INSTALLATION AND OPERATION INSTRUCTIONS

4400 SERIES POWER PAKS

MODELS	
4400 Series	
4404	4404W
4410	4410W
4414	4414W
4414-230	4420W
4420	

c UL us NSF 5 Year Compressor Warranty

IMPORTANT INFORMATION

To register your product, visit our web site at **www.perlick.com**. Click on **Commercial**, then **Service**. You will see the link to **Warranty Registration Form**. You must complete and submit this form or the installation date will revert back to the ship date.

Permanently mount the enclosed Warning/Safety Instruction label in a visible location near the CO2 regulator.

This manual has been prepared to assist you in the installation of your Century Remote Beer System and to acquaint you with its operation and maintenance.

We dedicate considerable time to ensure that our products provide the highest level of customer satisfaction. If service is required, your dealer can provide you with a list of qualified service agents. For your own protection, never return merchandise for credit without our approval.

We thank you for selecting a Perlick product and assure you of our continuing interest in your satisfaction.

Table of Contents

Sizes & Specifications 2-3
- Air-Cooled Models 2
- Water-Cooled Models 3
  - General Information 4
  - Installation 5
- Connecting Power Pak to Trunk Housing 6
- Connecting to Trunk Housing 7

Power Pak Start-Up 8
LEDS 9
Preventative Maintenance 9
Replacement Parts 10
Wiring Diagrams 11

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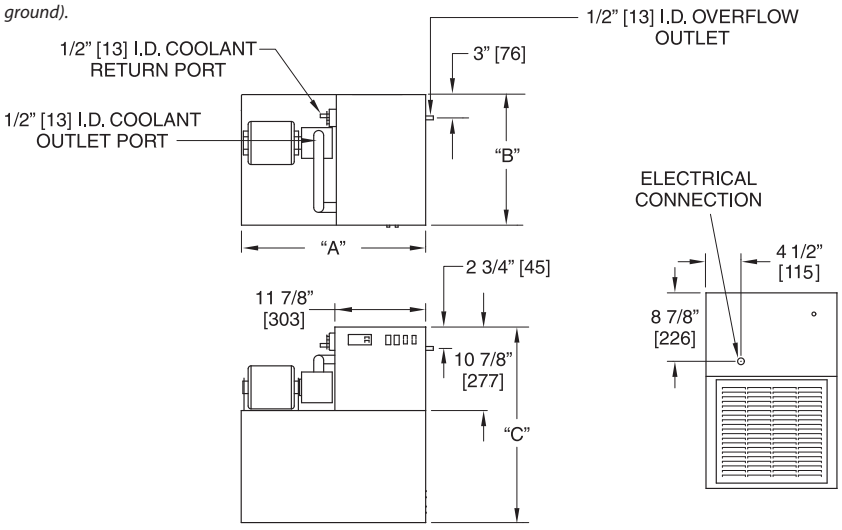
MODEL NOS.		4404	4410	4414	4414-230	4420
DIMENSIONS: EXTERIOR (mm)	Length "A"	24 1/4" (616)	24 1/4" (616)	24 1/4" (616)	26 3/4" (679)	26 3/4" (679)
	Width "B"	17 1/4" (438)	17 1/4" (438)	17 1/4" (438)	20 1/4" (519)	20 1/4" (519)
	Height "C"	25 1/2" (648)	25 1/2" (648)	25 1/2" (648)	31" (782)	31" (782)
	A minimum of six inches of clearance should be allowed around the entire unit for proper performance. Additional clearance should be considered for above the unit and in front of the unit for servicability.					
ELECTRICAL	Voltage	120 V	120 V	120 V	208/230 V**	208/230 V**
	Frequency	60 Hz	60 Hz	60 Hz	60 Hz	60 Hz
	Phase	1 Ø	1 Ø	1 Ø	1 Ø	1 Ø
SINGLE PUMP	RLA (Rated Load Amps)	15.1	15.7	17.1	10.5	21.9
	MCA (Min. Circuit Ampacity)	17.2	18.0	19.6	12.2	26.4
	MOCP (Max. over Current Protection)	25	25	25	15	40.0
DUAL PUMPS (add -2 to model #)	RLA (Rated Load Amps)	N/A	21.8	22.7	13.3	24.7
	MCA (Min. Circuit Ampacity)	N/A	24.1	25.2	15.0	29.2
	MOCP (Max. over Current Protection)	N/A	30.0	35.0	20.0	45.0
TRIPLE PUMPS (add -3 to model #)	RLA (Rated Load Amps)	N/A	N/A	N/A	16.1	27.5
	MCA (Min. Circuit Ampacity)	N/A	N/A	N/A	17.8	32.0
	MOCP (Max. over Current Protection)	N/A	N/A	N/A	20.0	50.0
COMPRESSOR		1/3 HP	1/2 HP	3/4 HP	3/4 HP	1.5 HP
EVAPORATOR RATING @ 20°F (BTUH)		3420	3800	6000	6300	12000
HEAT REJECTION (MAX)		4080	6080	9600	10080	19200
REFRIGERANT		R-134a	R-134a	R-134a	R-134a	R-134a
SHIPPING WEIGHT LBS (kg)		140 (64)	153 (69)	180 (82)	205 (93)	255 (116)
CABINET		Stainless Steel				
CIRCULATING PUMP		100 GPH/130 PSIG				
RESERVOIR CAPACITY		1.75 gal	1.75 gal	1.75 gal	1.75 gal	1.75 gal
REFRIGERATION		Constant Pressure Expansion Valve, Condensing Unit with Service Valves				
REFRIGERANT CHARGE (grams)		14.0 oz/397 g	12.0 oz/340 g	9.5 oz/269 g	11.0 oz/312 g	16.0 oz/453 g
GLYCOL CONCENTRATION		30%	30%	30%	30%	30%

