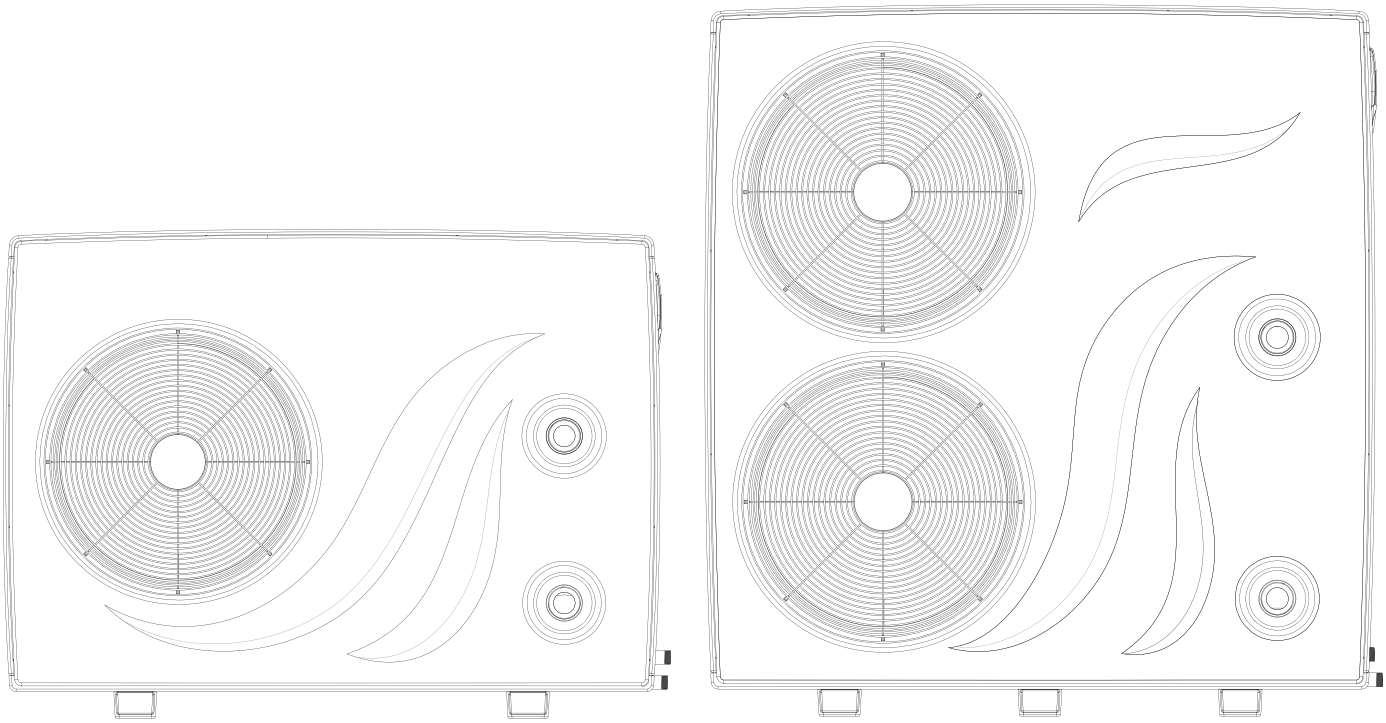
DPL POOL EQUIPMENT

OWNER'S MANUAL | **POOL HEAT PUMP**

50HPRA-410 | 80 HPRA-410 | 100 HPRA-410



CAUTION

Shipping Damage **MUST** be reported to the Carrier **IMMEDIATELY**!!! Examine the exterior. Remove cover and examine compressor and piping for signs of damage.

Warning:

Prior to starting the heat pump, you must ensure that:

Electricity is supplied to the heat pump.
The filter pump is operating with a minimum water circulation of 22.5 gallons per minute (GPM).

If these two conditions are not met, the heat pump with not start. In such case, the digital display thermometer will be unusable.

* Pressure gauges are for maintnance only.
* Pressure can vary depending on the weather.

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INTRODUCTION

Dear Valued Customer,

Thank you for purchasing this **DPL** product.

We hope that you will derive as much pleasure from using this product as we did in manufacturing it. In order to bring you the best possible products, we want to know your comments about the product. You can e-mail us at **info@dplpool.com** or contact customer service at +1.450.818.4758.

For easy reference, we suggest that you attach a copy of your sales slip/receipt to this page, along with the following information which can be found on the manufacturer's nameplate located on the side of the unit.

Model number: _____

Serial number: _____

Date of purchase: _____

Date of installation: _____

Dealer's Name and Address: _____

_____

You will be asked this information if your unit requires servicing and/or for general inquiries.

DPL POOL HEAT PUMP FEATURES

> Quietest model on the market: 50% quieter than competing products.

> Digital display thermostat.

> ROTARY or SCROLL energy-efficient compressor.

> Aluminium/copper evaporator with one or two vertically-positioned ventilator(s). This configuration greatly reduces noise output while improving heat exchange efficiency.

> Titanium double coil, according to model. Titanium heat exchangers are very resistant to all chemical imbalances.

> The cabinets of all our products are made with ABS plastic, and with Aluminium.

> Stainless steel screws with nylon washers and ABS plastic grill.

> Access holes for service gauges.

> Superior quality thermostatic expansion valve, distributor and filter.

> Safety approval by CSA International.

> Each Pool Heat Pump is factory run tested.

Specifications

Model				50HPRA-410	80HPRA-410	100HPRA-410
Features						
Temperature control				Digital display	Digital display	Digital display
Adjustable thermostat (°C and °F)				16~35 °C (60-95 °F)	16~35 °C (60-95 °F)	16~35 °C (60-95 °F)
Heat exchanger				Titanium	Titanium	Titanium
Heat exchanger special feature				Double coil	Double coil	Double coil
Refrigerant type				R410A	R410A	R410A
Refrigerant charge		kg		2.0	2.1	2.25
Automatic restart function after power failure				Yes	Yes	Yes
Compatible with salt chlorination systems				Yes	Yes	Yes
Automatic defrost operation				Yes	Yes	Yes
Galvanized steel cabinet				Yes	Yes	Yes
Compressor type				Rotary	Scroll	Scroll
Thermostatic expansion valve				Included	Included	Included
Performance ratings						
Nominal capacity		BTU/h		50 000	80 000	100 000
Water flow rate		GPM	Minimum	30	22.5	22.5
			Maximum	70	70	70
Dimensions & Weight						
Unit	Dimensions	in. (mm)	Width	1255	1255	1255
			Height	930	1135	1135
			Depth	415	415	415
	Weight	lbs (Kg)	Net	96	128	128
Carton	Dimensions	in. (mm)	Width	1275	1275	1275
			Height	960	1360	1360
			Depth	480	480	480
	Weight	lbs (Kg)	Shipping	107	138	138

All technical data subject to change without notice.

SAFETY PRECAUTIONS

This manual is a guide to the proper installation of the **DPL Pool Heat Pump**. Improper installation may result in unsafe and dangerous conditions that will void the factory warranty. Prior to installation, read these instructions and any instructions that are packaged with separate pieces of equipment that make up the system. Please read these instructions thoroughly and carefully before attempting installation or operation. Failure to follow these instructions may result in improper installation, operation, service, or maintenance, possibly resulting in fire, electrical shock, property damage, personal injury, or death.

General Precautions:

> Ensure proper supervision of unit in the presence of children or persons unfamiliar with pump operation.

> Do not hang or lay clothes or other objects on the unit.

