Fibralleat

SWIMMING POOL

HEAT PUMP UNIT

Installation & Instruction Manual

Applicable Model: FH-055 FH-109

R22

Contents

Performance Data Specifications

Service

Attachments

SWIMMING POOL HEAT PUMP

Specifications

Performance Data of Swimming Pool Heat Pump Unit

Code			FH-055	FH-109
Rated heating capacity		W	16000	32000
		BTU/hr	55000	110000
Input power heating		W	2750	5500
Running current heating		A	14	27
COP			5.8	5.8
Power supply		V/HZ	208-230V/60Hz	
Number of compressors			1	1
Compressor			Rotary	Scroll
Number of fans			1	1
Input power of fan		W	70	150
Fan rotation speed		RPM	950	850
Noise		dB(A)	58	60
Water connection size		inch	1-1/2 "	1-1/2 "
Water flow		gpm	26.45	50.90
Water pressure drop		psi	3.68	4.35
Refrigerant(R22)		lbs	4.85	9.04
Dimension of unit	L	in	39.76	26.00
	W		14.57	26.00
	H		23.23	37.60
Package size	L	in	46.06	29.92
	W		16.34	27.56
	H		25.39	42.91
Weight	Net weight	lbs	139	240
	Gross weight		148	262

Measurement conditions:

Outdoor air temp:80° F ,RH 80%,inlet water temp:80° F

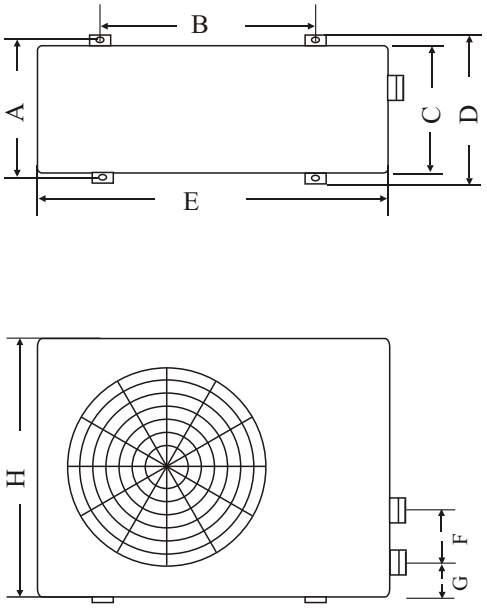
Power wiring specs

Code	FH-055	FH-109
Specs	min 12#	min 10#

3 conductor wire with appropriate size GFCI breaker required.

The dimensions for Swimming Pool Heat Pump Unit- Monobloc

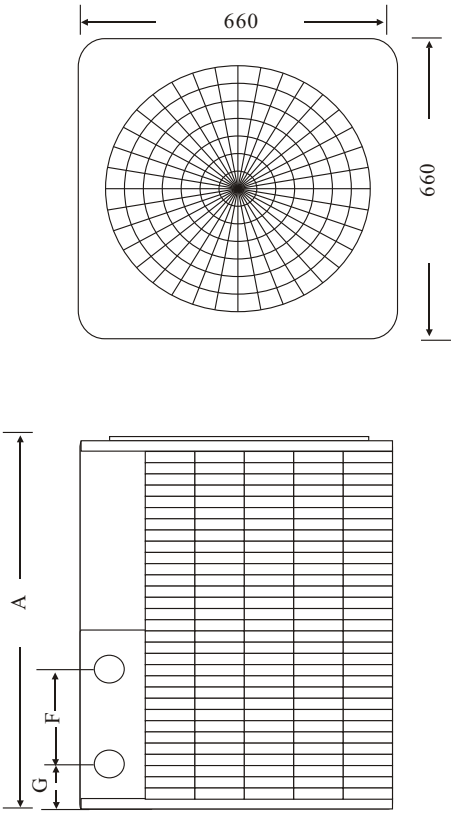
FH-055



Dimensions:in

Model / Size	FH-055
A	13.39
B	25.20
C	11.81
D	14.57
E	39.76
F	10.63
G	4.33
H	23.23