OPTIONAL ACCESSORIES

4430 115V pump kit for 4410 Power Pak (field installed)
4431 115V pump kit for 4414 Power Pak (field installed)
4432 208/230V pump kit for 4414/230V and 4420 Power Paks (field installed)
4435 BLM Receptacle
4408SS Wall Bracket for 4404 & 4410 only
C21499BSS Stainless Steel Table Stand
61790 Dual Tier Rack
61791+1 Triple Tier Rack
61792+2 Quad Tier Rack
C22296A-20 Cord Kit for 120V single pump Power Paks only (Field installed)

***Requires four wires (2 hot, 1 neutral and 1 ground).*

c UL us NSF

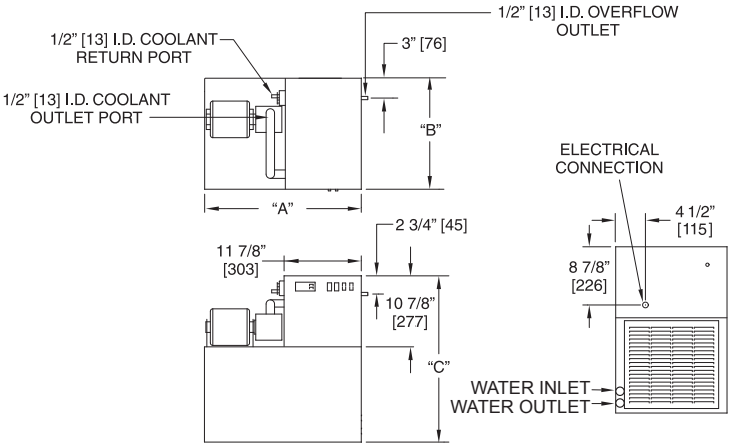


Perlick is committed to continuous improvement. Therefore, we reserve the right to change specifications without prior notice