> Keep the evaporator coil clean. Any restrictions to the air flow of the evaporator coil can seriously affect system performance.

> This device must be installed in compliance with national electrical standards.

> Do not insert foreign objects between the air flow swivelling blades as this may damage the ventilator or cause injury.

> The unit must never be placed on its side or upside down, as the compressor oil will run into the cooling circuit and seriously damage the unit.

> Please be advised that attempting to repair this unit by yourself is done at your own risk. It is recommended to contact the manufacturer, an authorized service centre or the store of purchase.

Caution:

The manufacturer disclaims all liability for any accident, during the installation or use of this product, as a result of the unsafe installation of the heat pump. If you encounter difficulties during installation, please contact the manufacturer, an authorized service centre or the store of purchase.

OPERATING THE POOL HEAT PUMP

The **DPL Swimming Pool Heat Pump** is designed for easy operation. The side panel contains a digital temperature control readout. The Heat Pump is set to reach and then maintain the selected pool water temperature, as long as the pool pump is running.

To start the unit:

> Press the button . In normal operating mode, the display indicates the water temperature in centigrade degrees.
To stop the heat pump, press the button.

To adjust the temperature to the desired value:

> Press the SET button until the red pilot light SET turns on.

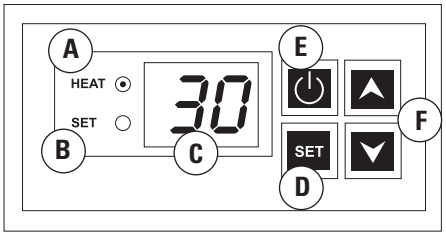
> To adjust the water temperature, press the or buttons until the targeted temperature is displayed.
The available temperature range is between 18 °C and 35 °C.

> To return to normal operating mode, press the SET SET button again, for at least 5 seconds.

The HEAT pilot light turns on whenever the heat pump is in operation, which means that the ventilator(s) and the compressor are functioning in order to heat the pool.

All models use a 5-minute time delay to prevent repeated tripping of the compressor's overload protection mechanism, which is caused by attempting startup before system pressures are equalized. Any interruption will result in a 5-minute time delay.
The HEAT pilot light will blink during this 5-minute time delay.

To display the temperature in farenheit (°F) or celcius (°C), press the and buttons simultaneously for 3 seconds to select the desired temperature scale.



A: HEAT pilot light
B: SET pilot light
C: Digital display
D: Button to set temperature at desired value
E: Start/stop button
F: Temperature adjustment buttons

Warning:
Prior to starting the heat pump, you must ensure that:
> There is electricity supplied to the heat pump.
> The filter pump is operating with a minimum water circulation of 22,5 gallon/min.

If these two conditions are not met, it will be the heat pump will not start. In such a case, the digital display thermometer will be unusable.

TIP:
Setting the thermostat to its highest setting will not heat the water faster than setting it at the desired temperature.

GENERAL INFORMATION ON HEAT PUMP OPERATION

Beginning of season:

> Make sure that the electrical breaker for the pool heat pump is in the **OFF** position.

> Be Ensure the water lines and the heat pump are reconnected **and/or** drain valves are closed.

> Clean the pool filter and make sure the water is flowing adequately through the pool return line (22.5 – 70 GPM).

> Complete your normal preparation **and/or** cleaning of the pool for the start of the season.

> Switch **ON** the breaker for the electrical supply to the heat pump.

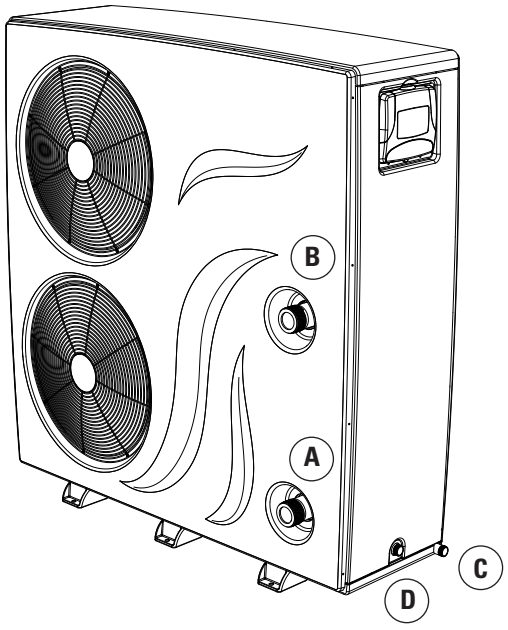
> Then you need only start the unit and adjust the temperature to the desired value.

End of season (Winterizing)

> Switch **OFF** the breaker for the electrical supply to the heat pump.

> You must empty the unit of all water. You simply disconnect the **WATER INLET** and **WATER OUTLET** lines by unscrewing the two union fittings on the front of the unit. To completely remove the water from the heat exchanger, you must remove the drain cap (**WINTERIZING DRAIN**) that is located on the side of the unit. You must then let the water flow out until the unit is completely emptied. (See the illustration below.)

It is recommended to cover the heat pump with a protective cover that is available from your dealer.



A: WATER INLET
B: WATER OUTLET
C: CONDENSATION WATER DRAIN PIPE
D: WINTERIZING DRAIN (with plastic caps)

Determining Optimum Location

Choose a location where the noise of the heat pump, when running, and the discharged air will not disturb the neighbours.

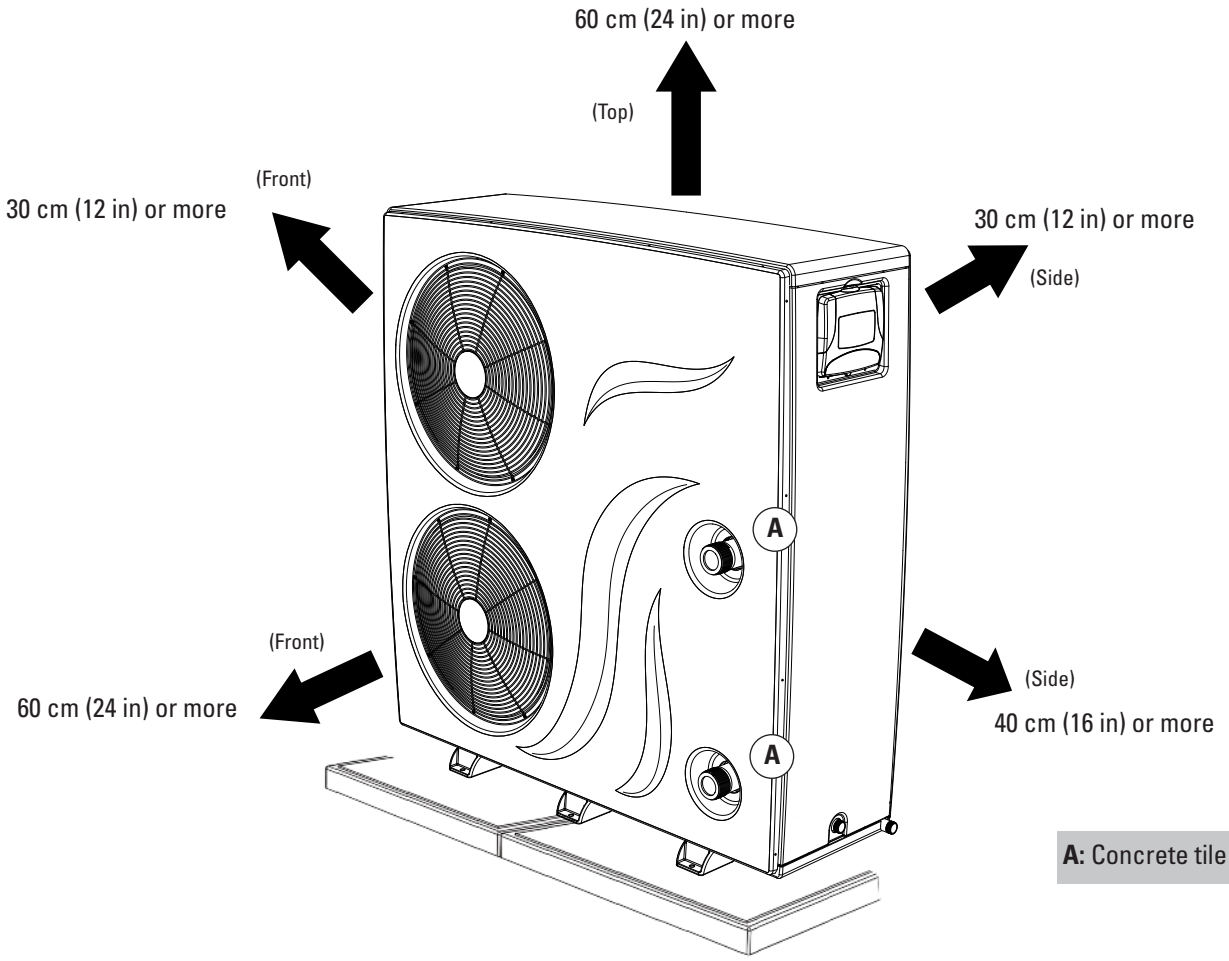
Install the Pool Heat Pump Heater unit on a flat, stable surface that can support its weight and does not generate any unnecessary noise and vibration.

