

coates



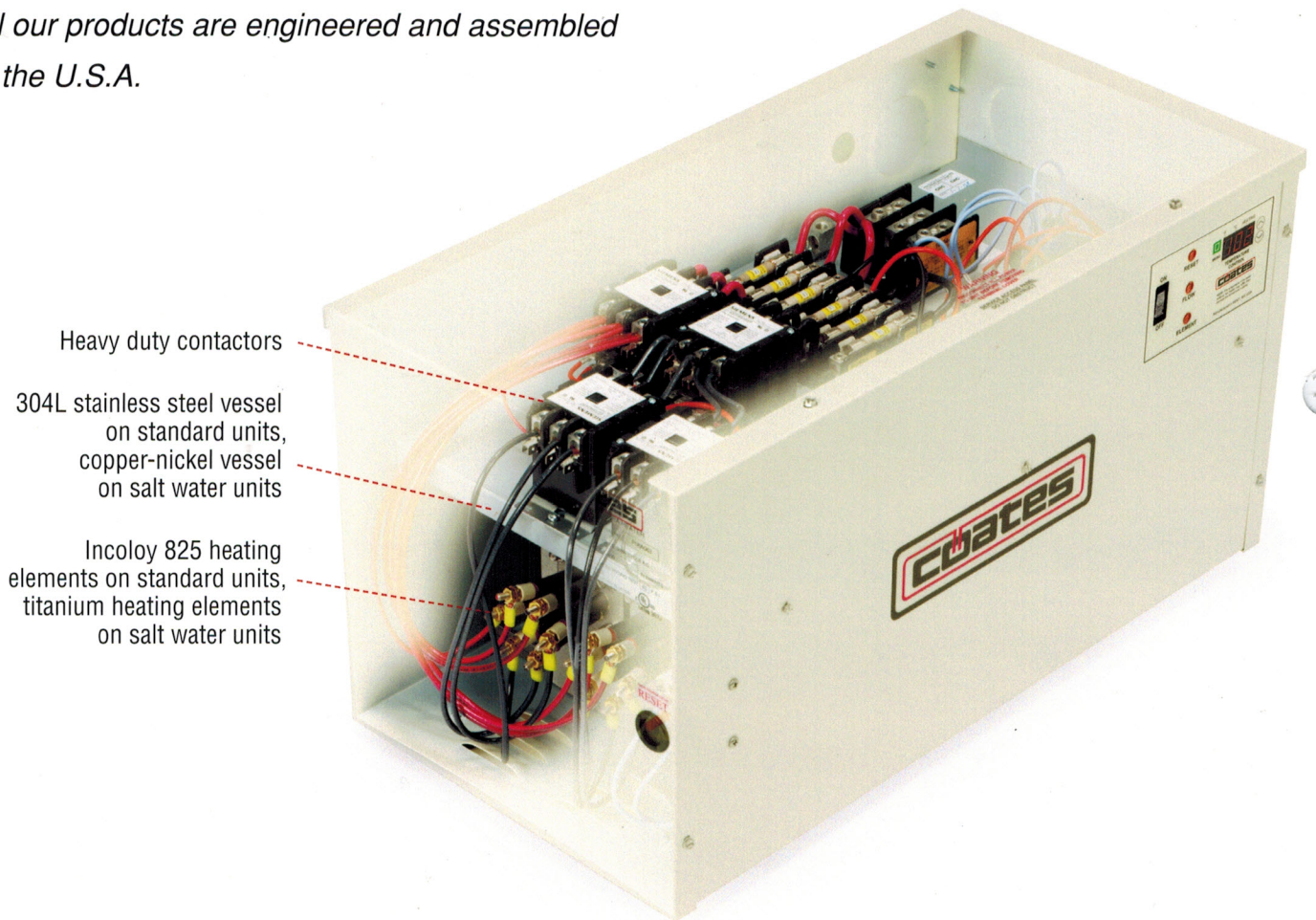
Pool & Spa Heaters

PROUDLY MADE IN THE U.S.A. SINCE 1955

QUALITY AND RELIABILITY: A COATES COMMITMENT SINCE 1955

Since we built our first pool heater in 1955, Coates has been the name to trust for quality and reliability in water heating equipment. Today, the Coates Heater Company manufactures the largest, most complete selection of electric heaters for pools and spas. All Coates models, from our largest capacity 300kW commercial pool heater to the smallest 1.5kW in-line spa heater, blend the latest technology, the finest materials and innovative engineering to provide the kind of quality and reliability you've come to expect from Coates.