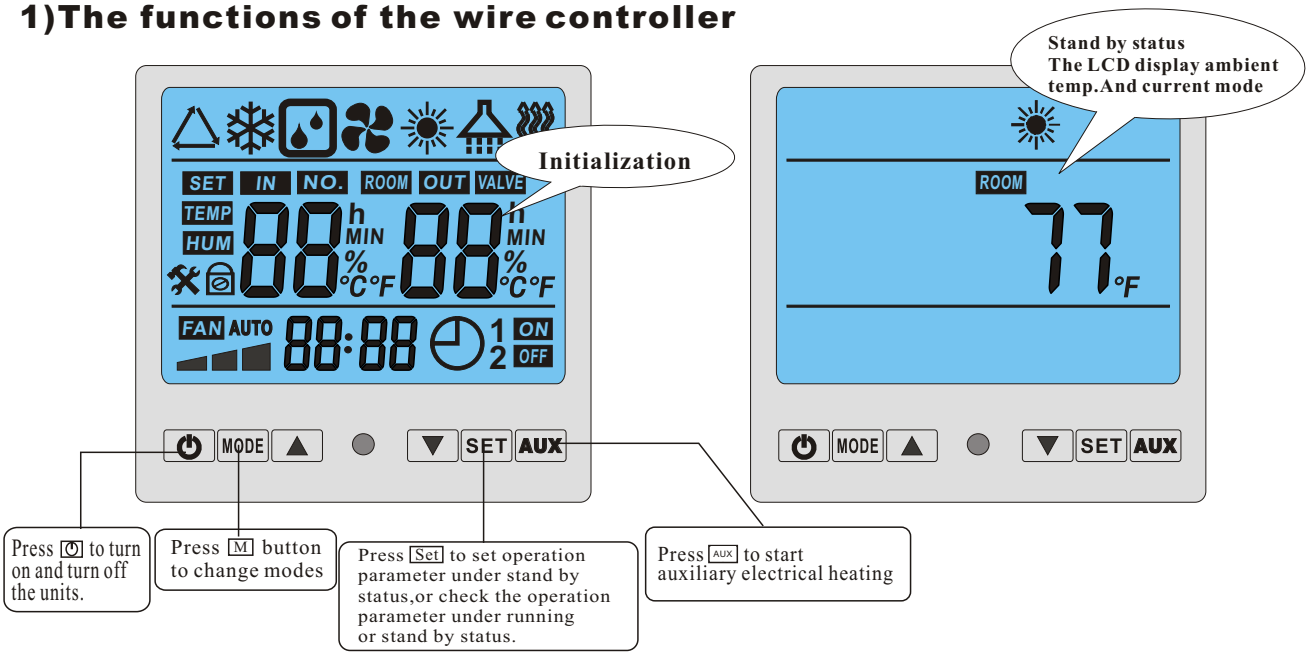
FH-109



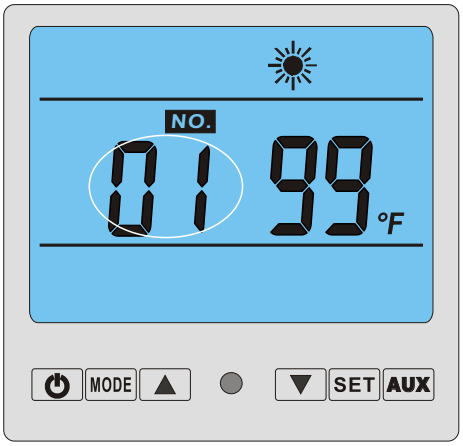
Dimensions:in

Model / Size	FH-109
A	37.60
G	4.33
F	14.57

1)The functions of the wire controller

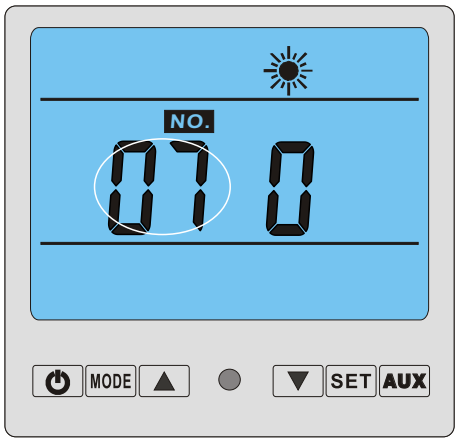


2)Adjusting temperature



- Press “SET” repeatedly until “01” is reached.
- Adjust desired water temperature by using ▲ or ▼ buttons.
- Wait 5 seconds until program registers.

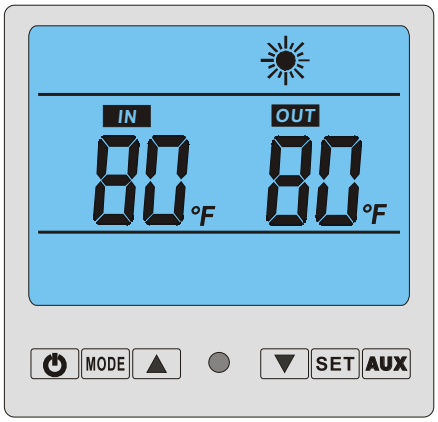
3)Auto re-start



- Press “ SET” repeatedly until parameter “07” is reached.
- Press ▲ and ▼ at the same time until unit “ beeps” and unlocks.
- Press ▲ or ▼ buttons:
  0-For NO auto start
  1-For auto start after power failure.

4)Current status

Default program reads the air temperature at the location of the heat pump. If your controller is mounted elsewhere, the "room" temperature will still be the temperature outside.



-Press ▲ button

1. P1= Heater coil temperature

- Press ▲ button

2. P2= Factory preset, disregard this reading.

- Press ▲ button

3.Room temperature = air temperature at the location of heat pump.

- Press ▲ button

4. Water in, water out temperature at the heater's manifold.

- Wait 5 seconds to return.

5)Please make sure

- ■ The circulation system is running properly and free from air bubbles.
- ■ Keep pool filter clean.
- ■ Keep ants, vermins, vegetation away from your heat pump.
- ■ Keep the air intake and outlet clean.
- ■ Pay attention to excessive noise and smell as an indicative of possible failure.

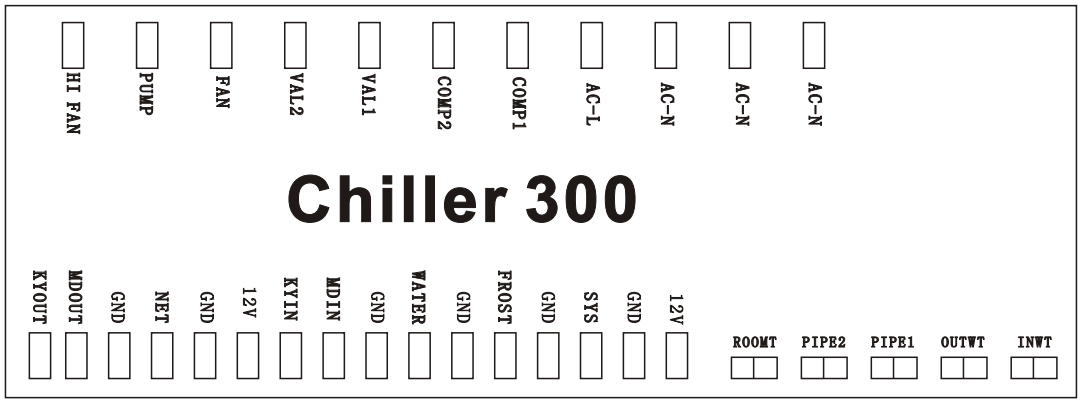
The unit's operation data can be set on the wire controller. Please set according the below table:

Digit	meaning	Range	Default	Adjust(yes/no)
00	Return water temp. Setting(cooling mode)	46-86° F	54° F	No
01	Return water temp. Setting(heating mode)	59-99° F	81° F	Yes
02	Total working time of compressor after frosting	30-90MIN	40MIN	No
03	Setting initialzation temp for defrosting	32--22° F	19° F	No
04	Terms of exit defrost under heating model	36-86° F	55° F	No
05	time of exit defrost under heating model	1-12MIN	8MIN	No
06	System quantity	1-2	2	No
07	Automatic restarting	0-1	0（no recording）	No
08	Model(cooling only/heat pump/ auxiliary electrical heating /hot water）	1-3	3（hot water）	No
09	Working mode of water pump	0-1	0	No
10	Auto mode(return water temp)	46-99° F	86° F	No