MODEL NOS.		4404W	4410W	4414W	4420W
DIMENSIONS: EXTERIOR (mm)	Length "A"	24 1/4" (616)	24 1/4" (616)	26 3/4" (679)	26 3/4" (679)
	Width "B"	17 1/4" (438)	17 1/4" (438)	20 1/4" (519)	20 1/4" (519)
	Height "C"	25 1/2" (648)	25 1/2" (648)	31" (782)	31" (782)
	A minimum of six inches of clearance should be allowed around the entire unit for proper performance. Additional clearance should be considered for above the unit and in front of the unit for servicability.				
ELECTRICAL	Voltage	120 V	120 V	120 V	208/230 V***
	Frequency	60 Hz	60 Hz	60 Hz	60 Hz
	Phase	1 Ø	1 Ø	1 Ø	1 Ø
SINGLE PUMP	RLA (Rated Load Amps)	15.4	17.1	17.4	20.8
	MCA (Min. Circuit Ampacity)	17.7	19.9	20.4	25.3
	MOCP (Max. over Current Protection)	25.0	30.0	30.0	40.0
DUAL PUMPS (add -2 to model #)	RLA (Rated Load Amps)	21.5	23.2	23.0	23.6
	MCA (Min. Circuit Ampacity)	23.8	26.0	26.0	28.1
	MOCP (Max. over Current Protection)	30.0	35.0	35.0	45.0
TRIPLE PUMPS (add -3 to model #)	RLA (Rated Load Amps)	N/A	N/A	28.6	26.4
	MCA (Min. Circuit Ampacity)	N/A	N/A	31.6	30.9
	MOCP (Max. over Current Protection)	N/A	N/A	40.0	45.0
COMPRESSOR		1/3 HP	1/2 HP	3/4 HP	1-1/2 HP
EVAPORATOR RATING @ 20°F (BTUH)		3420	4080	6870	13,800
HEAT REJECTION (MAX)		2050	2450	4122	6500
REFRIGERANT		R-134a	R-134a	R-134a	R-134a
SHIPPING WEIGHT LBS (kg)		141 (64)	143 (65)	205 (93)	255 (116)
CABINET		Stainless Steel			
CIRCULATING PUMP		100 GPH/130 PSIG			
RESERVOIR CAPACITY		1.75 gal	1.75 gal	1.75 gal	1.75 gal
REFRIGERATION		Constant Pressure Expansion Valve, Condensing Unit with Service Valves			
REFRIGERANT CHARGE (grams)		14.5 oz / 410 g	14.5 oz / 410 g	22.0 oz / 623 g	22.0 oz / 623 g
GLYCOL CONCENTRATION		30%	30%	30%	30%
PLUMBING REQUIREMENTS					
INLET & OUTLET		All employ 1/2" O.D. Quick Connect Fittings			
FLOW RATE (gpm) @ 75°F		0.5	0.6	0.9	1.2
PRESSURE DROP (psig)		0.1	0.2	0.4	0.5
MAX SUPPLY PRESSURE		All Models: Incoming Water Pressure not to exceed 150 psig			

OPTIONAL ACCESSORIES

4430 115V pump kit for 4410 Power Pak (field installed)
4431 115V pump kit for 4414 Power Pak (field installed)
4435 BLM Receptacle
4408SS Wall Bracket for 4404 & 4410 only
57782 Set of four adjustable legs
54838 Water hammer arrestor (add if incoming water is under 65°F)
61790 Dual tier rack
61791+1 Triple tier rack
61792+2 Quad tier rack
C22296A-20 Cord Kit for 120V single pump Power Paks only (Field Installed)
C21499BSS Stainless Steel Table Stand



Accessories

Power Cord Kit
C2296A-20--12/3 Cord, 20A, Nema Plug 5-20P, Dedicated Circuit Models - See above electrical specifications

Power Pak Racks
61790, 61790+1, 61790+2 - All Models

Power Pak Wall Mounting Brackets
4408 - For Models 4404 & 4410 only

Coolant Solution-63299-1
One gallon Perlick Coolant solution, 30% DowFrost HD/70% Distilled Water

Coolant Connector Kit
63335 - All Models

Leg Set - All Models
57782 . . . Set of four, 5 3/4"-7 1/2" adjustable legs

Pump Kits
4430 - Pump kit, 115V, 6.1 A, 100 gph, 130 psig
Models 4410, 4410W
4431 - Pump kit, 115V, 5.6 A, 100 gph, 130 psig
Models 4414, 4414W
4432 - Pump kit, 230V, 2.8 A, 100 gph, 130 psig
Models 4414-230, 4420

PRODUCT DESCRIPTION

Power Paks have always been an integral part of a Perlick Century Beer System. The 4400 Series Power Pak product line has been expanded to satify longer beer runs. A Power Pak circulates coolant solution (food grade propylene glycol with distilled water) from walk-in cooler to the dispensing station(s) and back, maintaining the desired dispensing temperature at the faucet. The 4400 series Power Pak incorporate a 1/3 hp ball bearing, maintenance free motor with a 100 gallon per hour 150 psig positive displacement pump for optimum performance. The 4400 series Power Pak product line employs a direct expansion form of refrigeration increasing the units' efficency as well as making the units more compact. These units also employ an electronic temperature control with digital readout. This state of the art control controls the performance of the unit as well as giving the user a visual indication of the how the unit is working as well as giving the user a visual indication of the how the unit is working as well as early indication if something may be going wrong through the use of internal alarms.

