

COOLTEC

DRAFT BEER POWER-PAK

INSTALLATION, OPERATION, AND MAINTENANCE MANUAL



COOLTEC REFRIGERATION CORP.

1250 E. FRANKLIN AVE. UNIT B, POMONA, CA 91766

sales@cooltecrefrigeration.com

T: 909-865-2229

www.cooltecrefrigeration.com

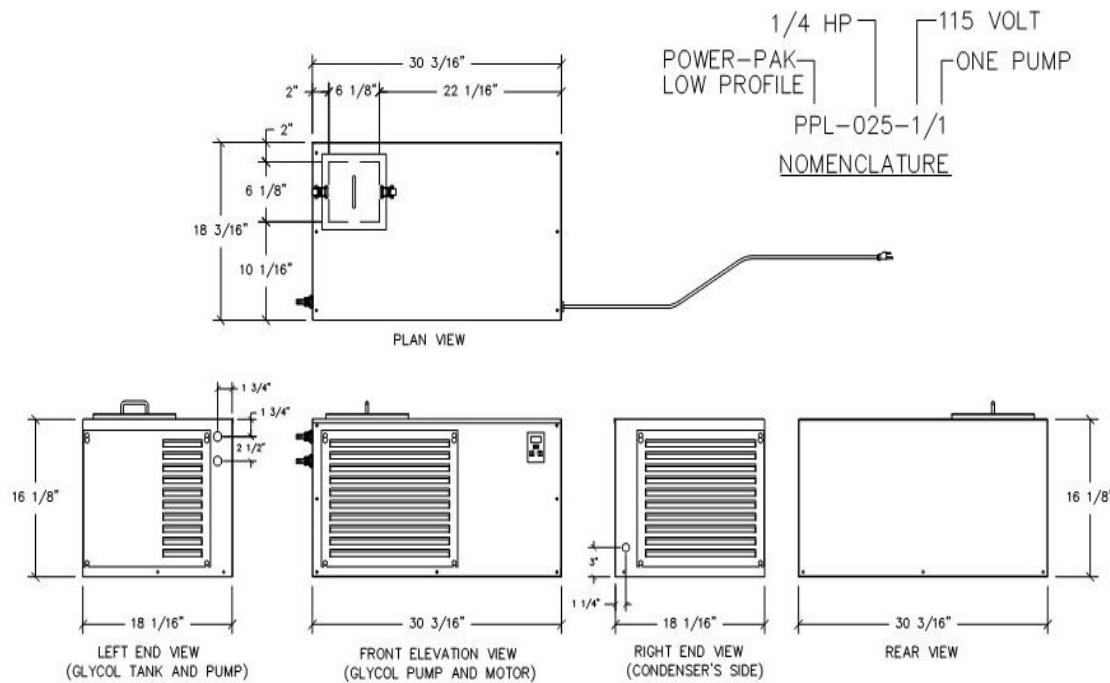
F: 909-868-0777

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1. SPECIFICATIONS

LOW PROFILE SERIES



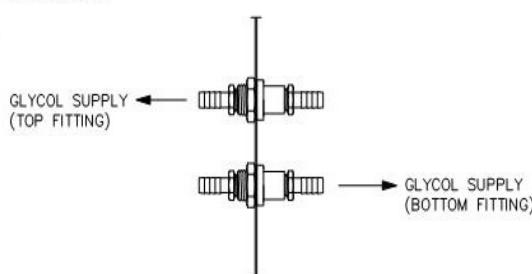
FLUID-PAK'S SPECIFICATIONS:

MODEL NO.#	HP	CHILLER CAPACITY (MBH) *	PUMP HP **	GLYCOL CONNECTION		DIMENSIONS			TOTAL SYSTEM AMPS (115-1-60)	POWER CORD AND PLUG NEMA RATING	SHIPPING	
				INLET	OUTLET	LENGTH	WIDTH	HEIGHT			WEIGHT	CUBIC FEET
PPL-025-1/1	1/4	2.32	1/3	1/2"	1/2"	30.1875"	18.125"	16.125"	13.86	NEMA 5-20P	160	6
PPL-030-1/1	1/3	3.23	1/3	1/2"	1/2"	30.1875"	18.125"	16.125"	12.03	NEMA 5-20P	170	6
PPL-050-1/1	1/2	4.90	1/3	1/2"	1/2"	30.1875"	18.125"	16.125"	16.9	NEMA 5-20P	180	6

* CHILLER CAPACITY AT 25°F SUCTION PRESSURE (1 MBH = 1000 BTU/HR)

