



Quality People. Building Solutions.

Comfort Systems USA (Arkansas), Inc.
P.O. Box 16620
LittleRock, AR 72231
Phone 501-834-3320
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Date: 4/27/2026

Return Request: 5/8/2026

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

Supplier: Comfort Systems USA (Arkansas), Inc.

Manufacturer: Chem Aqua

Submittal: Chemical (Water) Treatment (Re-Submittal #1)

Submittal Number: 232500.001

Spec Section: 232500

Drawing # and Installation Location: MP1.0 through MP1.3, and MP4.0

ARCHITECT

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

GENERAL CONTRACTOR

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

ENGINEER

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

MECHANICAL SUBCONTRACTOR

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

Comments:

Note: Chem Aqua will utilize a PH Buffer (BP-600) to control PH and keep the PH in the necessary range to protect the equipment (See pages 6 and 7 of 10 in the attached submittal).

CSUSA PROJECT NO.

25-7065

joe@comfortar.com

9924 Landers Road
No. LittleRock, AR 72117



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Spec Section 232500, 2.2.

Materials

Phosphate-Based Tower Inhibitor

Description

CHEM-AQUA 32115 is a liquid stabilized phosphate inhibitor designed to control scale and corrosion in open recirculating cooling water systems. It is specifically formulated to provide effective control in systems using low to moderate alkalinity and/or hardness in makeup water. CHEM-AQUA 32115 also provides excellent recoverability from system upsets and is effective over a wide range of operating conditions. Fluorescent tracer makes online monitoring and control easy and accurate.

Features

- Reduces the potential for destructive scale and corrosion
- Keeps heat transfer surfaces clean and energy efficient
- Product residual is easily monitored and controlled using fluorescent tracer
- Convenient multi-functional formula simplifies product feed
- Concentrated, easy-to-use liquid formulation

Physical Properties

Physical State:	Liquid
Appearance:	Transparent
Color:	Yellow – Amber – Green
Odor:	Sweet
pH:	11.17
Specific Gravity:	1.216
Density:	10.14 lbs./gal.

Consult the label for complete directions and precautions before using this product.

Closed Loop Cleaner**Description**

CHEM-AQUA 61503 is a non-acid blend of sequestering, dispersing, and surface active agents for the removal of oil coatings, grease, mill scale, metallic oxides, and organic debris from closed new systems. Use of CHEM-AQUA 61503 in new systems institutes system cleanliness as well as protection as the first step toward process efficiency and equipment preservation. This product is especially designed for pre-commission cleaning of new systems.

With the use of Chem-Aqua 61503 treatment, improved corrosion inhibitor performance is achieved due to reduced interference from oil and grease coatings, metallic oxides, and organic debris. It also minimizes the potential for MB induced corrosion by reducing and removing the oil and greased based organic deposits, nutrient sources for bacteria, and other conditions for an anaerobic environment. Unlike acid or chelant based cleaners this product does not dissolve base metals. CHEM-AQUA 61503 can also be used to clean piping and auxiliary equipment in new industrial water systems. To avoid excessive foaming, make sure air bleed vents are operating correctly. Antifoam may be required. CHEM-AQUA 61503 solutions are not recommended for contact with galvanized or aluminum metallurgy. The product should be used in accordance with the cleaning procedure that CHEM-AQUA established for pre-operational cleaning.

Features

- Removes oil based coatings, organic debris, mill scale, and metallic oxides
- Sequesters and disperses iron, will sequester loosely bound iron, and facilitates the removal of iron from the system
- Penetrates, disperses, and cleans oily and grease coatings
- Increases equipment life and operating efficiency
- Minimizes down time and decreases maintenance cost
- Product residual can be monitored
- Concentrated, easy-to-use liquid formulation

Physical Properties

Physical State:	Liquid
Appearance:	Transparent-Cloudy
Color:	Colorless to Light yellow
Odor:	Mild
pH:	11.9
Specific Gravity:	1.033
Density:	8.62 lbs. /gal.

Consult the label for complete directions and precautions before using this product.

Industrial Heat Transfer Fluid**Description**

Chem-Aqua inhibited propylene glycol is an industrial heat transfer fluid formulated with a heavy-duty inhibitor package to maximize fluid life and corrosion protection. Solutions in water provide freeze protection and burst protection to below -60°F (-51°C). It is dyed fluorescent yellow for easy identification of treated glycol systems and leak detection.

The industry standard corrosion inhibitor package is specifically designed for glycol systems containing carbon steel and copper metallurgies with reserve alkalinity buffers to combat glycol degradation. It is NOT intended for use in systems that contain aluminum.