INSTALLATION

IMPORTANT SAFETY WARNINGS!

- Follow all National and Regional Codes.
- Read Installation and Operating Instructions carefully before attempting to install, operate or maintain the product.
- Protect yourself and others by observing all safety information.
- Electrical hazards exist and can cause injuries if not serviced by properly trained personnel.
- Failure to comply with instructions could result in personal injury and/or property damage!
- Retain instructions for future reference.
- Never operate the circulating pump without coolant in the reservoir.

NOTE: Air-cooled Power Paks must be installed in areas with adequate ventilation to maintain ambient temperatures of less than 105°F to achieve optimum performance and satisfy warranty requirements.

INSTALLING THE POWER PAK

Prior to installing a 4400 Series Power Pak, it is imperative that the method of connecting it to the electrical service has been determined. Ensure that the electrical service to power the Power Pak will handle the load requirements. Perlick has a Power Cord specifically designed for a Power Pak, which has a RLA of 16 amps or less, and a MCA of 20 amps or less. All units with RLA greater than 16 amps and a MCA of greater than 20 amps should have the Power Pak hard-wired to electrical service.

ALL MODELS

- Determine the ideal placement of the Power Pak. Locate the connection point to the truck housing and place the Power Pak as close to this point as possible. ***NOTE: If the Power Pak is to be located on top of the walk-in cooler, it is imperative that proper ventilation is provided to prevent system failure due to overheating. Inadequate ventilation will void warranty.***
- Place the Power Pak and Ensure that it is level to provide proper overflow protection. ***REMINDER: Allow a minimun of six inches of clearace on the louvered ends of the cabinet for proper airflow. Allow accessibility room on the top of the cabinet for serviceability.***
- Remove the top panels (2).
- Ensure Power Switches for Condensing Unit and Pump(s) are in the OFF position. Make the electrical connections per ther illustrations. NOTE: Electrical circuit shold be a dedicated circuit for use only with the Power Pak. The circuit should be sized in accordance with the electrical requirements of each unit as well as in compliance with all National and Local Codes.
- Plumb overflow port to a suitable reservior/drain.

WATER-COOLED MODELS

- In addition to the above installation instruction:
- Care should be exercised in locating the Power Pak so that the unit will never be exposed to temperatures below freezing.
- If the Power Pak is installing more than 5 feet higher than the remote outlet drain point (i.e., location of the floor drain) of the condenser, a vacuum breaker or open vent line should be provided to prevent the discharge line from creating a partial vacuum condition in the condenser water system.
- If a water-circulating pump is used it should be placed on the water supply side of the condenser, so water is being pushed through the condenser.
- A potable water supply is required as well as a drain or reclamation system. Make water supply connection to fitting labeled as the water inlet. Make outlet connection to fitting labeled as the water outlet connection. Both the inlet and outlet fittings supplied with the Power Pak are 1/2” Quick Connect fittings.

4400 SERIES POWER PAKS - INSTALLATION
Operation/Installation Manual

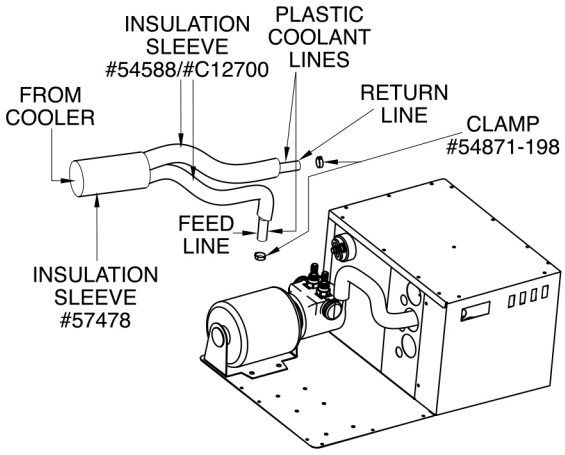
CONNECTING POWER PAK TO TRUNK HOUSING
400 Series Power Paks require rigid fittings with a minimum pressure rating of 150 psig. Use Coolant Connector Kit #63335 to connect Power Pak to Trunk Housing.