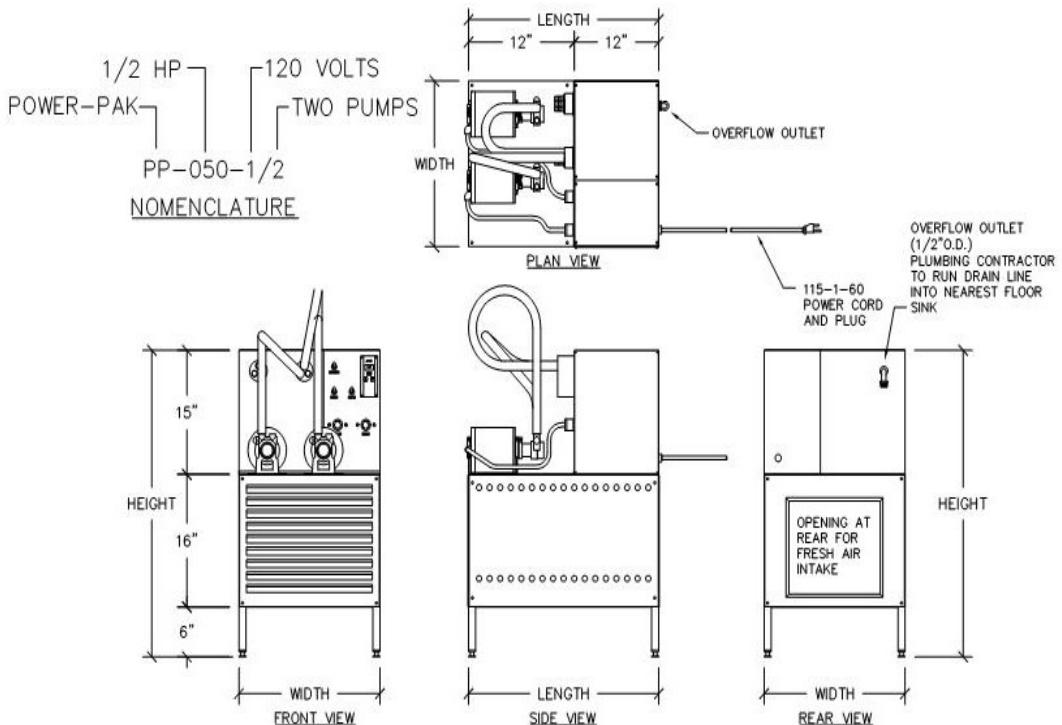
** 115V CIRCULATING PUMP WILL DELIVER 100 GPH AT 250 PSIG.
115V PUMP RATED AT 5.5 AMPS

GLYCOL CONCENTRATION: (TYPICAL AT ALL UNITS)
35% DOWFROST DH, 65% DISTILLED WATER



1/2" BRASS BARB FITTINGS (STANDARD AT ALL CHILLERS)
OPTIONAL 3/8" BRASS BARB FITTINGS ON REQUEST PER CUSTOMER'S ORDER

120V AIR COOLED MODELS



FLUID-PAK'S SPECIFICATIONS:

MODEL NO./# 120V-1PH-60HZ	HP	CHILLER CAPACITY (MBH) *	PUMP HP **	GLYCOL CONNECTION		DIMENSIONS			TOTAL SYSTEM AMPS 120V-1PH-60HZ				SHIPPING	
				INLET	OUTLET	LENGTH	WIDTH	HEIGHT	1-PUMP	NEMA RATING	2-PUMPS	NEMA RATING	WEIGHT	CUBIC FEET
PP-025-1	1/4	2.32	1/3	1/2"	1/2"	24"	20"	37"	13.5	5-20P	---	N.A.	200	27
PP-030-1	1/3	3.23	1/3	1/2"	1/2"	24"	20"	37"	11.9	5-20P	17.4	5-20P	230	27
PP-050-1	1/2	4.90	1/3	1/2"	1/2"	24"	20"	37"	16.0	L5-30P	21.5	L5-30P	250	27
PP-075-1	3/4	7.26	1/3	1/2"	1/2"	24"	20"	37"	20.1	L5-30P	25.6	***	240	27

* CHILLER CAPACITY AT 25°F SUCTION PRESSURE (1 MBH = 1000 BTU/HR)

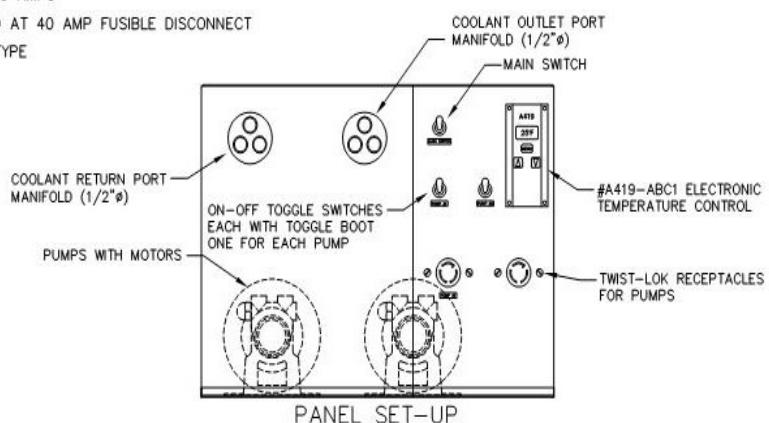
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** 115V CIRCULATING PUMP WILL DELIVER 70 GPH AT 130 PSIG.
EACH 115V PUMP RATED AT 5.5 AMPS

*** 25.6 AMP, TWO PUMP RATED AT 40 AMP FUSIBLE DISCONNECT
NEMA L5-30P TWIST LOCK TYPE

1/2" BRASS BARB FITTINGS
(STANDARD AT ALL CHILLERS)
OPTIONAL 3/8" BRASS BARB
FITTINGS ON REQUEST PER
CUSTOMER'S ORDER

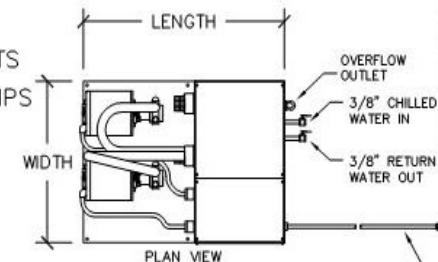
GYLCOL CONCENTRATION:
(TYPICAL AT ALL UNITS)
35% DOWFROST DH
65% DISTILLED WATER