Clearance

Choosing the location of your heat pump is very important. You should install it as close as possible to the filter system. You should obey the clearance distances around the heat pump that are given in the drawing below.

Level Placement

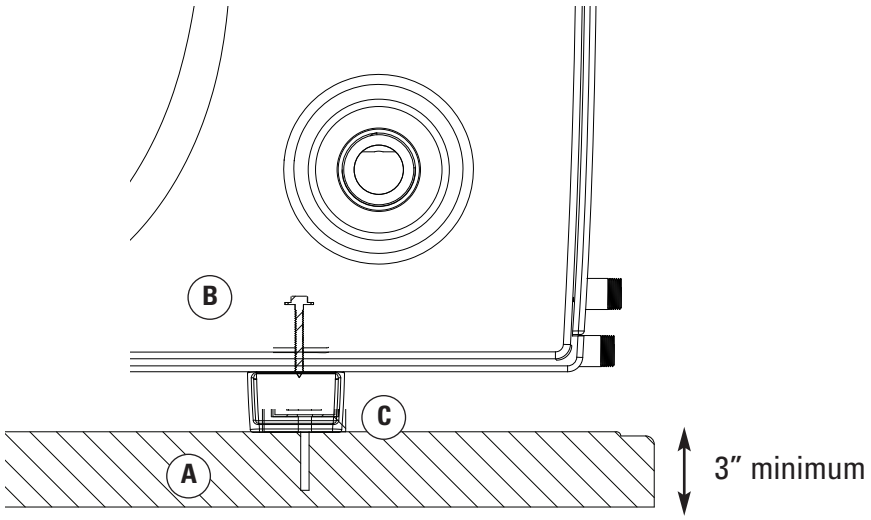
We recommend that you install your heat pump on a solid base, for example two concrete tiles. Four (4) rubber pads (absorbent pads) are provided to lessen the transfer of vibrations. (See drawing below.)



A: Concrete tile

Securing the unit

We recommend that you secure the unit to the concrete pad by using four (4) TAPCON screws and washers. (See drawing below.)

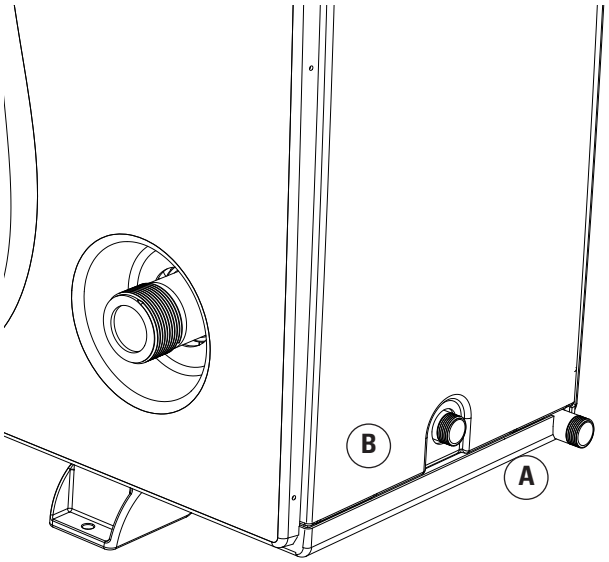


A: Concrete Pad
B: 1/4" x 1-1/2" Stainless Steel Concrete Screw and Washer (Provided by installer)
C: 3/16" Drilled Hole

Condensation and Drainage

The evaporator coil will produce condensation while the unit is running and drain at a steady rate, usually three to five gallons per hour, depending on the ambient air temperature and humidity.

It is normal for condensation to drip out the **CONDENSATION WATER DRAIN PIPE** that is located on the side of the unit. (See drawing below.)



A: CONDENSATION WATER DRAIN PIPE
B: WINTERIZING DRAIN (with plastic caps)

Water flow

To minimize heating time, make sure all water valves are open completely, that the water level of the pool is at the correct height. The **DPL** Pool Heat Pump is designed to operate at full flow through the heat exchanger (condenser). A flow rate of 22.5-70 gallons per minute (GPM) should be maintained.

Caution:
Either no flow or a low flow rate will cause the unit to shut down. The Pool Heat Pump will not operate without a flow of water.

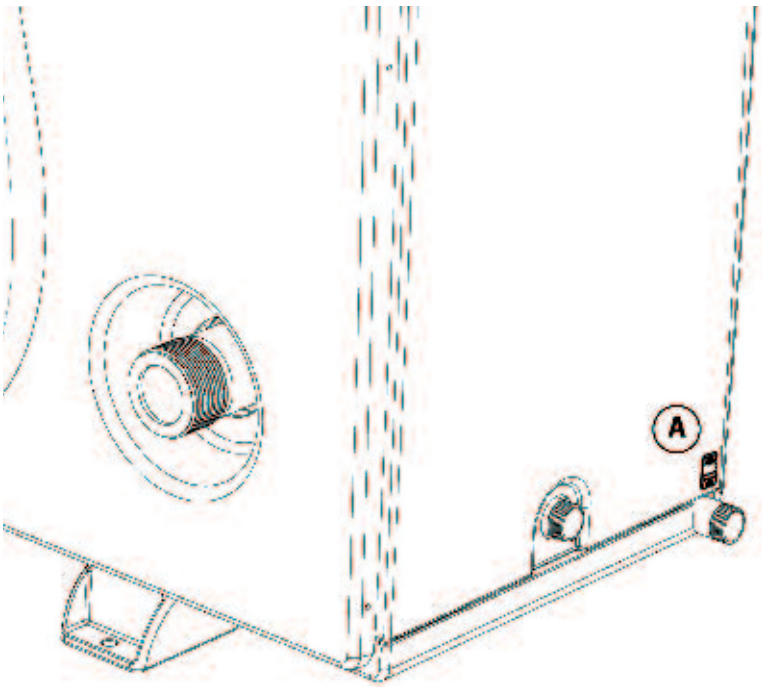
Electrical connections

This includes the heat pump, swimming pool metal panels, light, heat pump, filter, chlorine generator, as well as any other metal component or electrical equipment.