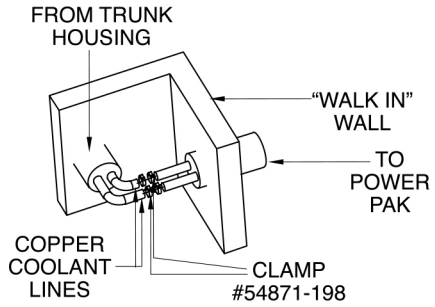
- Inspect pump outlet port for debris. Insert barbed fitting #63307 into pummp outlet port.
- Inspect Glycol Return Manifold inlet for debris. Insert barbed fitting #63307 into return manifold inlet port.
- Cut supplied coolant tubing, #54588, to required length to reach from Power Pak to Trunk Housing connection point.
- Cut tubular insulation sleeve, #C12700, in half and install over previously cut coolant tubing.
- Take Oetiker clamps, #54871-210, and install over coolant tubing ends.
- Push coolant lines, one each over pump outlet barbed fitting #63307 and return manifold barbed fitting #63307.
- Position Oetikers over barbed fitting and clamp securely.
- Slide tubular insulation sleeves tightly against connection points. Use insulation tape as necessary to ensure an air tight seal to prevent excessive heat gain or condensation problems.
- Drill a 3-1/2” diameter hole in walk-in cooler to accommodate coolant lines.
- Install insulation donuts over hole (both inside and outside of cooler walls.
- Slide large insulation sleeve, #57478, over remaining coolant tubing exposed to warm air conditions including inside walk-in cooler from Power Pak to Trunk Housing connection point. Seal and tape all seams to prevent excessive heat gain or condensation problems.
- Slide coolant lines through 3-1/2” donut hole previosly cut in walk-in cooler wall.
- Position Trunk Housing coolant lines and Coolant Connector kit lines in horizontal position, to alleviate condensation runoff into Trunk Housing.
- Cut Trunk Housing coolant lines with tubing cutter to ensure clean burr free ends.
- Take Oetikers clamps #54871-210, and install over coolant connector kit tubing ends.
- Slide coolant connector kit tubing over the trunk housing coolant lines and secure using the Oetikers.
- Complete the insulation process by ensuring that all coolant lines are well insulated including all seams to prevent excessive condensation and heat gain.
- Seal donut hole to ensure an air tight seal to prevent walk-in cooler problems as well as condensation.

CONNECTING TRUNK HOUSING COOLANT LINES TO DISPENSING HEAD

- Position the trunk housing so that beverage lines can be connected with a minimum cutting.
- Split trunk housing approximately 12 inches from the end to allow working room for the connections.
- Cut and deburr copper coolant lines coming from trunk housing and dispensing head. Stagger the lengths.
- Connect trunk housing coolant lines to dispensing head coolant lines using clamps, hose and 3/8” x 1/2” union, included in Head connecting kit, #63486. Ensure that coolant lines are fully clample to guarantee a leak free connection.

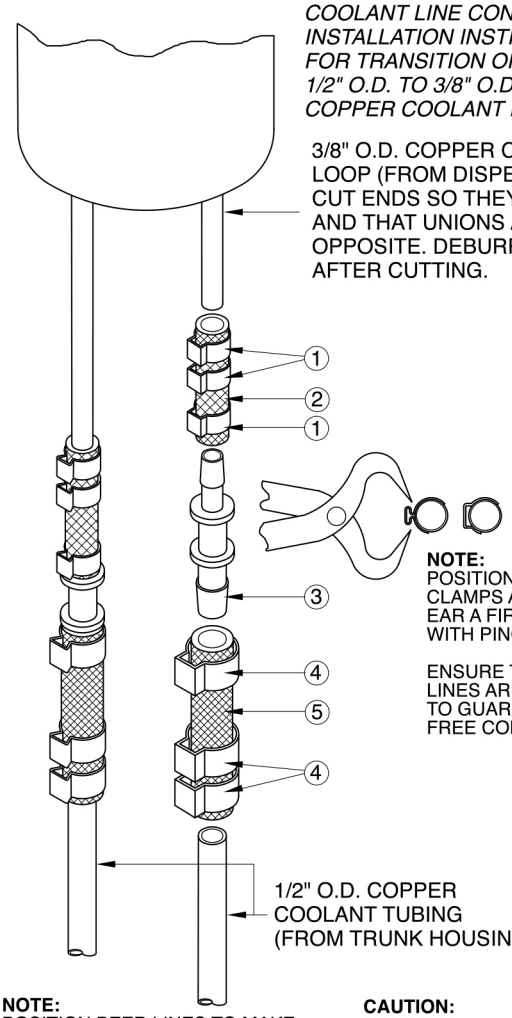
INSTRUCTION DRAWING FOR
4400 SERIES POWER PAK COOLANT CONNECTOR KIT
INSTALLATION INSTRUCTIONS





INSIDE "WALK IN" COOLER

COOLANT LINE CONNECTOR KIT
INSTALLATION INSTRUCTIONS
FOR TRANSITION OF
1/2" O.D. TO 3/8" O.D.
COPPER COOLANT LINES.