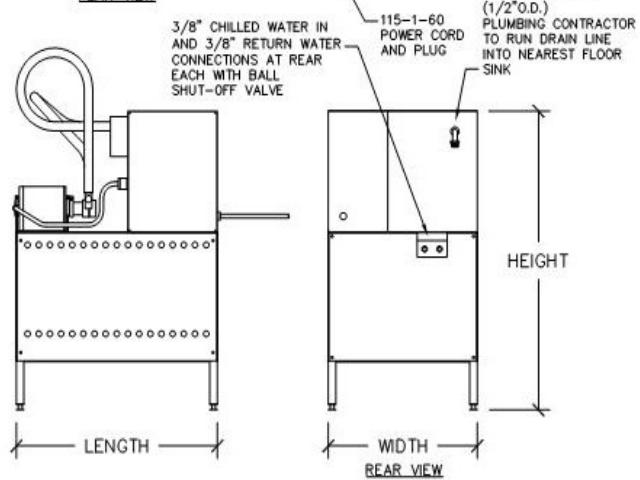
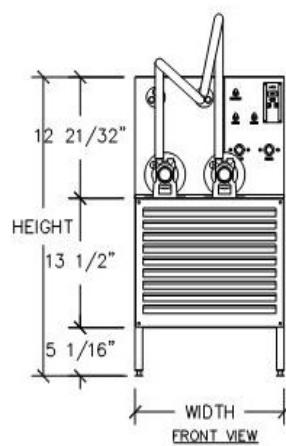
120V WATER COOLED MODELS

NOMENCLATURE

1/2 HP
WATER-COOLED
POWER-PAK
PPW-050-1/2



MODEL NO. #	HP	QTY. OF PUMPS	CHILLER CAPACITY (MBH) @ 95°F	MAXIMUM LINE RUNS (FEET)
PPW-025-1/1	1/4	1	2.32	150
PPW-030-1/1	1/3	1	3.23	250
PPW-030-1/2	1/3	2	3.23	325
PPW-050-1/1	1/2	1	4.90	300
PPW-050-1/2	1/2	2	4.90	375
PPW-075-1/1	3/4	1	7.26	300
PPW-075-1/2	3/4	2	7.26	600



FLUID-PAK'S SPECIFICATIONS:

MODEL NO. # 120V-1PH-60HZ	HP	CHILLER CAPACITY (MBH) *	PUMP HP **	GLYCOL CONNECTION			DIMENSIONS			TOTAL SYSTEM AMPS 120V-1PH-60HZ			SHIPPING	
				INLET	OUTLET	LENGTH	WIDTH	HEIGHT	1-PUMP	NEMA RATING	2-PUMPS	NEMA RATING	WEIGHT	CUBIC FEET
PPW-025-1	1/4	2.32	1/3	1/2"	1/2"	25"	20"	37"	13.5	5-20P	---	---	200	27
PPW-030-1	1/3	3.23	1/3	1/2"	1/2"	25"	20"	37"	11.9	5-20P	17.4	5-20P	230	27
PPW-050-1	1/2	4.90	1/3	1/2"	1/2"	25"	20"	37"	16.0	L5-30P	21.5	L5-30P	250	27
PPW-075-1	3/4	7.26	1/3	1/2"	1/2"	25"	20"	37"	20.1	L5-30P	25.6	***	240	27

* CHILLER CAPACITY AT 25°F SUCTION PRESSURE (1 MBH = 1000 BTU/HR)

--- NOT AVAILABLE

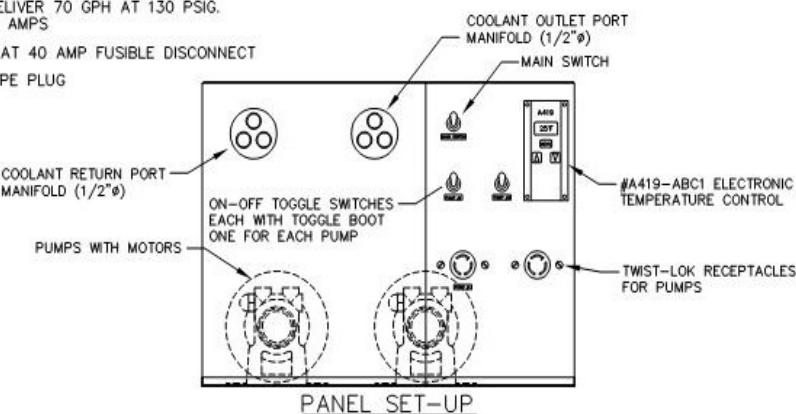
** 115V CIRCULATING PUMP WILL DELIVER 70 GPH AT 130 PSIG.
EACH 115V PUMP RATED AT 5.5 AMPS