Some older swimming pools might not have an electrical connector cable. In such cases, you must drive a 3 to 4 ft (0.91 to 1.2 meters) copper rod into the ground next to the equipment.

The ground connector of the **DPL** heat pump is located on the side of the unit.
(See drawing below.)

Warning:
Your warranty may be voided if the equipment is improperly connected.



A: Ground connector

ELECTRICAL SPECIFICATIONS

> A qualified person must install the unit in accordance with all federal, provincial and local codes and guidelines.

> An electrical circuit exclusive to the heat pump must be used as the power supply.

> The supply voltage, size of over-current protective device, and size of supply conductors for the heat pump are shown below.

> The Pool Heat Pump condensing unit must be connected to a properly grounded electrical supply. You must ensure this unit is properly grounded.

> Check local electrical codes and regulations before obtaining wire.

> Use copper supply wires only.

> Please use conductors suitable for at least 75 ℃ for 100HPRA-410 model.

Electrical Specifications

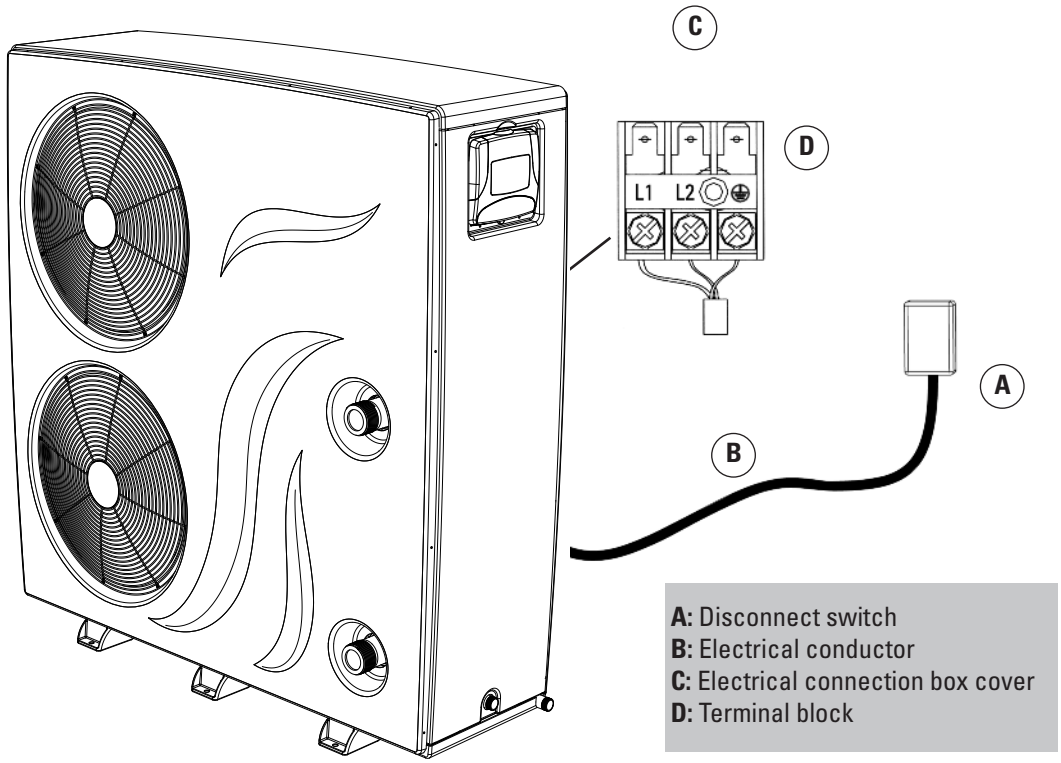
Model			50HPRA-410	80HPRA-410	100HPRA-410
Electrical ratings					
Voltage rating	V		208~230	208~230	208~230
Frequency / Phase	Hz / ø		60 / 1	60 / 1	60 / 1
Compressor	A	RLA	13.1	26.9	29
		LRA	58	145	145
Motor	A	FLA	0.86	0.86 X 2	0.86 X 2
Running amperes	A		14.5	28.3	37.5
Minimum circuit ampacity	A		17.5	35.6	38.3
Maximum over-current protection (Time delay fuse or HACR type circuit breaker)	A		25	40	60
Conductor type	AWG		12	10	8
Number of conductors			2 + ground	2 + ground	2 + ground

All technical data subject to change without notice.

CONNECTING ELECTRICAL CONDUCTORS

You must remove the electrical connection box cover to access the electrical compartment. Wiring connections must be made exactly as shown in the wiring diagram found under the top cover inside inside the Pool Heat Pump.

A disconnect switch must be installed near the outdoor unit for easy disconnection of power to the Pool Heat Pump.



A: Disconnect switch
B: Electrical conductor
C: Electrical connection box cover
D: Terminal block

CAUTION

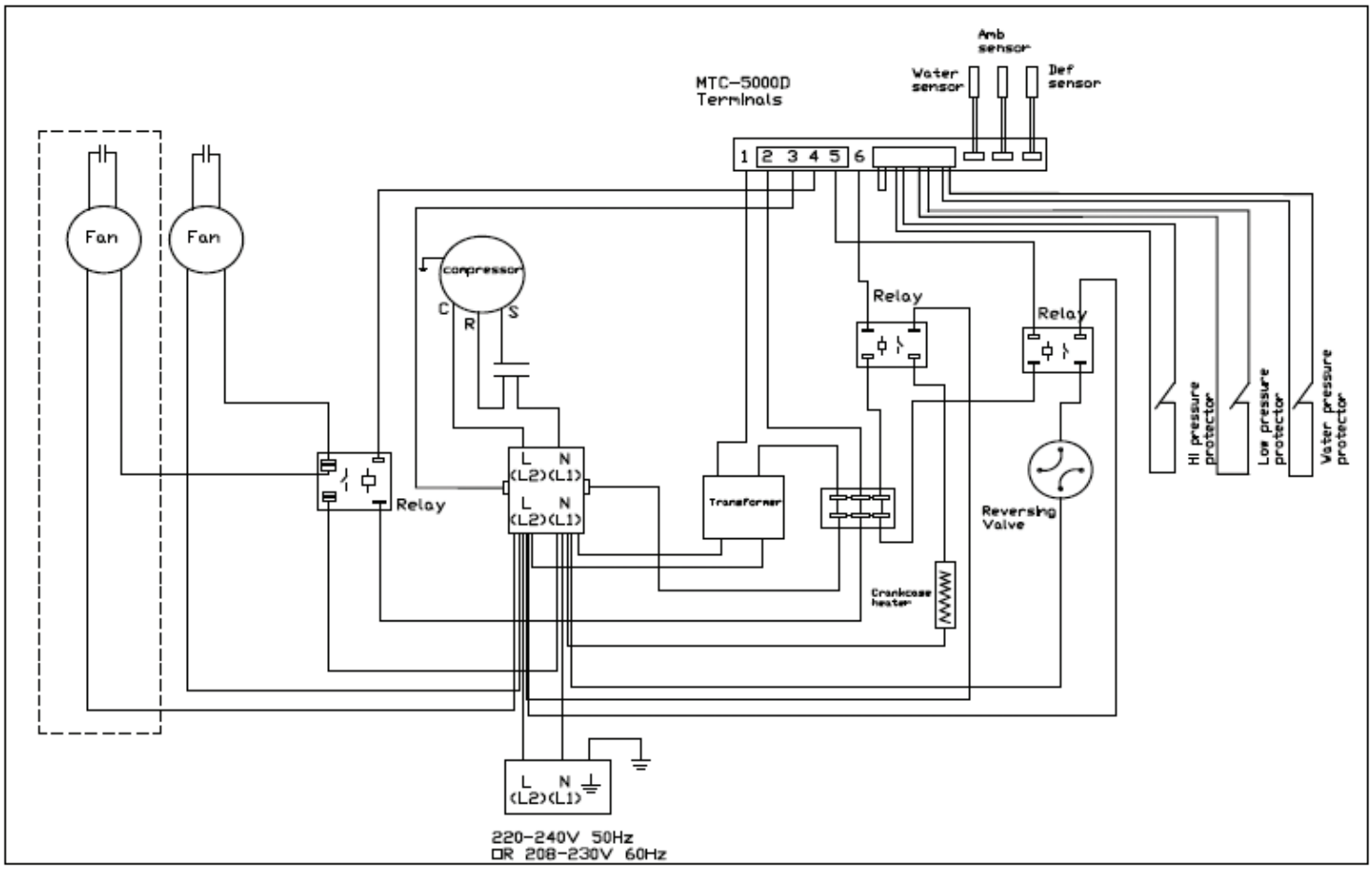
Operating the unit with improper line voltages constitutes abuse and will affect unit reliability and operation. Do not install a system where voltage or phase imbalances may occur above or below permissible limits.