Chem-Aqua inhibited propylene glycol is used in HVAC systems, process cooling loops, or wherever low freezing water-based heat transfer fluids are needed. System glycol concentration should be adjusted to achieve the target temperature for freeze or burst protection. Glycol concentrations less than 20% should be avoided to avoid biological growth issues. It is available in three standard concentrations:

- Glycol PG-HDY Concentrate
- Glycol PG-HDY 40%
- Glycol PG-HDY 30%

CHEM-AQUA encourages its customers to review their application of Glycol PG-HDY products from the standpoint of human health and environmental quality. For full details concerning safety precautions, storage, and handling procedures for the products please refer to the SDSs. For further technical assistance concerning the use of Glycol PG-HDY products, contact CHEM-AQUA Engineering.

Features

- Freeze and burst protection for industrial water systems at low temperatures.
- Heavy-duty industrial corrosion inhibitor and buffer package.
- Extends heat transfer fluid service life and reduces replacement costs.
- Provides buffering against acidic conditions due to thermal or oxidative degradation of glycol.

Physical Properties

Inhibited Propylene Glycol	Glycol PG-HDY Conc	Glycol PG-HDY 40%	Glycol PG-HDY 30%
Physical State:	Liquid	Liquid	Liquid
Appearance:	Transparent to Hazy	Transparent to Hazy	Transparent to Hazy
Color:	Neon yellow/Green	Neon yellow/Green	Neon yellow/Green
Glycol Weight:	94.7%	40.5%	30.4%
pH (10% Solution):	9.3 - 10.3	8.2 - 9.2	8.3 - 9.3
Specific Gravity:	1.057	1.040	1.029
Density:	8.82 lb. / gal	8.67 lb. / gal	8.58 lb. / gal
Reserve Alkalinity (RA in mL)	19.6	5.5	4.1

pH Adjuster**Description**

BP-600 is an acid treatment for control of pH in open recirculating cooling water systems. It neutralizes alkalinity and adjusts pH. This is a sodium bisulfate based dry product which is safer to handle than sulfuric acid. BP-600 should be dissolved in water before being fed to the system. BP-600 is dosed based upon the amount of alkalinity desired to be neutralized and the pH range to be achieved. For each pound of sulfuric acid calculated for pH control, it will take approximately 2.5 pounds of BP-600 to give an equivalent amount of acid. It is suitable for use as a cooling system compound where neither the treated water nor the stream produced may contact edible products in U.S. Federally inspected meat and poultry plants.

Features

- Neutralizes alkalinity and adjusts pH
- Suitable alternative to sulfuric acid
- Reduces the risks and liability of handling and shipping sulfuric acid
- Dry product, safer to handle and store

Physical Properties

Physical State:	Solid
Appearance:	Opaque
Color:	Off-White
Odor:	Pungent
pH:	Not applicable
Specific Gravity:	1.28
Density:	Not applicable

Consult the label for complete directions and precautions before using this product.

Engineering Parameters:

Typical Specific Heat, or Specific Heat Capacity (c_p) of Propylene Glycol:

The amount of heat required to raise the temperature of one pound of water by one-degree Fahrenheit. The amount of heat required is expressed as BTU's. The Specific Heat values of propylene glycol/water mixture expressed as BTU's per pound per degree °F (Btu/lb. °F) are listed below:

PG Vol %	0°C (32°F)	10°C (50°F)	20°C (68°F)	30°C (86°F)	40°C (104°F)	50°C (122°F)	60°C (140°F)	70°C (158°F)	80°C (176°F)	90°C (194°F)	100°C (212°F)
20%			0.936	0.938	0.941	0.944	0.947	0.950	0.953	0.956	0.959
25%			0.919	0.922	0.925	0.929	0.932	0.935	0.939	0.942	0.945
30%		0.898	0.902	0.906	0.909	0.913	0.917	0.920	0.924	0.928	0.931
40%	0.855	0.859	0.864	0.868	0.872	0.877	0.881	0.886	0.890	0.894	0.899
50%	0.809	0.814	0.820	0.825	0.830	0.835	0.840	0.845	0.850	0.855	0.861
60%	0.758	0.764	0.770	0.776	0.782	0.787	0.793	0.799	0.805	0.811	0.817

Typical Viscosity of Propylene Glycol:

A propylene glycol/water mixture will be slightly viscous, though viscosity will vary depending on temperature and volume. The lower the temperature, the thicker and more viscous the solution will become, meaning it will be harder to pump and handle and may require larger pumps. The values of dynamic viscosity, in Centipoise (cP), for propylene glycol/water mixtures are listed below:

Propylene Glycol Series , Viscosity, cP					
PG Vol %	0° F	40 °F	80° F	120 °F	160°F
25%		4.58	2.05	1.14	0.73
30%		5.75	2.43	1.3	0.82
40%	40.9	9.6	3.52	1.73	1.04
50%	61.3	14.3	5.04	2.36	1.35
60%	115	23.7	7.34	3.11	1.66