*** 25.6 AMP, TWO PUMP RATED AT 40 AMP FUSIBLE DISCONNECT
NEMA L5-30P TWIST LOCK TYPE PLUG

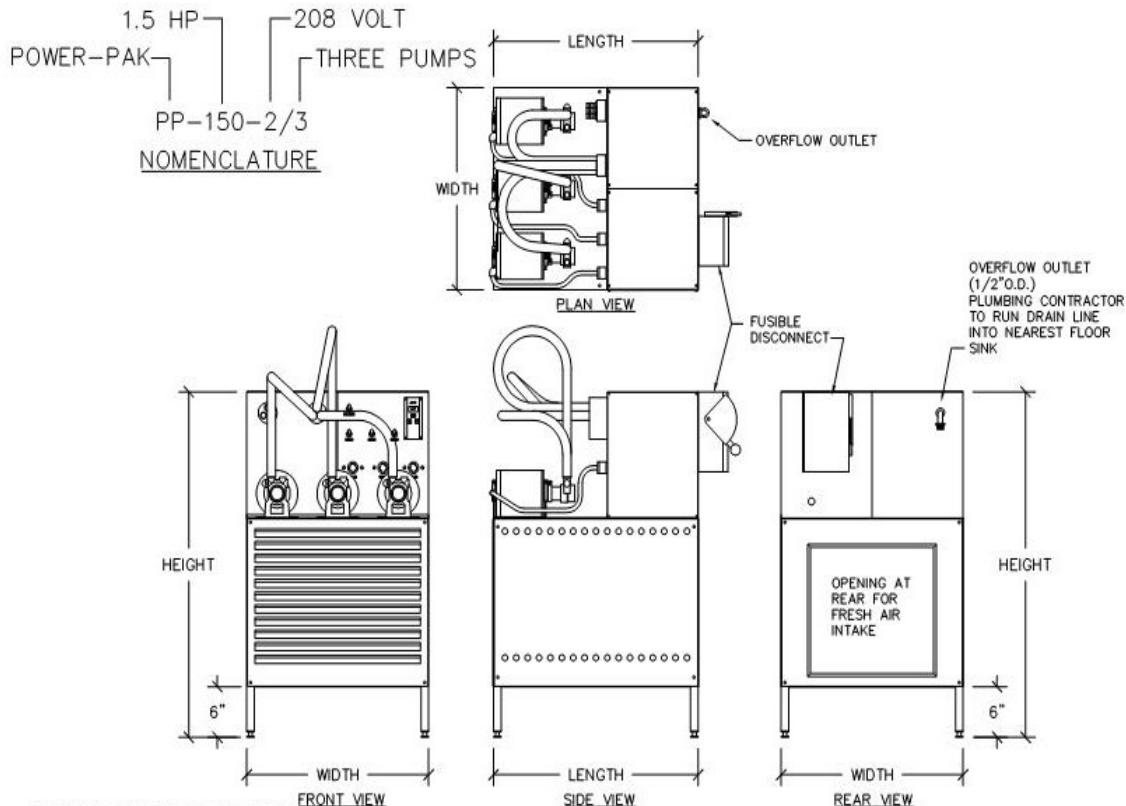


1/2" BRASS BARB FITTINGS
(STANDARD AT ALL CHILLERS)
OPTIONAL 3/8" BRASS BARB
FITTINGS ON REQUEST PER
CUSTOMER'S ORDER

GYLCOL CONCENTRATION:
(TYPICAL AT ALL UNITS)
35% DOWFROST DH
65% DISTILLED WATER



208V AIR COOLED MODELS



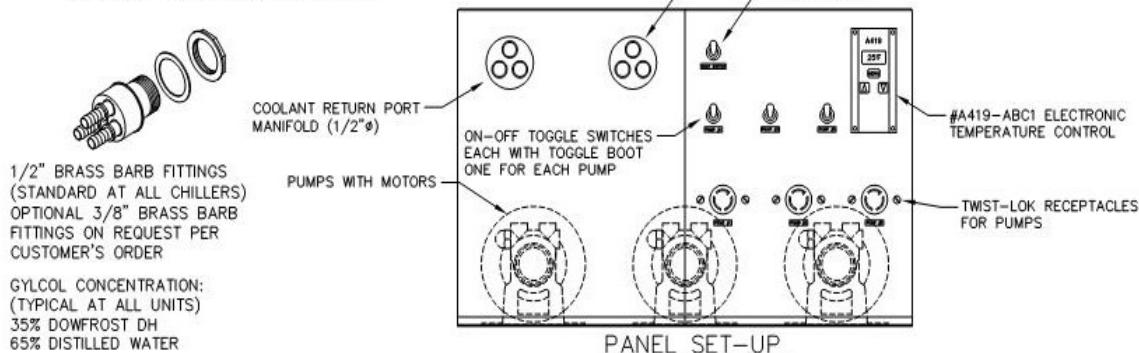
FLUID-PAK'S SPECIFICATIONS:

MODEL NO. # 208V-1PH-60HZ	HP	CHILLER CAPACITY (MBH) **	PUMP HP ***	GLYCOL CONNECTION		DIMENSIONS			TOTAL SYSTEM AMPS 208-1-60			FUSIBLE DISCONNECT AMPS		SHIPPING		
				INLET	OUTLET	LENGTH	WIDTH	HEIGHT	1-PUMP	2-PUMPS	3-PUMPS	1 PUMP PUMPS	2 PUMPS	3 PUMPS	WEIGHT	CUBIC FEET
PP-075-2	3/4	8.1	1/3	1/2"	1/2"	27"	24"	41"	11.7	14.4	17.1	20.0	20.0	30.0	260	27
PP-100-2	1.0	10.75	1/3	1/2"	1/2"	27"	24"	41"	---	12.7	15.4	---	20.0	30.0	270	27
PP-150-2	1.5	12.25	1/3	1/2"	1/2"	27"	24"	41"	---	15.3	18.0	---	30.0	30.0	280	27