WARNING

Disengage main power disconnect before attempting installation

WIRING DIAGRAM

50HPRA-410
80HPRA-410
100HPRA-410



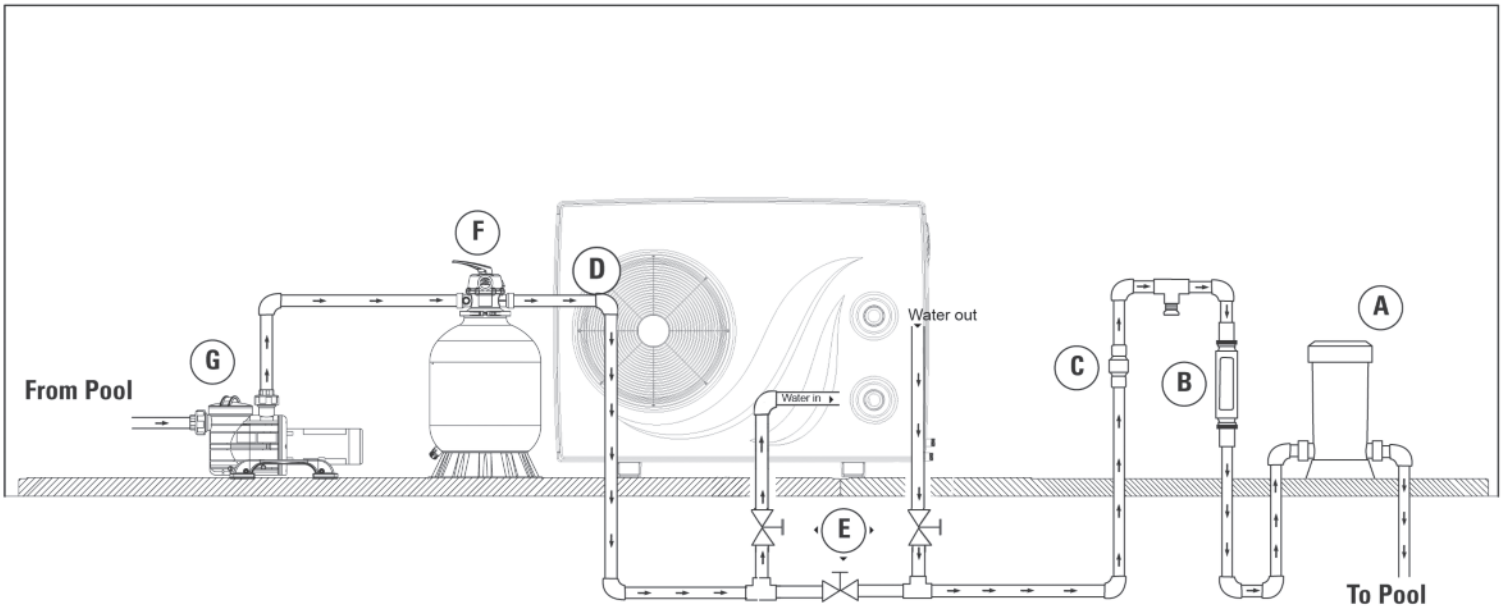
PLUMBING SPECIFICATION

Installation

The typical plumbing diagram illustrates the standard plumbing layout with a single heat pump unit. Following the diagram from left to right, the plumbing sequence is as follows:

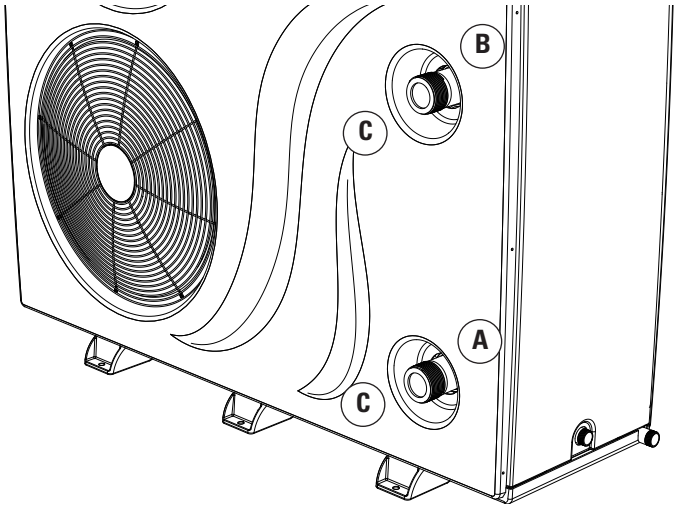
Pool → Pool Pump → Filter → Heat Pump → Check Valve → Chemical Loop → Chlorinator → Pool

A detachable connection (union) must be utilized immediately adjacent to heater to facilitate servicing and winterizing of the unit.



A: Chlorinator
B: Chemical Loop or Optional Chlorine Generation System
C: Check Valve
D: Pool Heater
E: E: 3 Manual Bypass Valve (Recommended installation)
F: Filter
G: Pool Pump

PLUMBING SPECIFICATIONS



A: WATER INLET
B: WATER OUTLET
C: DETACHABLE CONNECTION (union) included

Factory connections are for a 1 1/2" union nut.

Join the Pool Heat Pump inlet and outlet with rigid PVC (schedule 40). All joints must be glued with PVC glue. If rigid pipe is not available, you can use soft or flexible piping with stainless steel clamps.

When the piping installation is completed, start the pool pump and check the system for leaks.

Check valve & Chemical trap loop

Ensure that the check valve and chemical trap loop are installed as shown above. The loop should be at least 8 inches above the top of the chlorinator/feeder to prevent chlorine backup into the heater when the water pump is off. Install a check-valve on the heater side of the loop to to prevent chlorine damage.

Flow rate

The **DPL** Pool Heat Pump is designed to handle the full flow from the pool pump. No bypass is required if the flow is in the 30 to 70 gallon per minute range.