*1 cP= 0.001 Pa·s

Typical Freezing & Boiling Points of Propylene Glycol:

Propylene Glycol / Water Mixtures		
PG Conc. Wt. (Vol.%)	Freezing Point, F° (°C)	Boiling Point, F° (°C)
0 (0)	32 (0)	212 (100)
10 (10)	25 (-4)	212 (100)
20 (19)	20 (-7)	215 (102)
30 (29)	10 (-12)	215 (102)
40 (40)	-5 (-21)	220 (104)
50 (50)	-30 (-34)	220 (104)
60 (60)	-60 (-51)	225 (107)
70 (70)	<-60 (<-51)	230 (110)
80 (80)	<-60 (<-51)	245 (118)
90 (90)	<-60 (<-51)	270 (132)
100 (100)	<-60 (<-51)	370 (188)

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Spec Section 232500, 2.3.

Bypass Feeders

Project: Maurice Bathhouse Rehabilitate Bathhouses
Engineer: IMEG Corp
Contractor: Comfort Systems, USA
Representative: Boone & Boone Sales
Mark Eley (501) 940-7747 marke@2boonesales.com



TAG: BCF-CW, BCF-HW

CHEMICAL BYPASS FEEDER SPECIFICATION SHEET FB-SB SERIES

- Flat Bottom vessel for floor or pedestal mounting
- Safety bar closure
- Carbon steel vessel with external powder coat
- Three standard sizes: 2, 5 and 12 gallon
- Three 3/4" FPT connections
- Optional materials: 304 or 316 stainless steel
- Accessories:

Pedestal Mounting

Funnel Package 10" x 10" or Funnel only

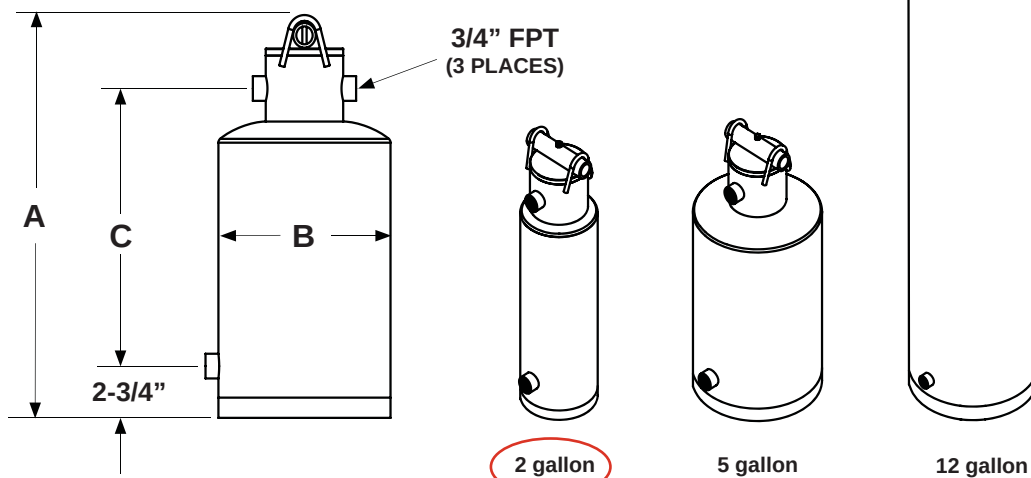
Valve Package

Strainer Basket (stainless steel)

Bag Filters (25 micron for use with Strainer Basket)

Cartridge Filter Assembly

Cartridge Filters (25 micron; 100F, 170F or 250F)



OPERATING LIMITS: 180 PSI @ 250°F, Option 380 PSI

MODEL	CAPACITY gal (L)	ACCESS/ CONNECTIONS	DRY WEIGHT Pounds	DIMENSIONS inches (cm)		
				"A"	"B"	"C"
FB-2-SB-CS-Z-*	2 (7.8)	4" IPS FILLER 3/4" FPT PORTS	18	22-1/8 (56.2)	6 (15.2)	14-7/8 (37.8)
FB-5-SB-CS-Z-*	5 (18.9)		35	21-1/2 (54.6)	10 (25.4)	14-1/4 (36.2)
FB-12-SB-CS-Z-*	12 (45.4)		61	45-1/8 (114.6)	10 (25.4)	38 (96.5)

- CS ; Replace with -304 or -316 for stainless steel material options, add 380 to end of part number for 380 psi

VP-75 Valve Package, 3/4", Set of 2

3/4" NPT Union Connections, Compatible with All Pot Feeders.



FP-75 Funnel Package 10" x 10" Includes Funnel, 3/4" Valve & Fittings

Compatible with: ES-2, ES-2F, ES-5, ES-5F, All FB-xx-SB's, All DB-xx-SB's, All DB-xx-GE's