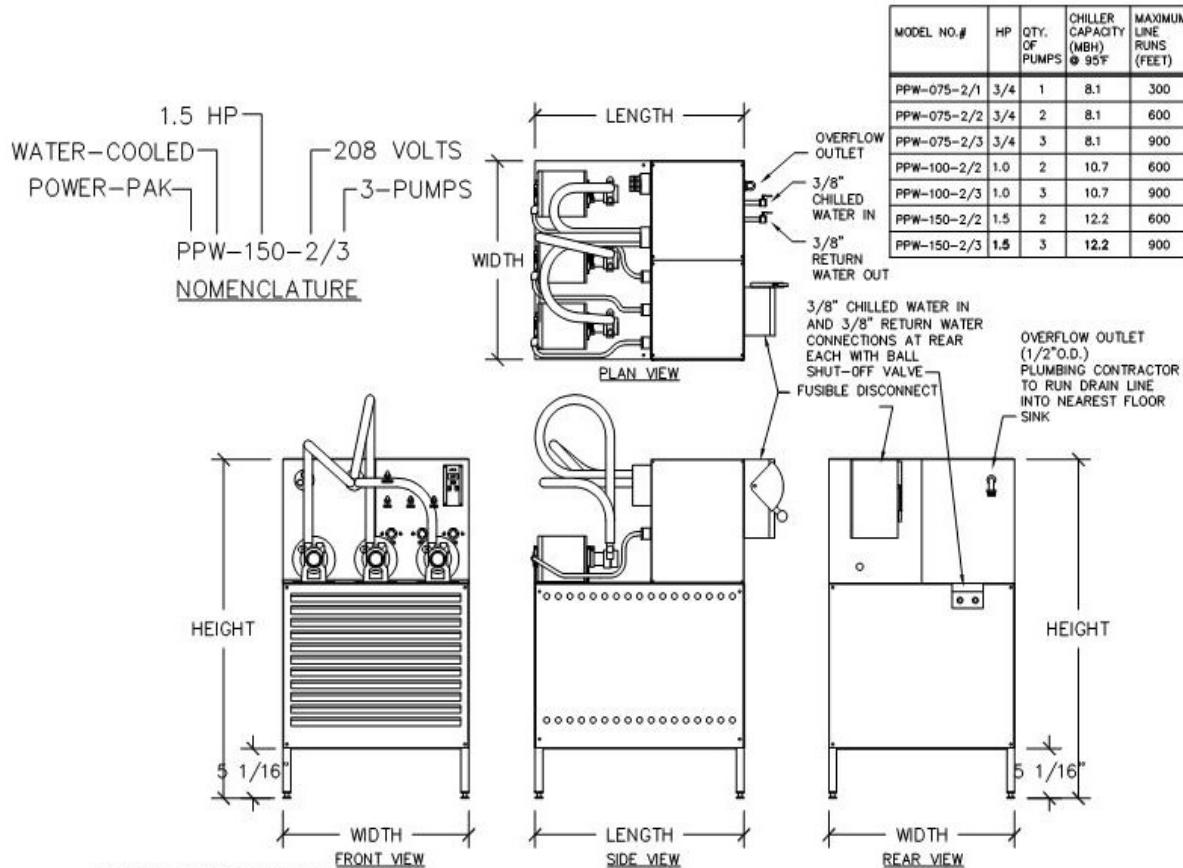
* CHILLER CAPACITY AT 25°F SUCTION PRESSURE (1 MBH = 1000 BTU/HR)

** 208V CIRCULATING PUMP WILL DELIVER 100 GPH AT 130 PSIG.
EACH 208V PUMP RATED AT 2.7 AMPS

--- NOT AVAILABLE



208V WATER COOLED MODELS



FLUID-PAK'S SPECIFICATIONS:

MODEL NO. # 208V-1PH-60HZ	HP	CHILLER CAPACITY (MBH) *	PUMP HP **	TOTAL GPM EACH	GLYCOL CONNECTION			DIMENSIONS			TOTAL SYSTEM AMPS 208-1-60			FUSIBLE DISCONNECT AMPS			SHIPPING	
					INLET	OUTLET	LENGTH	WIDTH	HEIGHT	1-PUMP	2-PUMPS	3-PUMPS	1 PUMP	2 PUMPS	3 PUMPS	WEIGHT	CUBIC FEET	
PPW-075-2	3/4	8.1	1/3	2.1	1/2"	1/2"	27"	24"	41"	11.7	14.4	17.1	20.0	20.0	30.0	260	27	
PPW-100-2	1.0	10.75	1/3	2.1	1/2"	1/2"	27"	24"	41"	---	12.7	15.4	---	20.0	30.0	270	27	
PPW-150-2	1.5	12.25	1/3	3.3	1/2"	1/2"	27"	24"	41"	---	15.3	18.0	---	30.0	30.0	280	27	

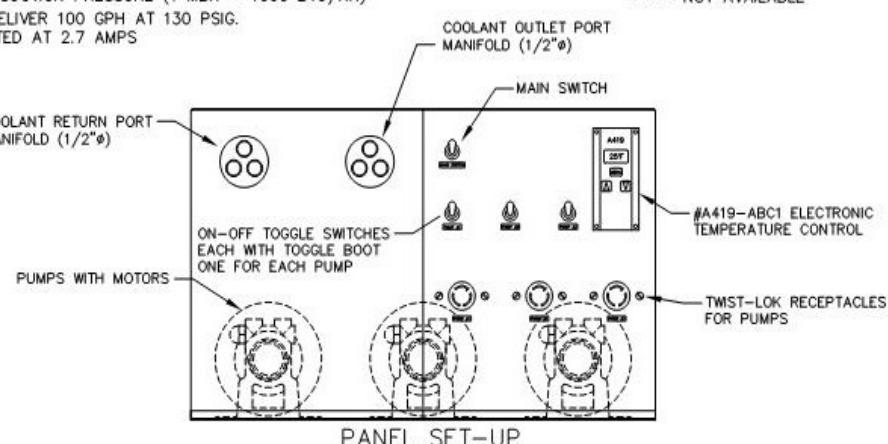
* CHILLER CAPACITY AT 25°F SUCTION PRESSURE (1 MBH = 1000 BTU/HR)

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** CIRCULATING PUMP WILL DELIVER 100 GPH AT 130 PSIG.
EACH 208 VOLT PUMP RATED AT 2.7 AMPS

1/2" BRASS BARB FITTINGS
(STANDARD AT ALL CHILLERS)
OPTIONAL 3/8" BRASS BARB
FITTINGS ON REQUEST PER
CUSTOMER'S ORDER

GLYCOL CONCENTRATION:
(TYPICAL AT ALL UNITS)
35% DOWFROST DH
65% DISTILLED WATER



2. DESCRIPTION

The Draft Beer Power Pak is an essential part of any long draw beer system. The unit circulates a coolant (a propylene glycol and distilled water mix) from the walk-in cooler to the beer dispensing station(s). The coolant chills the beer within the trunk line, allowing for a constant temperature to be maintained from the keg to the faucet.