Warning:
Flow rates exceeding 70 GPM may damage the unit and compromise its efficiency.

External Bypass

Good practice also suggests considering the use of an external bypass on the inlet and outlet to enable the pool owner to bypass the pool heater if service or maintenance is required.

MAINTENANCE

To ensure optimum performance of the heat pump, follow these recommendations:

> Backwash the pool filter on a regular basis in order to ensure proper flow rate through the pool heater.

> Keep the surfaces of the coil (evaporator) clean and free of any obstruction such as papers, leaves or other debris. The aluminium fins can be easily and safely cleaned using a low pressure water spray.

> Carefully clean the unit using a soft, non-abrasive and bleach-free cleaner, and rinse using a garden hose without the nozzle.

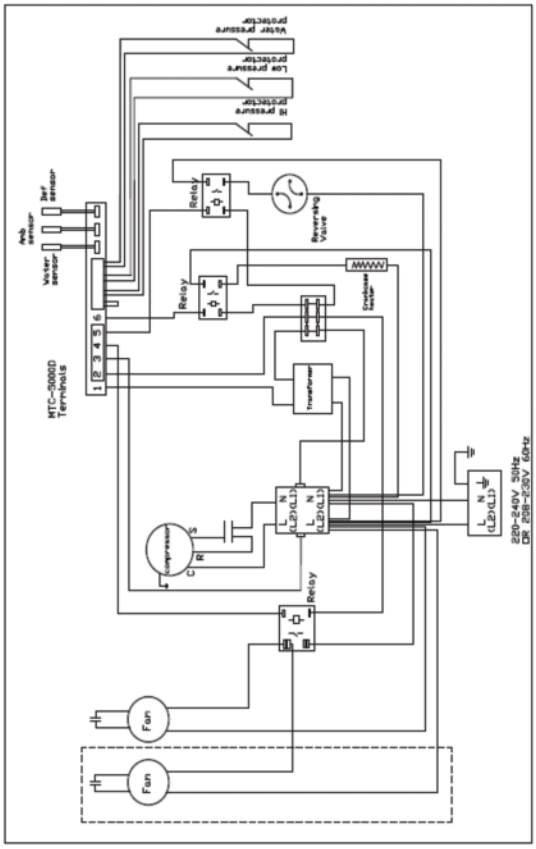
Warning:
Before performing any maintenance on the heat pump you must turn off the electricity at the breaker of the electrical supply line.