NOTE:
POSITION BEER LINES TO MAKE CONTACT WITH COOLANT LINES AND NOT OVER EARS OF CLAMP.

CAUTION:
MAXIMUM PRESSURE 150 P.S.I.G.

CONNECTOR KIT
(1/2" O.D. TO 3/8" O.D.) #63486

ITEM	DESCRIPTION	PART NO.
①	STEPLESS CLAMP (NO. 15.70)	C31958
②	BRAIDED HOSE (F/3/8" O.D.)-3.0"	C14230B
③	HOSE UNION (3/8" TO 1/2")	63331
④	STEPLESS CLAMP (F1/2" O.D.)	54871-198
⑤	BRAIDED HOSE (F/1/2" O.D.)-3.0"	54589-1

SYSTEM START-UP

Use only Perlick Approved Coolant Solution, #63299-1, all other solutions and mixtures will void the Perlick warranty. The Coolant Solution has been pre-mixed for optimum performance and wear protection. The Power Pak resevoir holds approximately 1.75 gallons of solution. It takes approximately 1 gallon of Coolant Solution to fill every 60 feet of Perlick Trunk Housing.

- Never operate the circulating pumps without coolant in the resevoir.
- Fill Power Pak resevoir with Perlick Coolant Solution.
- Turn condensing unit switch and pump switch to the ON position. Coolant solution level will begin to drop in resevoir.
- Continue adding Perlick Coolant Solution until no air bubbles are apparent from the Coolant return line. ***NOTE: Never allow for the Coolant level in the resevoir to drop below the heat exchanger tube inlet. Allowing the level to drop below the inlet will allow air into the lines***.
- Fill Power Pak reservoir until both the return line fitting port and the overflow tube port are submersed under Coolant Solution. Watch return line fitting port for additional Coolant Solution may need to be added.
- Thoroughly check all field connection points for leaks.
- Monitor Power Pak Temperature read-out to ensure Power Pak is working properly. Dependent on length of trunk housing run(s) and surrounding ambient conditions, these factors will determine how long it takes for the Power Pak to cut-out on the temperature control.

DIGITAL TEMPERATURE CONTROLLER

The 4400 Series Power Pak comes equipped with a Factory Programmed Electronic Thermostat with display. The Thermostat has numerous factory settings, which should never be adjusted or tampered with to ensure proper operation of the Power Pak. The Thermostat has been factory programmed to cut-out at 30°F with a hysteresis/differential of 4°F.

Front Panel Commands–Normal Operation

SET:
To display target set point.
DEFROST:
To start a manual defrost. (This feature is available, however, the parameters for actuation are programmed, such that, no defrost is available).

Front Panel Commands–Programming Mode

SET:
Selects a parameter or confirms an operation.
UP ARROW:
Browses the parameter codes or increases the displayed value.
DOWN ARROW:
Browses the parameter codes or decreases the displayed value.

Meaning of LEDS

LED	MODE	FUNCTION
SNOWFLAKE	ON	Compressor Enabled
SNOWFLAKE Phase (flashing with DEFROST)	FLASHING	Programing Anti-short cycle delay enabled
DEFROST Phase (flashing with SNOWFLAKE)	FLASHING	Programming Drip time in progress

DISPLAY MESSAGE MEANINGS

MESSAGE	MEANING
POF	Keyboard is locked out. No parameters can be adjusted without unlocking the keyboard.

ALARM	MEANING	ACTION
EE	Data or memory failure	Consult Factory
P1	Room probe failure	Numerous - see note 1

NOTE 1: Faulty probe, loose connection, broket wire. (Power Pak will continue to operate with a faulty probe. The controller has been factory programmed to continue operation with the compressor cycling on and off in 5 minute intervals.

How to see the SETPOINT

- Press and immediately release the SET key: the display will show the Set point value.
- Press and immediately release the SET key or wait for 5 seconds to display the probe value again.

