

POOL & SPA HEATERS

coates

E X P O R T

POOL/COMMERCIAL SPA HEATERS

With Exclusive Built-In Flow Switch

These medium capacity pool and spa heaters feature a built-in flow switch to prevent operation when there is no water flow and allow operation at flow rates between 20GPM and 80GPM.

STANDARD FEATURES:

- ▲ Stainless steel tank
- ▲ Incoloy heating elements

- ▲ Close differential thermostat
- ▲ Manual reset hi-limit
- ▲ Flow switch
- ▲ Element & flow switch "on" lights
- ▲ Piping connections:
CE/CPH – 1-1/2 in.
PHS – 2 in.



DIMENSIONS

CE: 18" L x 10"W x 11"H (45 lbs.)
CPH: 26"L x 15"W x 12"H (68 lbs.)
PHS: 28"L x 16"W x 15"H (100 lbs.)

220V THREE PHASE

KW	MODEL NUMBER	AMPS
12	32212CE-E	31
15	32215CE-E	39
18	32218CE-E	47
24	32224CPH-E	63
30	32230CPH-E	79

380V THREE PHASE

KW	MODEL NUMBER	AMPS
12	33812CE-E	18
15	33815CE-E	23
18	33818CE-E	27
24	33824CPH-E	36
30	33830CPH-E	46

415 V THREE PHASE

KW	MODEL NUMBER	AMPS
12	34112CE-E	17
15	34115CE-E	21
18	34118CE-E	25
24	34124CPH-E	33
30	34130CPH-E	42

KW	MODEL NUMBER	AMPS
36	32236PHS-E	94
45	32245PHS-E	118
54	32254PHS-E	142
57	32257PHS-E	150
60	32260PHS-E	157
72	32272PHS-E	189

KW	MODEL NUMBER	AMPS
36	33836PHS-E	55
45	33845PHS-E	68
54	33854PHS-E	82
57	33857PHS-E	87
60	33860PHS-E	91
72	33872PHS-E	109

KW	MODEL NUMBER	AMPS
36	34136PHS-E	50
45	34145PHS-E	63
54	34154PHS-E	75
57	34157PHS-E	79
60	34160PHS-E	83
72	34172PHS-E	100

COMPACT ELECTRIC SPA HEATERS

With Exclusive Built-In Flow Switch

The built-in flow switch prevents operation when there is no water flow and allows operation at flow rates between 20GPM and 80GPM. The stainless steel tank is designed to optimize heat transfer by directing the water flow over the incoloy elements efficiently.

STANDARD FEATURES:

- ▲ Incoloy heating element
- ▲ Close differential thermostat
- ▲ Manual reset hi-limit
- ▲ Built-in flow switch
- ▲ Heavy duty contactor
- ▲ Element & flow switch "on" lights
- ▲ 1-1/2 x 2 inch union connections for PVC pipe



MODEL NUMBER	KW	VOLTAGE	PHASE	AMPS	BTUs PER HOUR	SHIPPING WEIGHT
12406ST	5.5	240	1	23	18,766	17 lbs.
12411ST	11.0	240	1	46	37,530	18 lbs.

DIMENSIONS (inches): 17-1/2L x 4W x 14-1/2H

COMMERCIAL POOL ELECTRIC HEATERS

Designed for high capacity commercial pool installations, Coates heaters incorporate design features that increase service life, dependability and provide ease of servicing. Corrosion resistant all stainless steel tank surfaces and low watt density incoloy elements mounted on four-bolt stainless steel flanges provide long, trouble-free service life.

All electrical components are located at the heater top under the conveniently hinged cover for easy access. Terminal blocks are provided for simplified power supply wiring.