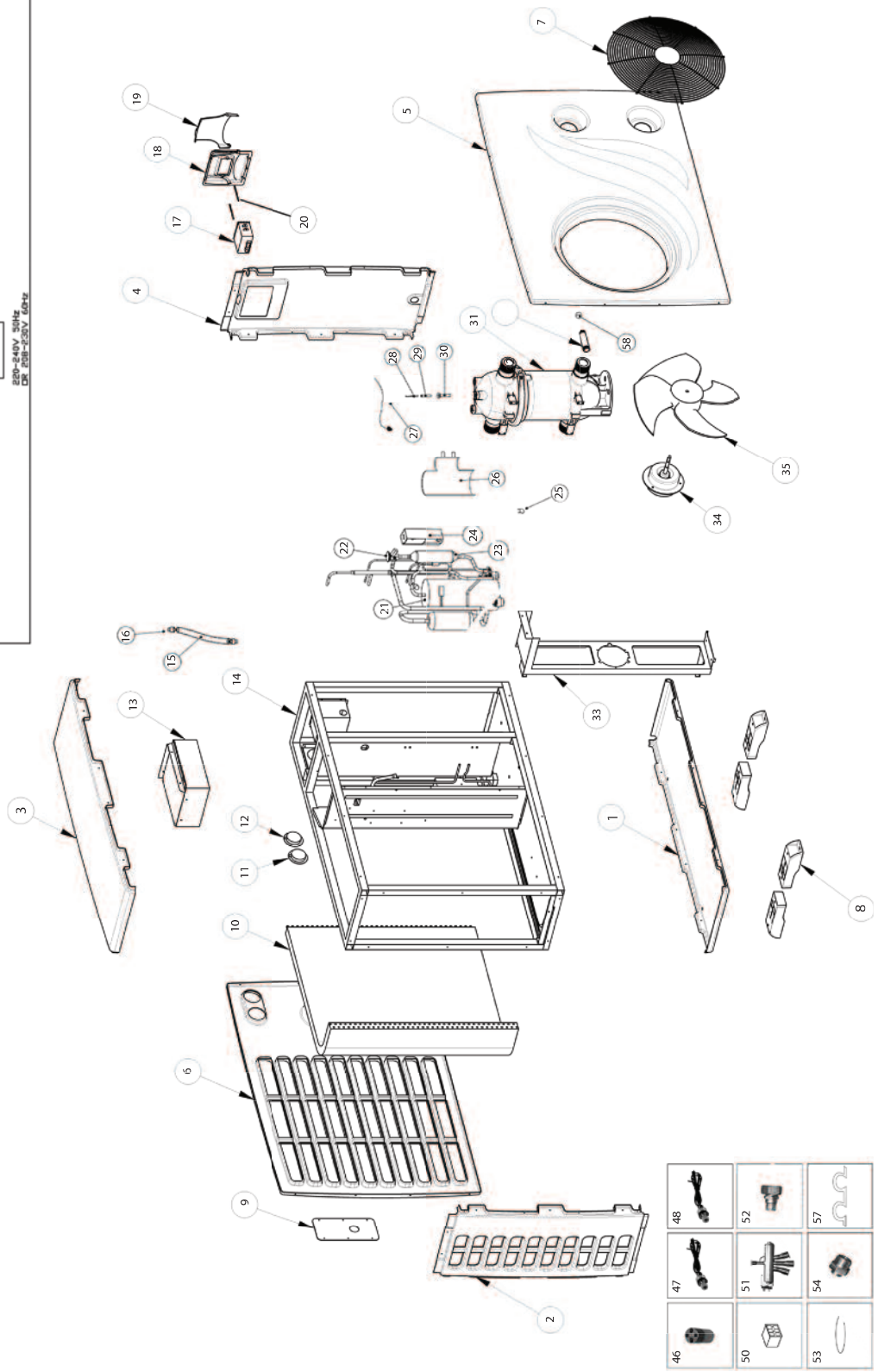
REPLACEMENT PARTS GUIDE

Part No.	Description	Qty	50HPRA-R410	80HPRA-R410	100HPRA-R410
1	Bottom panel	1	P20001	P20001	P20001
2	Left panel	1	P20003	P20016	P20016
3	Top panel	1	P20004	P20004	P20004
4	Right panel	1	P20002	P20017	P20017
5	Front panel	1	P20006	P20018	P20018
6	Back panel	1	P20005	P20019	P20019
7	Grid	1 or 2	P20007	P20007	P20007
8	Foot	4 or 6	P20008	P20008	P20008
9	Power cover	1	P20020	P20020	P20020
10	Evaporator	1	P30045	P30046	P30046
11	Low pressure gauge	1	P30019	P30019	P30019
12	High pressure gauge	1	P30018	P30018	P30018
13	Electrical compartment	1	P30020	P30020	P30020
14	Aluminum frame	1	P30021	P30022	P30022
15	Liquid tight connector	2	P30081	P30081	P30081
16	Flexible cable duct	1	P30082	P30083	P30083
17	Digital thermostat with defrost option	1	P30142	P30142	P30142
18	Side panel (digital thermostat)	1	P10118	P10118	P10118
19	Door (Digital thermostat)	1	P10117	P10117	P10117
20	Screws (Digital thermostat)	2	P30047	P30047	P30047
21	Compressor	1	P30031	P30032	P30033
22	Thermostatic expansion valve	1	P30036	P30037	P30037
23	Filter - dry bi-flow	1	P30149	P30149	P30149
24	Electric conection box	1	P30076	P30076	P30076
25	Electric connector	1	P30050	P30050	P30050
26	Insulation	1	P30034	P30035	P30035
27	Coil temperature sensor	1	P30103	P30103	P30103
28	Water temperature sensor	1	P30099	P30026	P30026
29	Copper pipe (Sensor)	1	P30025	P30025	P30025
30	Titanium well	1	P30024	P30024	P30024
31	Heat exchanger	1	P30008	P30008	P30008
32	Heat pump heat exchanger drain	1	P30012	P30012	P30012
33	Motor(s) bracket	1	P30009	P30010	P30010
34	Motor (s)	1 or 2	P30028	P30028	P30028
35	Fan(s)	1 or 2	P30027	P30027	P30027
36	Capacitor (Fan motor)	1 or 2	P30065	P30065	P30065
37	Contactor	1	P30049	P30049	P30049
38	Four way valve and Cran casing heating relay	2	P30061	P30061	P30061
39	Running capacitor	1	P30056	P30057	P30057
40	Capacitor clip	1	P30065	P30065	P30065
41	Transformer 208-230V / 24V	1	P30054	P30054	P30054
42	Fan motor relay	1	P30065	P30065	P30065
43	Electric box	1	P30058	P30058	P30058
44	Terminal block	1	P30052	P30052	P30052
45	Water pressure switch	1	P30051	P30051	P30051
46	Distributor	1	P30039	P30040	P30041
47	Low pressure switch	1	P30043	P30043	P30043
48	High pressure switch	1	P30044	P30044	P30044
49					
50	Terminal block (Main)	1	P30075	P30075	P30075
51	Reversing valve	1	P30149	P30148	P30148
52	Rotalock connector (part #1 copper)	1	P30131	P30131	P30131
53	Rotalock connector (part #2 teflon ring)	1	P30132	P30132	P30132
54	Rotalock connector (part #3 titanium)	1	P30133	P30133	P30133
55	Condensing drain bracket	1	P30073	P30073	P30073
56	Heat exchanger drain bracket	1	P30073	P30073	P30073
57	Refrigerant acces valve bracket	1	P30078	P30078	P30078
58	Drain pipe cap	1	P30023	P30023	P30023
59					
60					

POOL HEAT PUMP DISASSEMBLY DIAGRAM

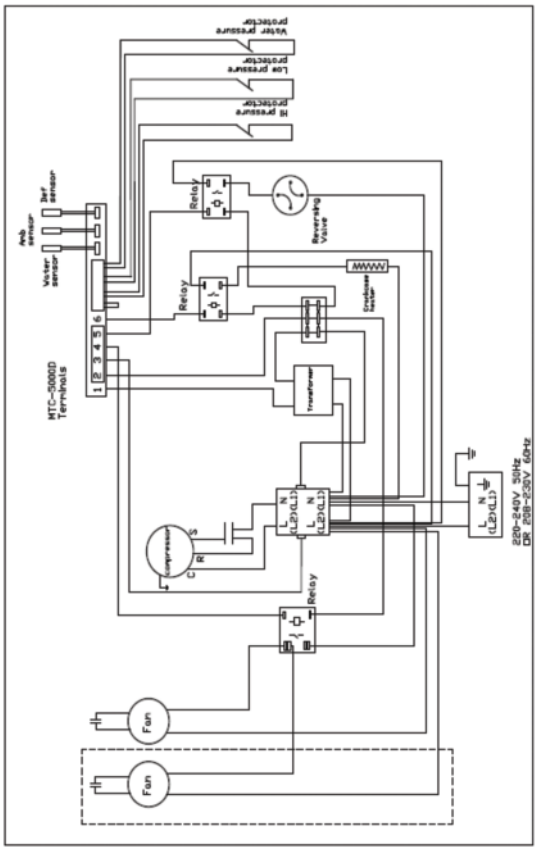
50HPRA-410

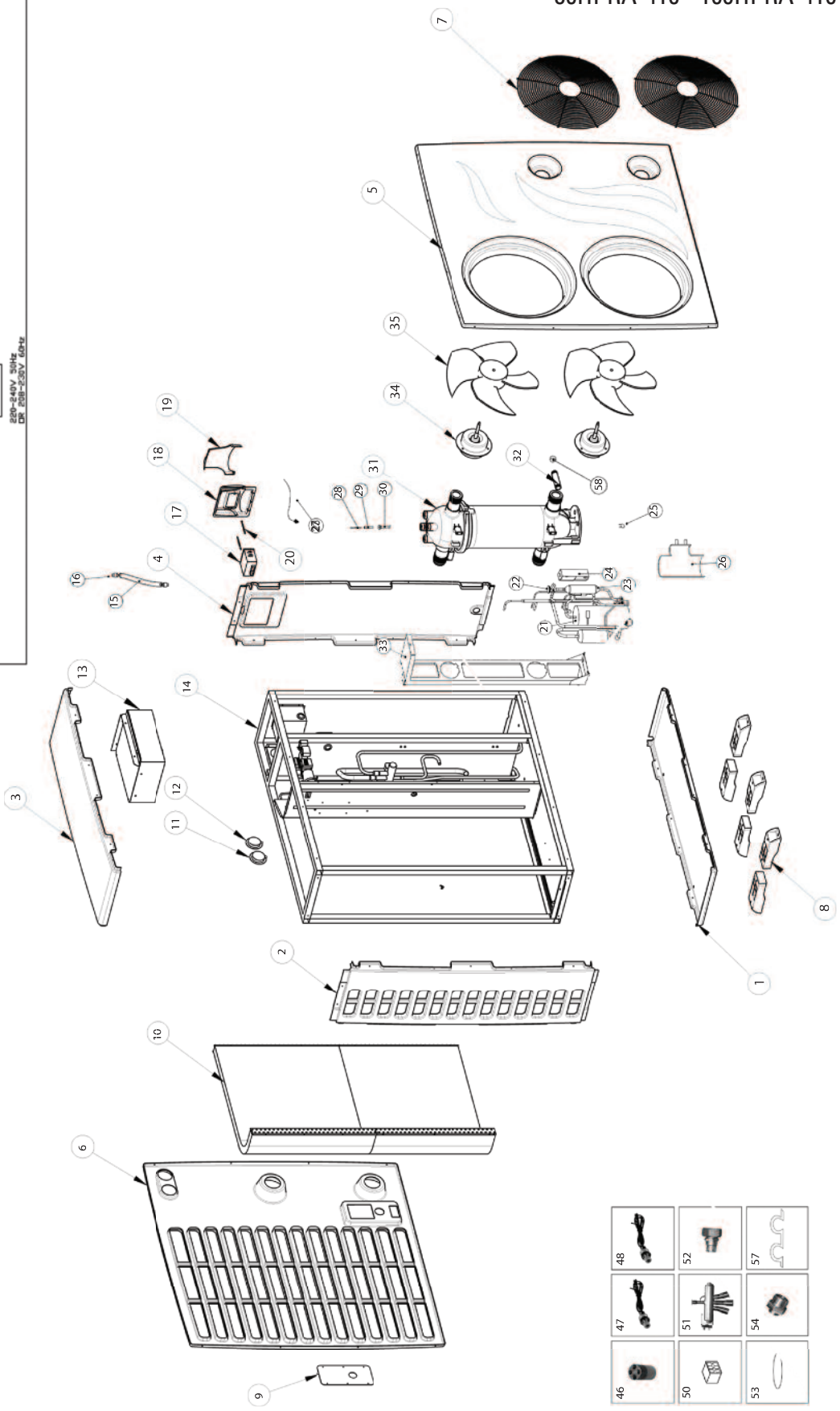




POOL HEAT PUMP DISASSEMBLY DIAGRAM

80HPRA-410 - 100HPRA-410





The digital display thermometer will not provide a reading:

The electrical breaker has tripped. Turn the electrical breaker back on.
The water flow rate is insufficient or the filter pump is not working. **DPL** heat pumps are designed to operate with a minimum water flow rate of 22.5 gallons per minute (GPM). Start the water pump.