How to change the SETPOINT

- Press and hold the SET key for more than 2 seconds to change the Set point value.
- The value of the set point will be displayed and the SNOWFLAKE LED starts blinking.
- To change the Set value, press the UP or DOWN ARROWS, dependent on the new set point value.
- To memorize the new set point value, press the SET key again or wait 15 seconds.

WARNING:

IF MESSAGE OR INFORMATION SHOWN ON READOUT IS UNFAMILIAR, ALLOW CONTROL TO SIT FOR A MINIMUN OF 15 SECONDS AND CONTROLLER SHOULD RETURN TO DISPLAY PROBE TEMPERATURE.

Replacement Parts

COMPONENT/MODEL	4404	4410	4414	4414-230	4420
Condensing Unit	572FG5108AA (C22652)	559HG5110HA (C22667)	C22634	C22645	C22668
Compressor	262FG92UB.2	269HG9290AF	AJ250AT-188-J7	RRT10K1E-PFV-959	ZS19KAE-PFV-818
Cond Fan Motor	1450076	1450095	TFM351	950-0344-00	950-0265-00
Fan Blade	2455003	2455003	51541-1		083-0033-01
Start Components	US-PBNE6210Z1	US-PBNEK6214Z1			
Water Regulator	N/A	N/A	N/A	N/A	N/A
Pump Motor	63292	63292	63293	63293	63293
Heat Exchanger	63303A	63300A	63301A	63301A	63301A
Gasket, Heat Exchanger	61758A	61758A	61758A	61758A	61758A
Grille	64197-1SS	64197-1SS	64197-1SS	64285-1SS	64286-1SS
Front Panel	64407-1SS	64407-1SS	64407-1SS	64285-1SS	64286-1SS
Contactor	N/A	N/A	N/A	63359	63359
Relay, Pump	N/A	N/A	N/A	63358	63358

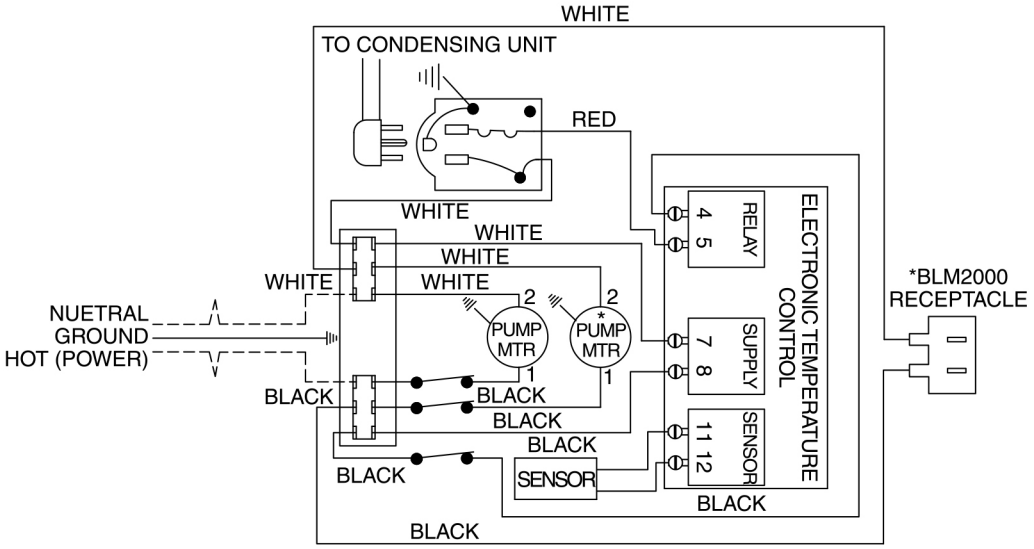
COMPONENT/MODEL	4404W	4410W	4414W	4420W
Condensing Unit	C22640	C22641	C22642	C22666
Compressor	ARE51C4E-CAA-901	RRT62C1E-IAA-901	RRT10K1E-PKA-959	CS18K6E-PKV-970
Cond Fan Motor	N/A	N/A	N/A	N/A
Fan Blade	N/A	N/A	N/A	N/A
Start Components				
Water Regulator	510-0049-00	510-0049-00	510-0049-00	510-0049-00
Pump Motor	63292	63292	63293	63293
Heat Exchanger	63300A	63300A	63301A	63302A
Gasket, Heat Exchanger	61758A	61758A	61758A	61758A
Grille	64197-1SS	64197-1SS	64197-1SS	64285-1SS
Front Panel	64407-1SS	64407-1SS	64407-1SS	64286-1SS
Contactor	N/A	N/A	N/A	63359
Relay, Pump	N/A	N/A	N/A	63358