5.2 Troubleshooting

malfunction	Wire Controller	Reason	resolution
Water in temp. Sensor failure	PP 01	The sensor is open or short circuit	Check or change the sensor
Water out temp. Sensor failure	PP 02	The sensor is open or short circuit	Check or change the sensor
Coil1 sensor failure	PP 03	The sensor is open or short circuit	Check or change the sensor
Coil2 sensor failuref(proprietary for A type)	PP 04	The sensor is open or short circuit	Check or change the sensor
ambient sensor failure	PP 05	The sensor is open or short circuit	Check or change the sensor
Water-in water out temperature is too great	PP 06	Insufficient water flow or water pressure difference is too little	Check the water flow volume, or clogged plumbing system
Defrosting under cooling mode	PP 07	Insufficient water flow	Check the water flow volume, or clogged plumbing system
The first time freezing protection in winter	PP 08	Too low	
The second time freezing protection in winter	PP 09	Too low	
Malfunction of system1	EE 01	The system1 protection was failure	Check each protection point of system1 remove the malfunction according to System Protection Board malfunction table）
Malfunction of system2(cut off under low voltage)	EE 02	The system2 protection was failure	Check each protection point of system2 remove the malfunction according to System Protection Board malfunction table）
Flow switch failure	EE 03	No water/little water in water system.	Check the water flow volume, or clogged plumbing system
Power supply connections wrong(for 3phase unit) Hi/Low pressure protection (for single phase unit)	EE 04	Wrong connections or lack of connection	Check connections of power cable
3times water-in and water-out temp. difference protection in 30minutes	EE 05	Water flow volume not enough, water pressure difference is too low	Check the water flow volume, or clogged plumbing system
defrosting	Defrost code display		
Communication failure	EE 08	Wire controller and The PCB connection failure	Check the wire connection

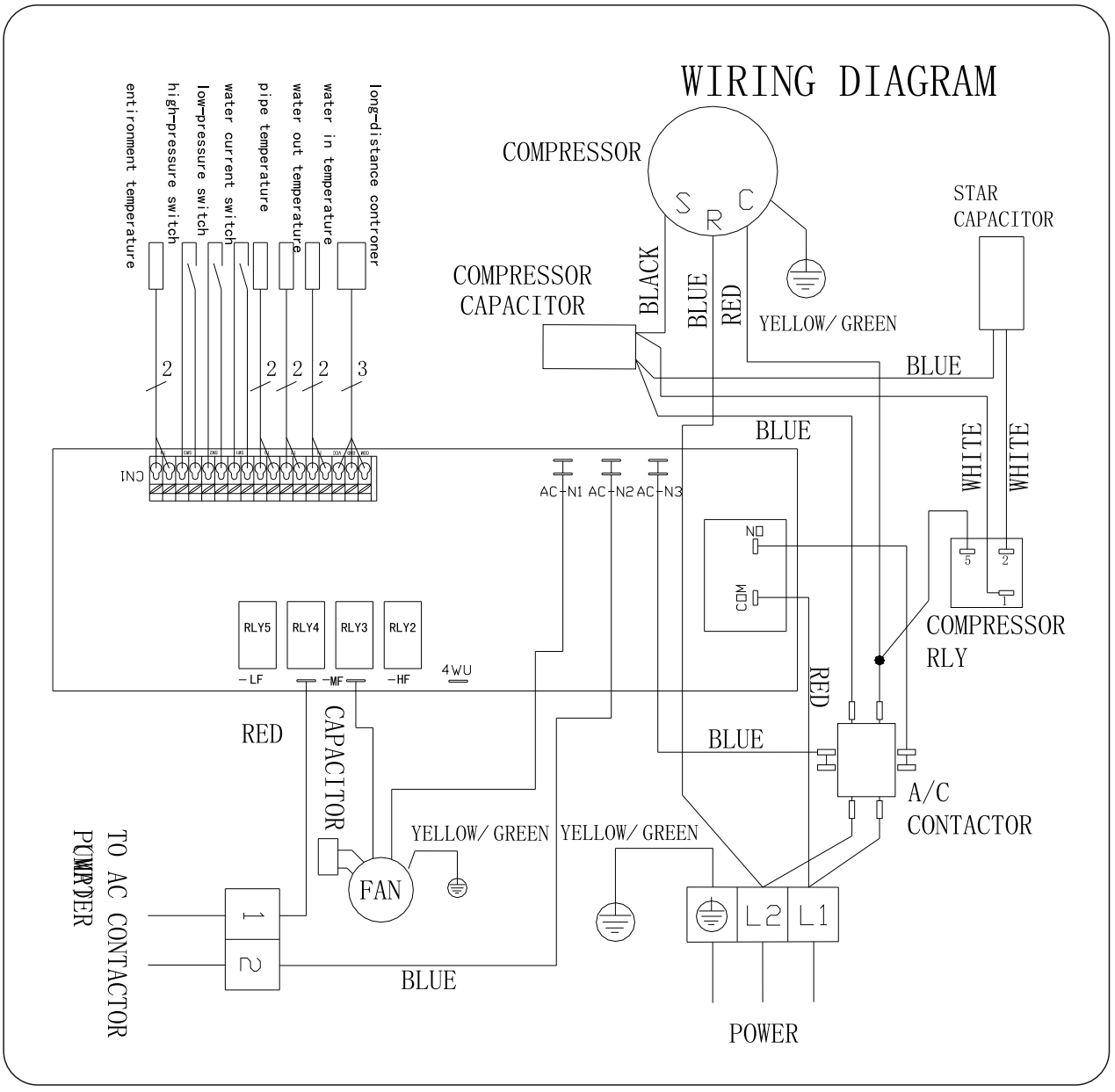
Connection of PCB illustration



Connections explanation:

No.	symbol	meaning
1	HI FAN	High speed for fan
2	PUMP	Water pump（220VAC）
3	FAN	Fan motor（220VAC）
4	VAL2	4way valve of system2（220VAC）(no use)
5	VAL1	4way valve of system1（220VAC）
6	COMP2	Compressor of system2（220VAC）(no use)
7	COMP1	Compressor of system1（220VAC）
8	AC-L	Live wire
9	AC-N	neutral wire
10	KYOUT GND	On/Off switch(output)(no use)
11	MDOUT GND	Mode output(no use)
12	NET GND 12V	Wire controller
13	KYIN	On/Off Switch(input)(no use)
14	MDIN	Model(input)(no use)
15	WATER GND	Flow switch (input)(normal close)
16	FROST GND	Defrost signal(no use)
17	SYS GND 12V	System protection(input)(normal close)
18	ROOMT	Ambient temp.(input)
19	PIPE2	Temp. Of fan coil2(input)(no use)
20	PIPE1	Temp. Of fan coil 1(input)(no use for split type)
21	OUTWT	Water out temp.(input)
22	INTWT	Water in temp.(input)

Electric diagram- Monobloc



Service

1. How to Obtain Service

For Pool Owner

If you are having a problem with my company, FIRST perform the consumer troubleshooting steps detailed in Owners Manual then CALL THE INSTALLING DEALER and have them verify that the cause is NOT external (such as tripped breaker, clogged pool filter, inadequate pump run time, etc.)