The Power Pak utilize a positive displacement rotary vane pump, capable of delivering 100 gallons per hour at 150psi. The pump is driven by a 1/3hp ball bearing motor assembly, each with a power cord and twist-lok plug. Toggle switches are provided for each pump and the condensing unit for ease of service.

A high efficiency compact heat exchanger complete with thermostatic expansion valve provides optimum performance during varying loads and an added efficiency that allows for beer line runs up to 300 ft

The unit also employs an electronic temperature control with digital display. This gives the user an accurate temperature reading in order to monitor its performance.

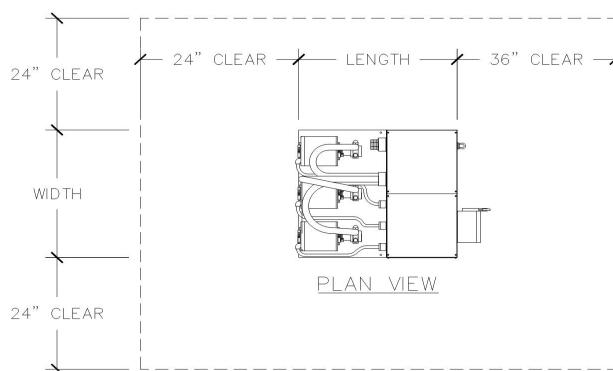
3. INSTALLATION

3.1 UNPACKING AND INSPECTION

Each draft beer power-pak is thoroughly inspected and tested for proper operation prior to leaving the factory. Any damage or irregularities should be noted at the time of delivery and immediately reported to the carrier. Request a written inspection report from the carrier to substantiate any necessary claims and file this claim with the carrier.

3.2 UNIT LOCATION

Proper placement of this unit will ensure its peak performance. Recommended clearances for adequate air flow and serviceability are as follows:



- The Draft Beer Power-Pak must be installed in a space with adequate ventilation and ambient temperature that remains between 40°F and 100°F. Failure to comply with this requirement will void product warranty.
- Water cooled models must be placed in a space that will not be exposed to temperatures below freezing.
- The Draft Beer Power-Pak should be easily accessible for service, and must have a minimum of 36" clearance above the unit for glycol tank fill and access.
- The unit must be leveled on installation.
- Avoid areas with excessive dust and debris if possible to ensure adequate air flow through the condenser.
- Total heat of rejection and CFM required for conditioned and unconditioned spaces may be found on pages 2 and 3 of this manual.

3.3 ELECTRICAL REQUIREMENTS

- A dedicated circuit breaker is required for the draft beer power-pak. This circuit should be sized in accordance with the electrical requirements found on the unit nameplate as well as in compliance with National and Local Codes.
- Models PP-030 and PP-050 are equipped with a NEMA 5-20P power cord and require a NEMA 5-20P receptacle.
- Models PP-075, PP100, and PP-150 are equipped with a 2 pole, 240V disconnect. Electrical connections are provided at the disconnect.
- Make sure disconnect (if present), condensing unit switch and all pump switches are in the "off" position. Turn on circuit breaker at electrical panel and verify correct voltage at the disconnect (208V models) or terminal block (115V models).

3.4 MAKING GLYCOL LINE CONNECTIONS

- Exposed barbed fittings at the pumps and return manifold leave the factory covered with tape. Prior to installing coolant lines, inspect the glycol return manifold fittings and pump fittings for debris.
- Supply coolant lines should be installed at each pump outlet and securely clamped with oetiker clamps.
- Return coolant lines should be installed at the return glycol manifold and securely clamped with oetiker clamps.
- Any pumps not being used should be looped back into the return manifold. Running these pumps during unit operation will allow for increased coolant flow through the heat exchanger and prevent the refrigeration system suction pressure from dropping below the recommended running pressure.
- All glycol lines must be insulated completely, and connections at the pumps and return manifold should be wrapped with an insulation tape if necessary.

The exposed section of the pump where it is secured to the motor shaft with a v-band clamp is to remain un-insulated. Insulating this section of the pump prevents condensation from leaving the area around the motor shaft, causing rust/corrosion and premature failure of the pump assembly.

3.5 FILLING UNIT WITH GLYCOL

- Propylene glycol at a mixture of 35% glycol to distilled water is used as a secondary coolant.
- Remove cover from glycol bath and fill reservoir with pre-mixed glycol to a level 1" below the overflow fitting. The reservoir holds approximately 2 gallons of coolant.
- After verifying that all glycol line connections are secure, place the toggle switch for the first pump into the "on" position. Glycol will leave the bath to fill the glycol lines. Add glycol to the reservoir until the glycol level no longer drops and air bubbles are no longer present.

Never allow the coolant level in the reservoir to drop below the inlet of the heat exchanger. This will allow air into the lines.

- Repeat process for additional pumps. Glycol level within reservoir should be 1" below overflow fitting when system and all glycol lines have been filled.
- 1/2" tubing may be connected to the overflow fitting and ran to a drain or floor sink. Not providing a drain to the overflow will not affect the operation of the unit.

3.6 REFRIGERATION SYSTEM START UP

- At least one pump must be running prior to refrigeration system start up. Failure to have a positive coolant flow through the plate heat exchanger will cause damage to the equipment.
- Place the condensing unit toggle switch into the "on" position. Compressor and condenser fan will start immediately.

Models PP-100 and PP-150 are equipped with a digital pressure control. This control has a "bump start" feature to keep the amount of refrigerant oil from leaving compressor to a minimum on its initial start. Compressor will start for approximately 1 second and then shut off three times consecutively, then begin normal operation.

- The digital thermostat has been factory set for a 30°F cut-out and a 3°F differential. See page _ for additional information regarding thermostat settings and operation.
- Monitor the temperature at the digital thermostat to verify that the refrigeration system is working properly. The amount of time that the unit takes to reach the set point depends on the ambient temperature and the length of the trunk line run.