Common Components

COMPONENT/MODEL	ALL MODELS
Expansion Valve	63826
Pump	63291-1
V-Clamp	63291-2
Pump Insulation	64425
Zip Tie, Pump Insul	57551
Temp Control Kit	67177

COMPONENT/MODEL	ALL MODELS
Controller, Digital	67139
Compression Fitting	63296-3
Switch	63303
Drier	63297
Coolant Solution	63299-1

WIRING DIAGRAM FOR 4404, 4410, 4414 115V POWER PAKS

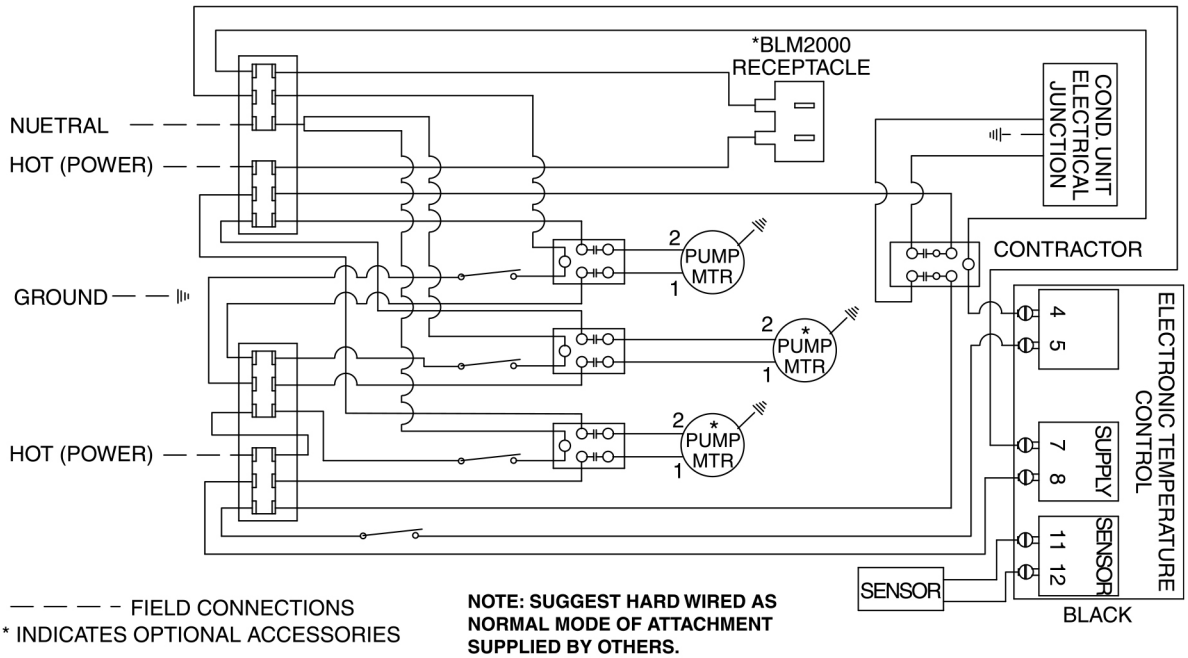


FIELD CONNECTIONS
*INDICATES OPTIONAL ACCESSORIES

NOTE: CORD SET (TO WALL OUTLET) C22297–20 FOR STANDARD UNIT ONLY, SUGGEST HARD WIRED AS NORMAL MODE OF ATTACHMENT SUPPLIED BY OTHERS.

DANGER: ELECTRICAL SHOCK HAZARD. DISCONNECT ALL POWER BEFORE SERVICING.

WIRING DIAGRAM FOR 4414-230, 4420, 208/240V POWER PAKS



FIELD CONNECTIONS
* INDICATES OPTIONAL ACCESSORIES

NOTE: SUGGEST HARD WIRED AS NORMAL MODE OF ATTACHMENT SUPPLIED BY OTHERS.

DANGER: ELECTRICAL SHOCK HAZARD. DISCONNECT ALL POWER BEFORE SERVICING.

Perlick®

QUALITY & INNOVATION
THAT **INSPIRES**

Form No. Z2020
Rev. 04.15.2015

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