1. Provide your Dealer with the following information:

A. Serial # located on back panel nameplate .

B. Proof of Installation Date .

C. Description of the Symptoms

For Installing Dealer

If your customer is having a problem with you as the installing dealer have verified that the cause is NOT external (such as tripped breaker, clogged pool filter, inadequate pump run time, etc.) following these steps will help you obtain the fastest service possible for your customer.

1. Help your customer gather the following information:

A. Serial # located on back panel nameplate .

B. Proof of Installation Date .

Will I Ever Need Freon

Unless your heat pump has a leak in the sealed refrigeration system, the factory charge of freon should last for the life of the unit. Freon is very stable and should not degrade or breakdown even under severe operating conditions. If your unit needs freon, then it has a leak, and adding freon will not solve the problem. The leak must be located and repaired. A licensed HVAC contractor can handle this repair.

Attachment 1

SWIMMING POOL HEATING SYSTEM EVALUATION

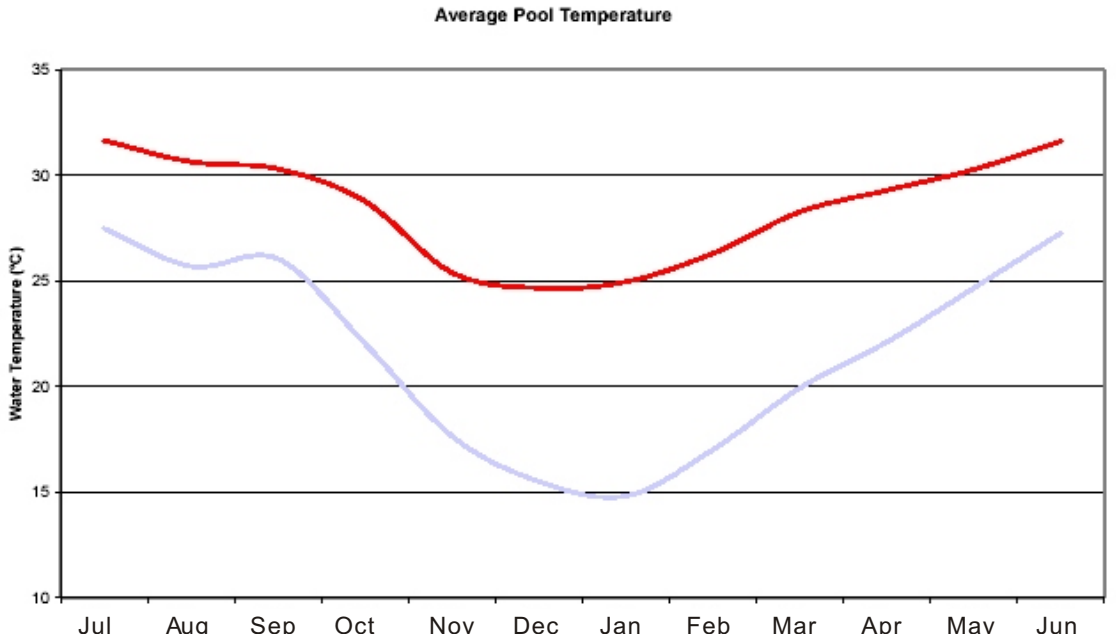
1. The charts displayed for an outdoor pool

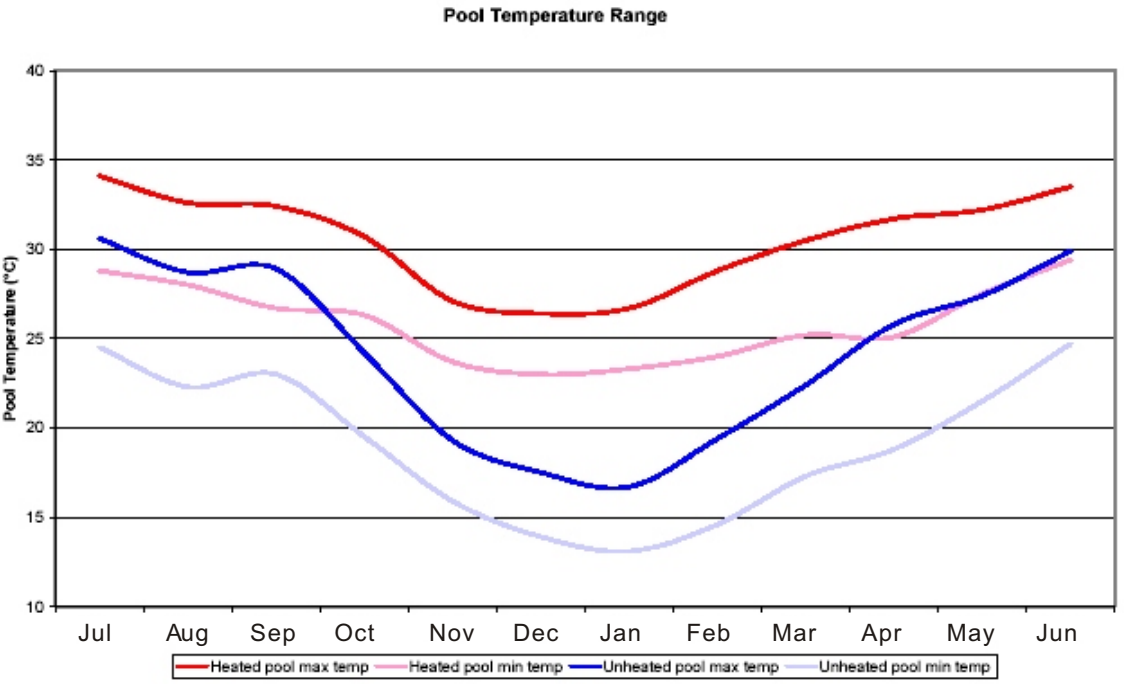
Energy flows in a heated pool

Energy flows in an unheated pool

Pool temperature

Range of pool temperature(max exceeded for 5% of the time and mini temperature exceed fo 95% of the time.

