vendor affirms and acknowledges the information in this affidavit and is in compliance with the requirements as stated.

WITNESS THE FOLLOWING SIGNATURE

Vendor's Name: Rieskamp Washing Systems / Galaxy Associates

Authorized Signature: Joseph Heitker Date: 10/22/10

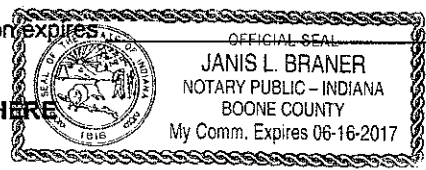
State of Indiana

County of Marion, to-wit:

Taken, subscribed, and sworn to before me this 22 day of October, 2010

My Commission expires _____, 20____.

AFFIX SEAL HERE



NOTARY PUBLIC

Janis L. Braner