If you are unable to activate the digital display thermostat, contact our Service Centre at +1.450.818.4758.

The digital display thermostat is active but the compressor and the ventilator(s) will not function:

> The unit is in 5-minute time delay mode to ensure that system pressures are stable. The "HEAT" pilot light will blink during this 5-minute time delay.
> The temperature control is set at too low a numerical value. Raise the desired temperature level.
> The desired water temperature has been achieved and the unit will restart automatically when the water temperature falls below the thermostat setting.

The digital display thermostat shows the codes E1, E2, HHH or LLL:

> The temperature sensor is not functioning normally.

> Contact our Service Centre at +1.450.818.4758.

The digital display thermostat lights up, dims out, lights up, dims out at irregular intervals:

> There is probably some kind of pump operation defect which can occur for many reasons:

> Excessively high refrigerant pressure
> Excessively high water temperature
> Loss of refrigerant
> Fan motor failure
> Evaporator freeze-up
> Low ambient temperature
> Coil obstruction (evaporator)

Troubleshooting	Display
Water temperature sensor with problem	**E1**
Ambient temperature sensor with problem	**E4**
Defrost temperature sensor with problem	**E3**
Low refrigerant system pressure	**LP**
High refrigerant system pressure	**HP**
Low water pressure	**P**
Low ambient temperature	**L0**
Water temperature higher than 60^{0}C	**HHH**
Water temperature lower than -10^{0}C	**LLL**

DPL heat pumps are equipped with safeguards that will stop operation to protect your unit in certain situations:

High pressure switch

The high pressure circuit breaker protects the compressor in the event of any over-pressure in the refrigerant system. High pressure conditions are usually the result of insufficient water flow in the heat exchanger. To remedy the situation, simply check that there are no obstruction in the water supply circuit and/or clean out the filter system.

Low pressure switch

The low pressure circuit breaker protects the compressor in the event of frequent restarts that are due to a lack of refrigerant or to an excessively low ambient temperature. It prevents the heat pump from starting when the system is in a low pressure situation, i.e. below 36 PSI. Such a low pressure situation is usually the result of a refrigerant leak or of an ambient temperature below 10 °C. The presence of frost on the evaporator can signal a low pressure situation.

Water pressure switch

The water pressure switch contacts close when pressure is applied as pool water flows through the heat exchanger. Either no flow or low flow rates will cause the contacts to open and the unit will shut down.

Time delay

All models use a 5-minute time delay to prevent repeated tripping of the compressor thermal overload, which is caused by an attempted startup before system pressures have equalized. Any interruptions, outside of power loss, will result in a 5-minute time delay.

> If you cannot activate your heat pump, contact our Service Centre at +1.450.818.4758.

TEMPERATURE CONTROLLER PROGRAMMING

Warning: Please do not modify the parameters in the temperature controller programming without a valid reason.

To access the temperature controller programming mode, you must simultaneously press and hold the SET and ▲ buttons for five (5) seconds. The SET ⊙ indicator will then light up and the "F0~F8" code will be displayed.

To select a function (F0~F8), you must press on the ▲ or ▼ buttons.

Once the function is selected, you must press the SET button to modify the default value.

To modify the default value, press the ▲ or ▼ buttons.

Once the default value is modified, press the SET button to return to the previous step in order to select another function (F0~F8).

To exit the temperature programming mode, press and hold the SET button for a few seconds.

See the chart below for a description of all functions.

FUNCTION	SETTING RANGE	CODE	DEFAULT VALUE
Return difference	1~15°C (34~59°F)	F0	1°C (34°F)
Compressor delay time	0~9 minutes	F1	5 minutes
Minimum adjustment of the water temperature	-10°C -Setting temperature	F2	16°C (61°F)
Maximum adjustment of the water temperature	Setting temperature -60 °C	F3	35°C (95°F)
Mode	1: Refrigeration 2: Heating 3: Alarm	F4	2
Sensor calibration	-5~5°C (23~41°F)	F5	0
Start defrost setting value	-10~0°C (14~32°F)	F6	-3°C (27°F)
End defrost setting value	0~10°C (32~50°F)	F7	6°C (43°F)
Minimun working temperature	-10-5°C	F8	-5°C

Warning :

The modification of the default values can affect the proper functioning of the heat pump. The default values must never be modified without authorization from your dealer.

PRODUCT WARRANTY

DPL heat pumps are warranted against material and manufacturing defects for a period of one (1) year, including parts and labour. The compressor is also warranted for a period of one (1) year.

The warranty period is deemed to start on the installation date and the limited warranty plan form must be sent within sixty days following the installation.

DPL is not responsible for:

> Normal maintenance.
> Damage or repairs required as a consequence of faulty installation or application by others.
> Failure to start due to voltage conditions, blown fuses, open circuit breakers, or other damage due to the inadequacy or interruption of electrical service.
> Damage or repairs needed as a consequence of any misapplication, abuse, improper servicing, unauthorized alteration, or improper operation.
> Damage as a result of flooding, wind, fire, lightning, accidents, corrosive atmospheres, or other conditions beyond the control of **DPL**.
> Parts not supplied or approved by **DPL**.
> Products installed outside the United States or Canada.
> Any damages to persons or property of whatever kind, direct or indirect, special or consequential, whether resulting from use or loss of use of the product.

LIMITATION OF WARRANTIES

This warranty is exclusive and in lieu of any implied warranties of merchantability and fitness for a particular purpose and all other warranties express or implied. The remedies provided for in this warranty are exclusive and shall constitute the only liabilities on the part of DPL including any statements made by any individual, which shall be of no effect.

HOW TO OBTAIN SERVICE

Heat pump servicing is managed by our Service Centre. Your warranty may be voided if servicing is not provided by one of our service representatives.

Prior to requesting assistance or servicing, read the **TROUBLESHOOTING** section. This might save you the cost of a service call.

If you are unable to solve your problem and need help, contact our Service Centre at +1.450.818.4758.

DPL POOL EQUIPMENT, INC.
43, de l'Alcazar - Blainville
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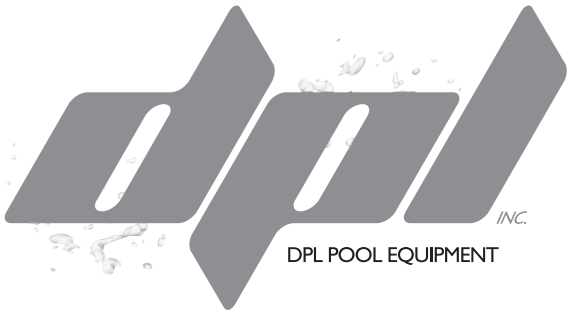
NOTES



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