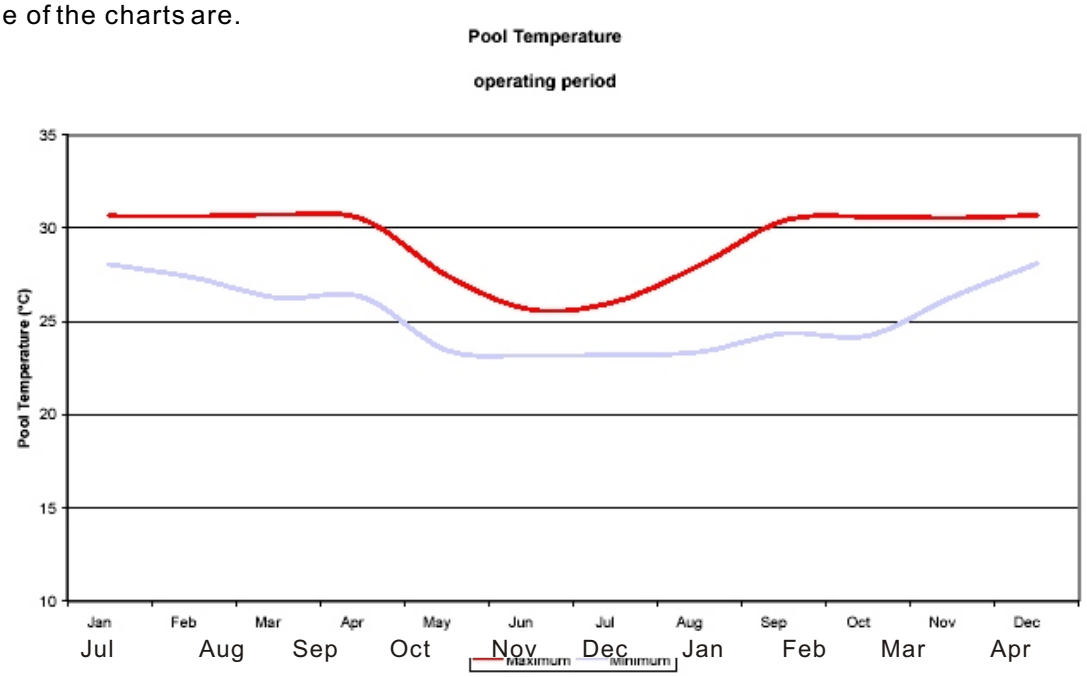


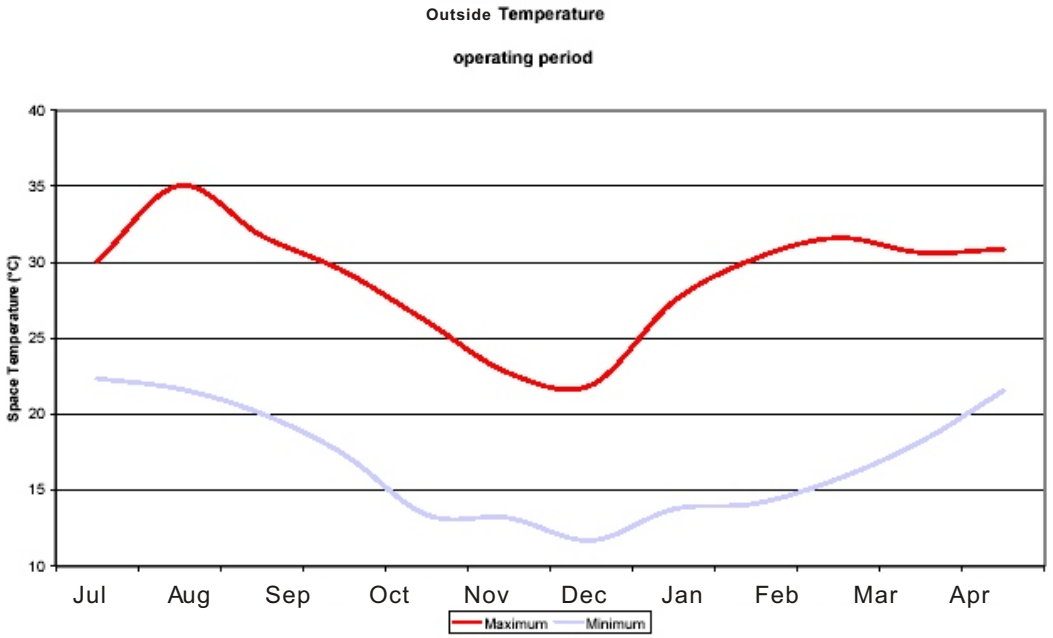


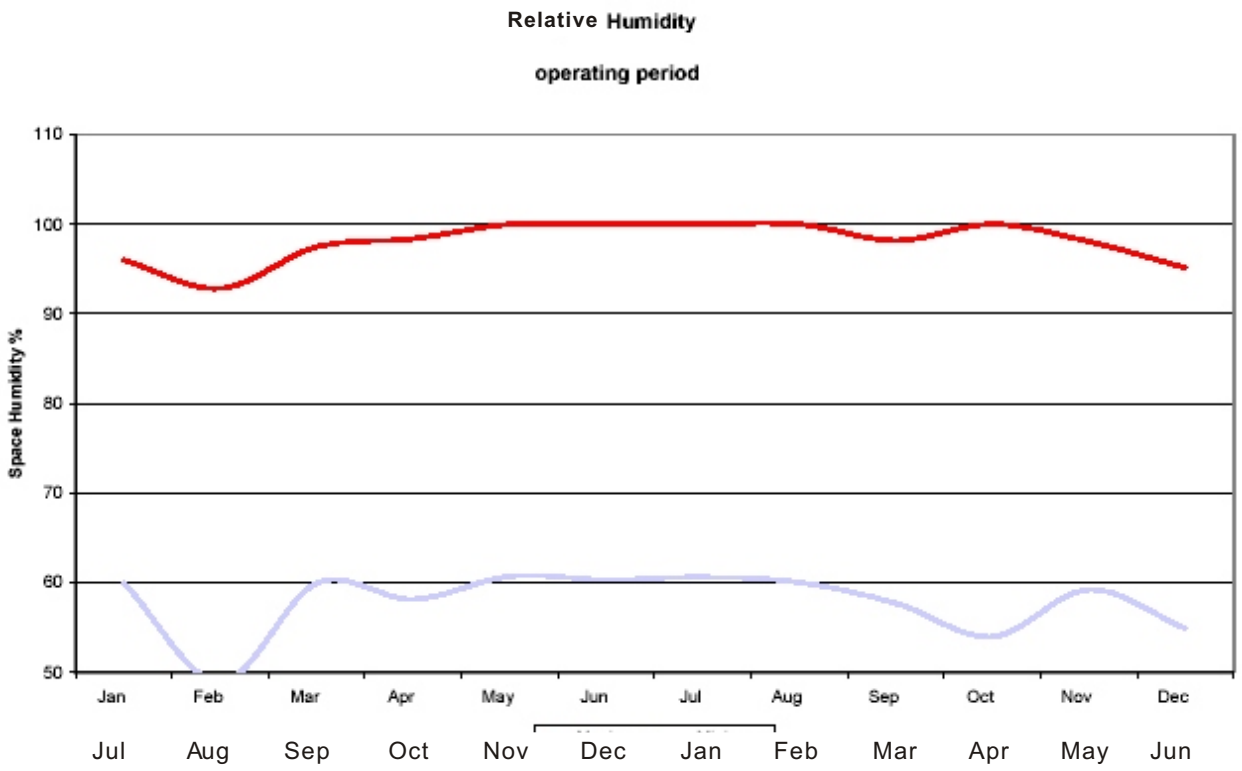
2. The charts displayed for an indoor pool are