4. MAINTENANCE

As with any piece of commercial equipment, regular maintenance of the draft beer power pak is essential to maintaining optimum performance of your beer system. Failure to schedule a regular maintenance program will only result in costly service repairs in the future. Protect your investment by following the recommendations listed below.

4.1 60 DAY PREVENTATIVE MAINTENANCE

- Coolant level within the reservoir should be checked to ensure it remains full (1" below overflow fitting). Any drop in the level of coolant could indicate a glycol leak in the system.
- Coolant mixture should be tested using a refractometer to ensure that the freeze point of the mixture remains well below evaporator temperature (recommended 35% propylene glycol to distilled water mixture, 2°F freeze point)
- Inspect the heat exchanger for signs of ice buildup. This could be a sign of a low percentage of glycol in the coolant mixture or a refrigeration system issue.
- Inspect pumps for leaks and corrosion. Excessive noise and/or vibration may be an indication of potential failure.
- Clean the condenser thoroughly and check that there is adequate air flow through the unit (unit has proper clearance and no obstructions of the louvered panels).

4.2 18 MONTH PREVENTATIVE MAINTENANCE

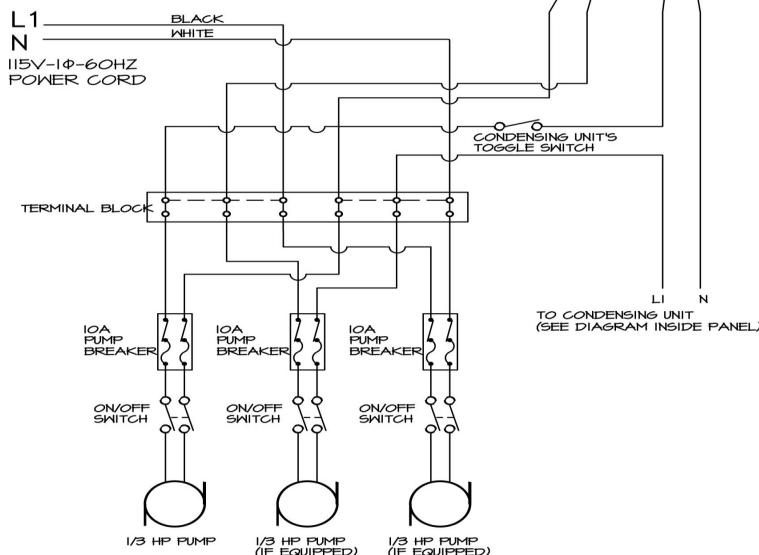
- The coolant solution should changed every 18 months. This requires the complete draining, flushing, and refilling of the system.
- In areas of high humidity, annual replacement of the coolant solution should be considered.

5. TROUBLESHOOTING

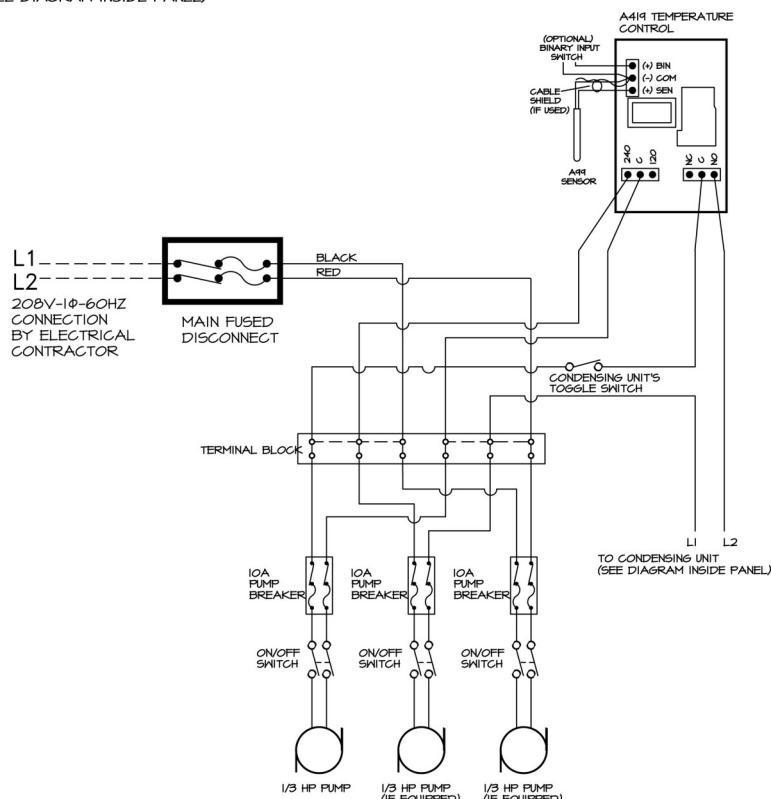
Problem	Possible Cause	Possible Solution
Unit does not start.	Electrical service incorrect.	Verify correct voltage and breaker size.
	Circuit breaker tripped (120V units) open at disconnect (208V units). Fuses	Have electrical/refrigeration contractor diagnose overamperage condition, repair, and replace fuse.
No/poor glycol flow.	Pump/motor failure.	Have electrical/refrigeration contractor check pump amperage to diagnose cause of failure
	Glycol lines kinked.	Trace glycol lines to locate kink(s) and repair
	Total length of glycol line run exceeds 300ft per pump.	An additional pump/unit may be required. Consult beer system designer.
Pump/motor overheating	Total length of glycol line run exceeds 300ft per pump.	An additional pump/unit may be required. Consult beer system designer.
Glycol temperature not reaching 30 deg.	No glycol flow.	Verify pump operation.
	Refrigeration system issue.	Have refrigeration contractor diagnose problem with refrigeration system.

