

### FPH Pool Heater Components List

\*Note\* The standard system is designed for straight AC, not for heat pumps. A FPH system kit includes the following:

1. (1) Titanium Heat Exchanger sized for your system
2. (1) FPH Wall Mount Control Unit  
NEMA 3R outdoor enclosure w/digital temperature controls
3. (1) AC sensor relay
4. (1) PT100 temperature sensor (for pool temperature)
5. (1) 4 Port FPH Heat Recovery Valve
6. Pump out line restrictor
7. Not included:
  - (2) Check valves supplied by AC technician, size depending on AC specs (~ \$25 each)
  - (1) Normally-closed pilot solenoid and coil, supplied by AC technician, (~ \$75) Ref. Sporlan E3S130
  - (1) Fan relay (~\$20) (Ref. RIB2401D)
  - (1) Wiring to connect controls to pool temperature sensor
  - (1) Wiring to connect controls to AC unit
  - (1) 2" PVC pipe and fittings/adaptor to connect FPH to pool pump (Lowes/Home Depot).
  - (1) Not usually needed - Larger size air cooled condenser units may need a receiver added to water side.
  - (1) Materials such as copper tube, brazing material, electrical tape, PVC glue, wire channel etc.
  - (1) Installation labor for refrigeration connections - estimated 6-7 hours for AC work, plus 1 to 1.5 hours for controls & power connections. AC-side installation must be made by a licensed HVAC technician after review of the system to make sure it is currently in proper working order and suitable for FPH installation.
  - \* Larger sized pool pumps will require an external contactor (est. cost \$60). If the existing compressor does not already include an over-head pressure switch, one will need to be added.
  - \* Variable speed pumps will need a relay for accepting external control signal, 24vac, ordered from your pump company if not already built-in to the pump controller.
  - \* Installer should perform volume calculation per installation manual. Systems with volume mismatch may require a receiver, not included.
  - \* If customer system does not have a thermostatic expansion valve, this should be added by the installer.
  - \*\*For salt or chlorine pools. Estimated installation times are for a normal installation and do not anticipate unusual conditions or problems. We don't try to estimate costs for PVC pool piping connection because every installation is different, can be as low as \$50 parts with labor provided by homeowner. The system is designed for a 220V standard pump. If you have a 120V pump or a variable speed pump you must let us know when you order the system. Shipping: FHP2, FPH3, FPH5 can ship UPS.

AC Unit Size	Model	Min. GPM	Max BTU/h	Water Ports	Ti Coil In. <sup>3</sup>	Ref. In/Out	H	W
1.5 to 2 Tons	FPH2	25	30000	1.5"	83	1/2-3/8	23"	7"
2.5 to 3.5 Tons	FPH3	33	52500	1.5"	121	5/8-1/2	25"	8"
4 to 5 Tons	FPH5	45	75000	1.5"	234	5/8-1/2	29"	8"

### Options:

Dual Condenser FPH System – special controller to handle two condensers, includes a second heat recovery valve and second titanium heat exchanger. Call to discuss this application and pricing. Dual systems are only needed with oversized pool or small AC units.