Energy flows for indoor pool.
Pool temperature during daytime operating period.
Air temperature during daytime operating period.
Air humidity during daytime operating period.
Pool temperature at night.
Air temperature at night.
Air humidity at night.

Some of the charts are.

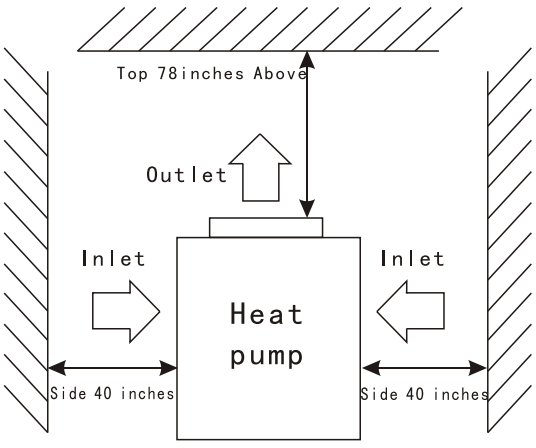


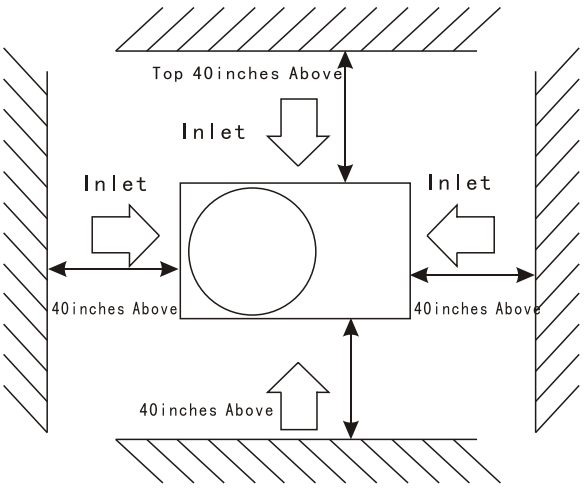




The position of installing unit

Required clearances:

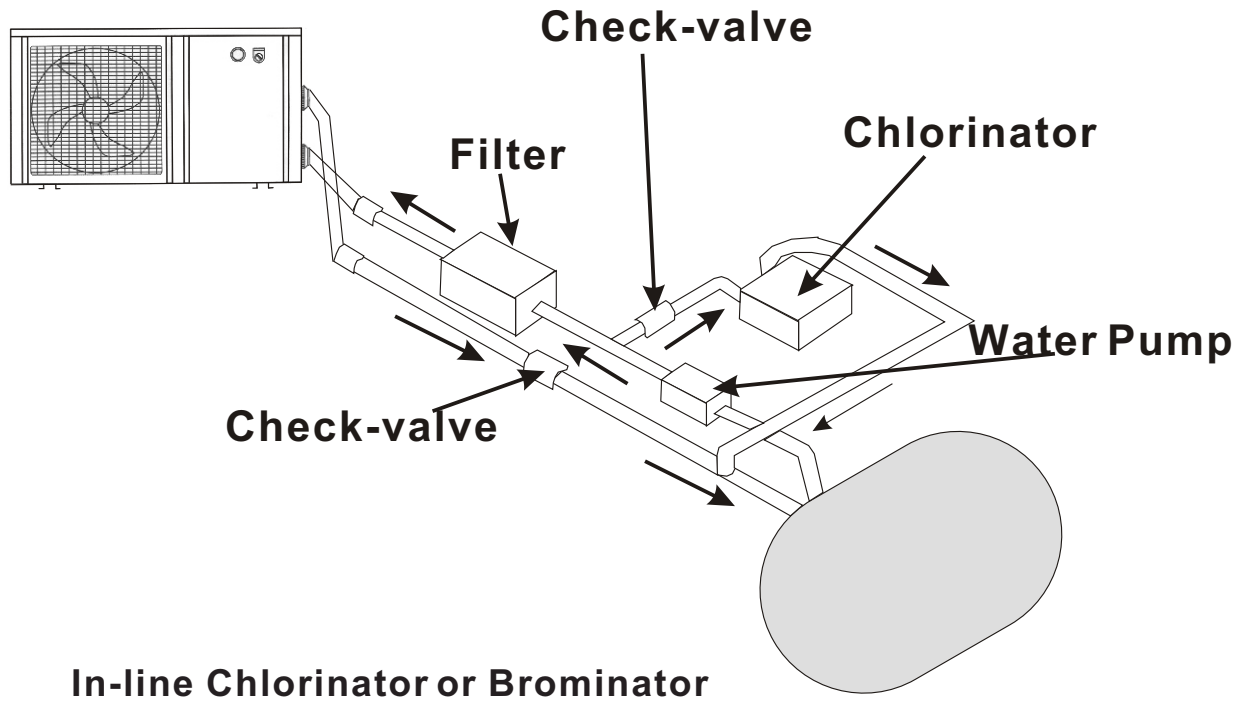




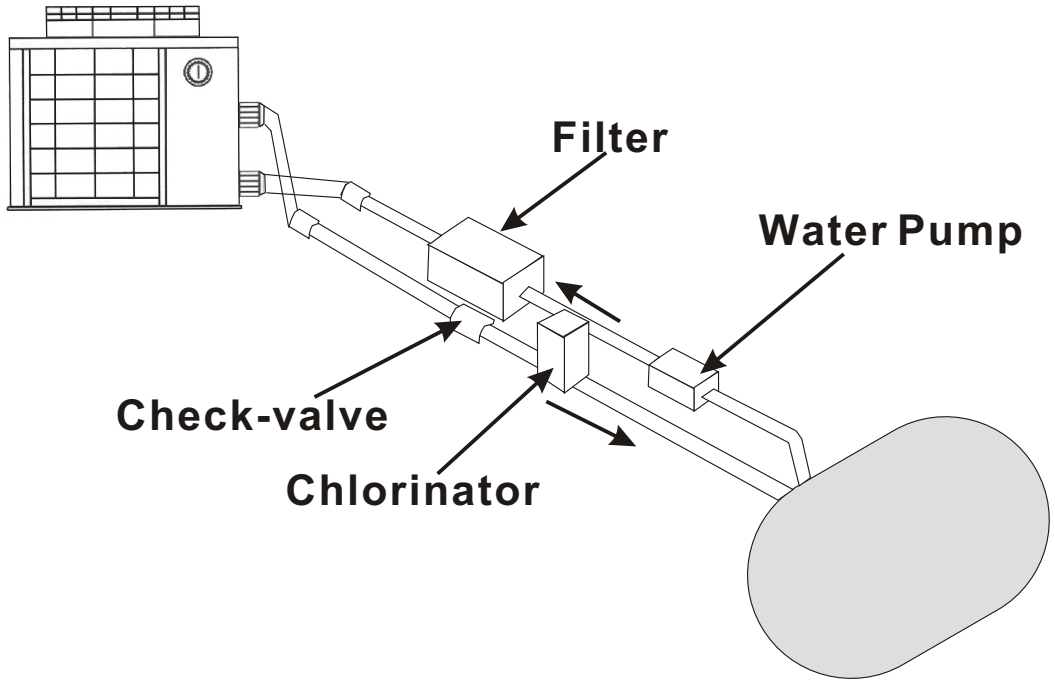
Attachment 2

The Installation about Heat Pump & Chlorinator

Pressure-type Chlorinator or Brominator



In-line Chlorinator or Brominator



Attachment 3

Common Units Conversion

Linear Measure
1 inch =25.4 millimetres
1 foot =12 inches =0.3048 metre
1 yard =3 feet =0.9144 metre
1 (statute) mile =1760 yards =1.609 kilometres
1 nautical mile =1852 m.

Square Measure
1 square inch =6.45 sq.centimetres
1 square foot =144 sq.in.=9.29 sq.decimetres
1 square yard =9 sq.ft. =0.836 sq.metre
1 acre =4840 sq.yd.=0.405 hectare
1 square mile =640 acres =259 hectares

Cubic Measure
1 cubic inch =16.4 cu.centimetres
1 cubic foot =1728 cu.in. =0.0283 cu.metre
1 cubic yard =27 cu.ft. =0.765 cu.metre

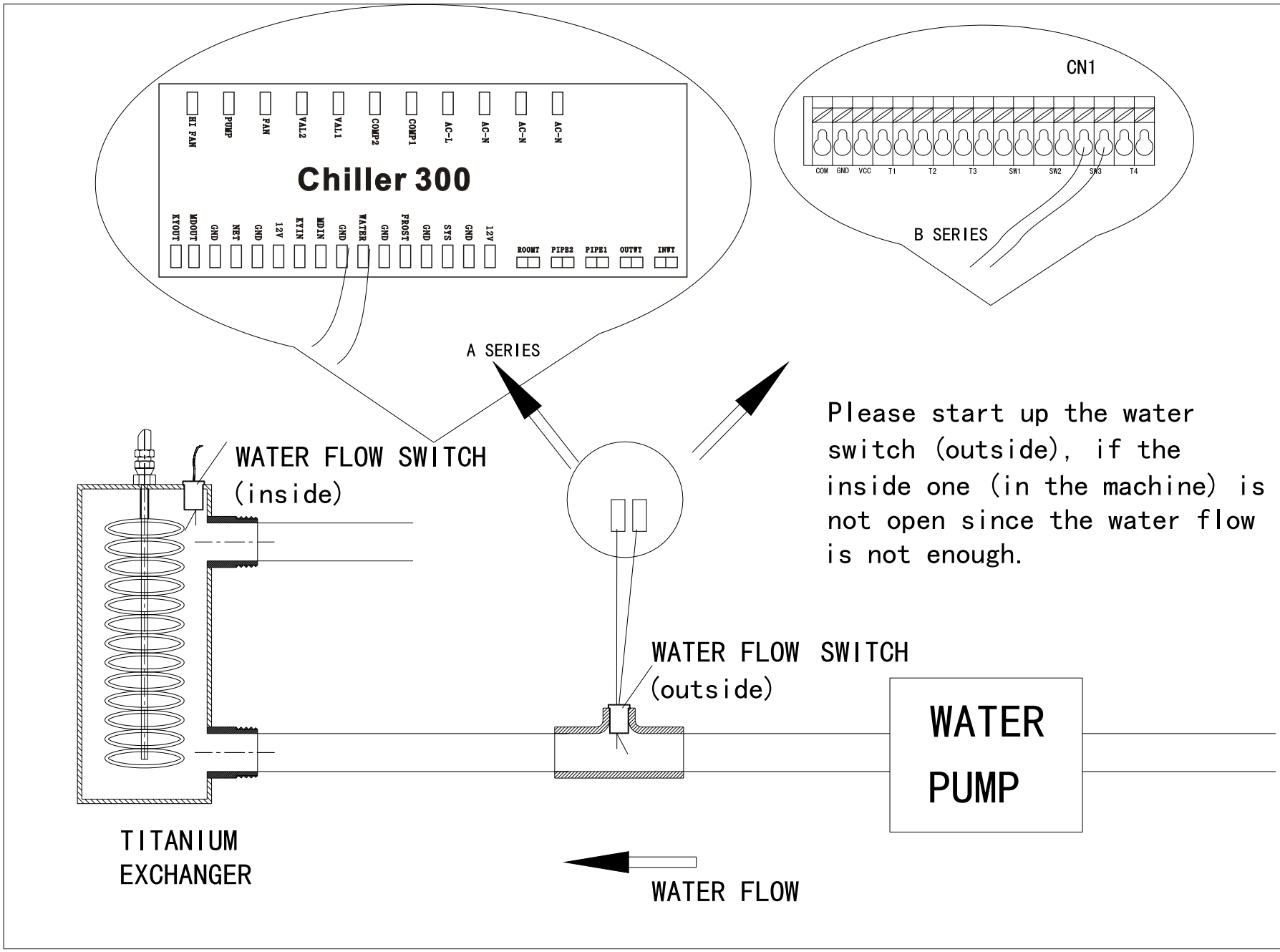
Capacity Measure
Britich
1 pint 20 fluid oz. =34.68 cu.in. =0.568 litre
1 quart =2 pints =1.136 litres
1 gallon =4 quarts =4.546 litres
1 peck =2 gallons =9.092 litres
1 bushel =4 pecks=36.4 litres
1 quarter =8 bushels =2.91 hectolitres
American dry
1 pint =33.60 cu.in. =0.550 litre
1 quart =2 pints =1.101 litres
1 peck =8 quarts =8.81 litres
1 bushel =4 pecks =35.3 litres
American liquid
1 pint =16 fluid oz. =28.88 cu.in. =0.473 litre
1 quart =2 pints =0.946 litre
1 gallon =4 quarts =3.785 litres