PHS-20

STANDARD FEATURES:

- ▲ Stainless steel tank
- ▲ 50psi design pressure
- ▲ Flanged heating elements
- ▲ Adjustable temperature control
- ▲ Manual reset hi-limit
- ▲ 120V control circuit
- ▲ Lighted "on/off" switch
- ▲ Heater status lights
- ▲ Pressure/temperature guage*
- ▲ Pressure relief valve*
- ▲ Flow switch*

* installation required

MODEL NUMBER	KW	FLOW RATE		THREE PHASE AMPERAGE							
		MIN. GPM	MAX. GPM	208V	220V	240V	346V	380V	415V	480V	600V
PHS-8	90	60	175	250	235	216	150	137	125	108	86
	105	75	175	241	275	252	175	160	146	126	101
	120	75	175	232	314	288	200	182	167	144	115
	144	75	175	400	378	346	240	218	200	174	140
PHS-20	180	100	175	CONSULT FACTORY FOR AVAILABILITY				274	250	217	173
	210	100	175					319	292	253	202
	240	125	175					365	334	289	230
	270	125	175					410	375	325	260
	300	125	175					456	417	361	288

DIMENSIONS (inches):

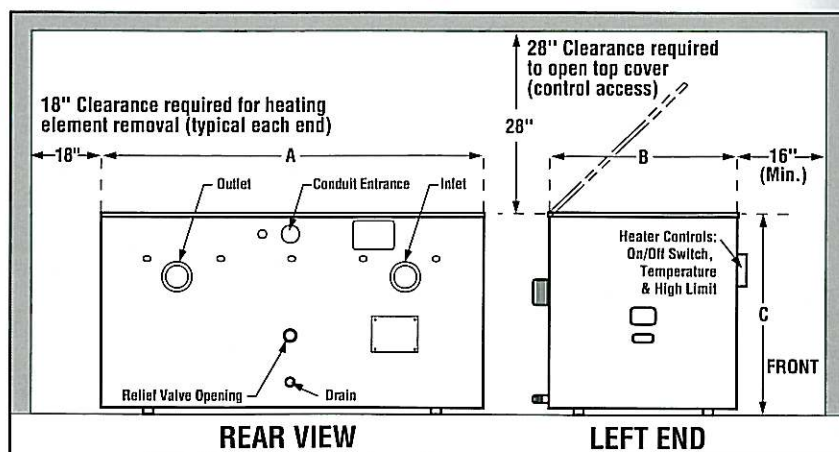
MODEL	A	B	C	APPROX. SHIPPING WT.
PHS-8	50	18	22	300 lbs.
PHS-20	54	26	28	550 lbs.

PIPING SIZES: (PHS-8 & PHS-20)

Inlet/Outlet 3 in.
 Drain 1/2 in.
 Relief Valve 3/4 in.

DESIGN PRESSURE:

PHS-8 & PHS-20 50 psi



SIZING GUIDES

Spa Heater

SPA WATER VOLUME – when the rate of recovery and the spa heat-up time are important, or when the spa is used infrequently, determine the proper heater size with the following calculations:

- ▲ Capacity of spa in gallons = Length x width x average depth x 7.5 (gal./cu. ft.)
OR Surface area x average depth x 7.5 (gal./cu. ft.)
- ▲ Desired temperature rise per hour: °F
- ▲ KW required = $\frac{\text{Gallon capacity} \times 8.3 \text{ (lbs./gal.)} \times \text{temperature rise in } ^\circ\text{F/hr}}{3413}$

**HEATING CAPACITY
IN GALLONS
PER HOUR
(GPH)**

HEATER KW	WATER TEMPERATURE RISE IN °F/HOUR				
	5 °	10 °	15 °	20 °	25 °
1.44	118gph	59 gph	39 gph	—	—
5.75	472 gph	236 gph	157 gph	118 gph	95 gph
11.0	902 gph	451 gph	301 gph	226 gph	189 gph

Pool Heater

POOL SURFACE AREA – when the pool is in frequent use, a heater to make up pool heat losses may be all that is needed. Use the following calculations to properly size the heater:

- ▲ Surface area of the pool (sq. ft.) = Length x width
- ▲ Desired pool temperature: °F
- ▲ Average outdoor air temperature (during months pool is in use):
Available from Weather Bureau.
- ▲ Temperature differential = The difference between air and pool temperatures during the coldest month the pool is to be used. (Desired pool temp. – Average air temp.)
- ▲ KW required = $\frac{\text{Pool surface area (sq. ft.)} \times \text{temperature differential (} ^\circ\text{F)} \times 12^*}{3413}$

* Assumes a heat loss of 12 BTU/hour per square foot per °F of temperature difference between pool and air.
1 KW = 3,413 BTU/hour.

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