6. ELECTRICAL DIAGRAMS

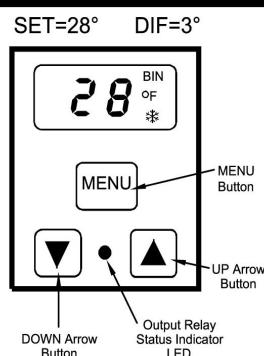
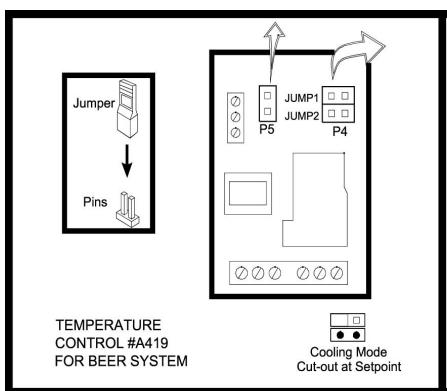
120V Models



208V Models



THERMOSTAT OPERATION



Setting the A419 Control Functions

To set the differential, anti-short cycle delay, temperature offset, or sensor failure operation, use the following method.

1. Press and hold MENU until the display changes to flashing SP. (This takes about 2 seconds.)
2. Press UP or Down (arrows) repeatedly until the desired function is displayed.
3. Press MENU to display the function's current value
4. Press Up or Down (arrows) until the desired value is displayed.
5. Press MENU to save the new value. The display returns to the sensor temperature.

7. PRODUCT WARRANTY

Effective January 1st, 2015

Cooltec Refrigeration Corporation warranties all products to be free from defects in materials and workmanship for a period of one year from date of sale, or 15 months from the date of manufacture, whichever occurs first.

REGISTRATION:

Please register your product within 14 days of installation, by calling the factory at 000-000-0000. Please have your power-pak model and serial number available when calling. You must contact Cooltec to register your product, otherwise the installation date will revert back to the original ship date.

ONE YEAR PARTS WARRANTY:

Cooltec products are guaranteed against defects in both material and workmanship for a period of one year from date of sale. Defective parts will be replaced at no charge when deemed defective upon inspection.

All replacement parts or equipment will be provided by Cooltec Refrigeration. Any replacement of parts, components or compressors purchased for repair of the refrigeration system are warranted at the cost of Cooltec's purchase price. Any replacement parts, components or compressors purchased elsewhere, without prior authorization by Cooltec Refrigeration, will void manufacturer warranty for all replaced parts, components, compressor and labor. Other costs associated with replacement, to include loss of sales and/or product must be borne by the user.

All warranted components will ship standard ground transportation freight free. Any request for priority delivery will be at the customer's expense.

90 DAY LABOR WARRANTY:

Cooltec Refrigeration Corporation provides a 90 day labor warranty for defective refrigeration equipment. All refrigeration service calls must be authorized, by Cooltec Refrigeration Corporation , prior to service. Warranty repairs will be performed during normal business hours.

All charges for service labor are paid at a factory authorized allowance. Contact the service department to verify labor allowance prior to service.

All labor warranty claims must be submitted in writing with detailed information regarding service. Model and serial number must be included on each service ticket and any associated paperwork submitted for labor warranty claim.

All labor warranties are paid upon receipt of defective parts or compressor. Parts returned to Cooltec shall be returned freight prepaid and shall be identified with Cooltec's model/serial number and return merchandise authorization number.

OPTIONAL - EXTENDED 5 YEAR COMPRESSOR WARRANTY:

Cooltec Refrigeration Corporation provides an optional compressor warranty to the original user at a minimal additional cost. The warranty covers replacement of the compressor for an additional 4 years, beginning on the date that the one year factory warranty expires.

This warranty is valid only to the original owner or establishment. Any unit that is acquired by resale, foreclosure, bankruptcy, auction, or any other means, will not be eligible for compressor replacement under this warranty.

EXCLUSIONS:

Cooltec's draft beer power-pak is designed for indoor use only, unless otherwise noted. Cooltec reserves the right to deny any warranty claim that involves unit installation outdoors, and any unit that is installed in an outdoor application not provided with the factory outdoor housing will result in a void of warranty.

Cooltec Refrigeration Corporation will not be responsible for parts damaged due to alteration, unauthorized service, accident or abuse, nor for any indirect or consequential damage resulting from equipment use outside of Cooltec's recommended installation and operation specifications.

Cooltec Refrigeration Corporation will not be responsible for pumps or pump motors determined to have failed due to poor system design and/or installation practices, to include glycol that is not clean or at the recommended consistency, incorrect line sizing, or excessive pressure drop/restrictions in the glycol lines.

Cooltec Refrigeration Corporation will not be responsible for replacement of fuses, filters, refrigerant, refrigeration oil, strainers, or other maintenance related components.

Cooltec Refrigeration Corporation will not be responsible for loss of sales and/or product.

Cooltec Refrigeration Corporation will not be responsible for difficult service due to chiller location; any added hourly rates are at the expense of customer requiring service.

Cooltec Refrigeration Corporation will not be responsible for labor charges resulting from travel to and/or from the unit location.

The user is responsible for any overtime premium associated with after-hours service.

Improper operation due to voltage variances, inadequate wiring and physical damage is the responsibility of the purchaser. They are not manufacturing defects.

Condenser coils shall be cleaned regularly (see maintenance requirements). Failure to provide an adequate air flow will void this warranty.

Cooltec reserves the right to make the final determination as to what constitutes normal wear and tear, at our factory, when necessary to decide warranty status.

Cooltec Refrigeration Corporation assumes no responsibility for damage that occurred during transit, for which any claim should be filed against the carrier upon receipt or inspection. Costs associated with lost or late shipment, to include freight, labor, and loss of sales will not be covered under this warranty.