Avoirdupois Weight
1 grain =0.065 gram
1 dram =1.772 grams
1 ounce =16 drams =28.35 grams
1 pound =16 ounces =7000 grains =0.4536 kilogram
1 stone =14 pounds =6.35 kilograms
1 quarter =2 stones =12.70 kilograms
1 hundredweight =4 quarters =50.80 kilograms
1 short ton =2000 pounds =0.907 tonne
1 (long) ton =20 hundredweight =1.016 tonnes

energy 、 power
1 usrt =3024 kcal/h=3516 w
1 kcal/h =1.163 w
1 kw =860 kcal/h
1 btu/h =0.293 w

velocity ,flux
1 m/s =196.85 fpm
1 cfm = 1.699cmh
1 gpm =0.27276 cmh
1 gpm =0.2271 cmh

pressure
1 bar =100000 pa
1 psi =0.0703 kgf/cm2
1 kgf/cm2 =98000 pa
1 mm aq. =9.8 pa
1 mm hg =133.28 pa
1 m H2O =9800 pa =0.1 kgf/cm2


HI FAN
PUMP
FAN
VAL2
VAL1
COMP2
COMP1
AC-L
AC-N
AC-N
AC-N
Chiller 300
KYOUT
MDOUT
GND
NET
GND
12V
KYIN
MDIN
GND
WATER
GND
FROST
GND
STS
GND
12V
ROOMT
PIPE2
PIPE1
OUTWT
INWT
A SERIES
CN1
COM
GND
VCC
T1
T2
T3
SW1
SW2
SW3
T4
B SERIES
WATER FLOW SWITCH
(inside)
Please start up the water switch (outside), if the inside one (in the machine) is not open since the water flow is not enough.
WATER FLOW SWITCH
(outside)
WATER
PUMP
TITANIUM
EXCHANGER
WATER FLOW

FIBROPUMP/ FIBROFILTER LIMITED WARRANTY

Pumps, filters, heaters, lights (except for the light bulbs), skimmers and all accessories manufactured by/ for FIBROPOOL CO. LLC, are warranted to be free from defects in material and workmanship for one (1) year from the date of sale/ installation

SPECIFIC PRODUCT WARRANTIES:

FIBROPUMP ATTILA SERIES **IN GROUND POOL PUMPS**:
MOTORS: 3 YEARS PRORATED*; PUMP SHAFT SEAL: 1 YEAR; PUMP BASKETS: 1 YEAR; PLASTIC COMPONENTS: 3 YEARS
FIBROPUMP GOK SERIES **ABOVE GROUND PUMPS**:
MOTORS: 1 YEAR; PUMP SHAFT SEAL: 1 YEAR; PUMP BASKETS: 1 YEAR; PLASTIC COMPONENTS: 3 YEARS
FIBROFILTER FIBERGLASS OR PLASTIC **SAND FILTERS**:
VALVE PLASTIC PARTS: 1 YEAR; PRESSURE GAUGE: 3 YEARS; O RINGS AND GASKETS: 1 YEAR; FIBERGLASS TANK: 10 YEARS PRORATED*
HEATERS:
Please see specific warranty sheet included with the pool heater
AUTOMATIC POOL CLEANERS:
BODY: 1 YEAR; HOSES: 1 YEAR
MAINTENANCE EQUIPMENT:
VACUUM HEADS, HOSES, BRUHES, CHLORINATORS SKIMMERS, and THERMOMETERS: 1 YEAR

WARRANTY COVERAGE BEGINS ON THE DATE OF INSTALLATION IF INSTALLED BY A LICENSED/ COMPETENT POOL PROFESSIONAL. IF INSTALLED BY THE END USER, THE WARRANTY COVERAGE BEGINS ON THE DATE OF RETAIL PURCHASE. PROOF OF PURCHASE REQUIRED.
PRORATED WARRANTIES:

- 10 YEAR: DECREASES BY 10% EACH YEAR (IE. SECONDE YAER COVERAGE IS 90%)
- 3 YEAR: DECREASES BY: 1/3 EACH YEAR (IE. SECOND YEAR COVERAGE IS: 2/3)
- ABOVE MENTIONED WARRANTIES RELATE ONLY TO THE ORIGINAL PURCHASER/ HOME OWNER.
- FIBROPOOL, LLC SHALL HAVE THE OPTION TO REPAIR OR REPLACE THE DEFECTIVE PRODUCT UPON INSPECTION.
- PURCHASER MUST PAY ALL THE SHIPPING CHARGES TO THE NEAREST AUTHORIZED DEALER/ WARRANTY CENTER.
- FIBROPOOL LLC WILL NOT BE HELD RESPONSIBLE FOR ANY CONSEQUENTAL, INCIDENTAL OR CONTINGENT DAMAGES
- WHATSOEVER.
- Some states do not allow the exclusion of incidental and consequential damages on how long an implied warranty lasts, so the above limitations or exclusions may not apply to you. This warranty gives you specific rights and you may also have other rights, which vary, from state to state.

PLEASE RETAIN THE UPPER PORTION OF THIS SHEET AND MAIL THE BOTTOM PART TO:
FIBROPOOL CO. LLC. 408 Saint John St. ; Bay Saint Louis; Ms 39520 Ph: 1-877 342 7676

First Name | M.I | Last Name

Address

City/ Town | State | Zip code

E-Mail address

@

Telephone(Incl. Country, Area Codes)

Item Purchased | Serial #If any

Date of Purchase | Place of Purchase/Dealer