All our products are engineered and assembled in the U.S.A.



SIZING

SIZING GUIDES

Electric pool and spa heaters are rated in kW. The higher the kW rating of the heater, the more heat (BTU's) it will be able to produce. To determine the amount of kW you will need to heat your spa or pool, you can use one of the following formulas.

TEMPERATURE RISE METHOD:

For use when a rapid change in temperature is important. This method is most commonly used for spas.

$$\begin{aligned} V &= \text{Volume of pool/spa in gallons} \\ &= \text{Length} \times \text{Width} \times \text{Depth} \times 7.5 \end{aligned}$$

kW = Kilowatt rating of heater

ΔT = Temperature rise in °F/hour

Do you want to know the kilowatt required to achieve a desired temperature rise?

$$kW = \frac{V \times 8.3 \times \Delta T^*}{3413}$$

Do you want to know the temperature rise a kilowatt rating will achieve?

$$\Delta T = \frac{KW \times 411^*}{V}$$

**Assumes spa is covered when not in use. Formula does not account for heat loss — actual heat-up times may vary.*

HEAT LOSS METHOD:

For use when maintaining desired water temperature. This method is most commonly used for pools.

$$\begin{aligned} A &= \text{Surface area of pool/spa (ft}^2\text{)} \\ &= \text{Length} \times \text{Width} \end{aligned}$$

T_{diff} = Difference between average air temp and desired water temp (°F).

kW = Kilowatt rating of heater

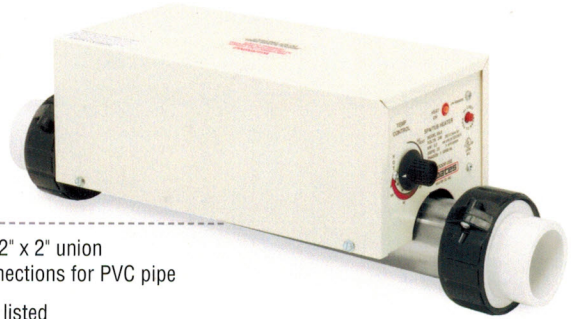
$$kW = \frac{A \times T_{diff} \times 10^{**}}{3413}$$



***Assumes a heat loss of 10 BTU/hour per ft² per °F. Assumes a 3-1/2 mph maximum wind and partial sun exposure. 1kw= 3,413 BTU/hour*

IN-LINE ELECTRIC SPA HEATERS

Compact and efficient, Coates in-line spa heaters feature 316 stainless steel tanks and replaceable titanium elements.



STANDARD FEATURES:

- > Replaceable titanium element
- > Stainless steel tank
- > Contactors (Mod. 6ILS)
- > Pressure switch
- > Close differential thermostat
- > Control box with powder coat finish
- > Manual reset high temp limit
- > Element "on" light
- > 1-1/2" x 2" union connections for PVC pipe
- > U.L. listed

CONTROL BOX DIMENSIONS

1.5ILS: 12" L x 5-1/2" W x 5-1/2" H (9 lbs.)

6ILS: 12" L x 5-1/2" W x 5-1/2" H (10 lbs.)

OVERALL LENGTH: 19-1/2"

WITHOUT UNIONS: 15"

MODEL NUMBER	KW	VOLTAGE	PHASE	AMPS	BTU'S P/H	SHIPPING WT.
1.5ILS	1.5	120	1	12	5,120	9 lbs.
6ILS	5.5	240	1	23	18,772	10 lbs.



5.5kW - 11kW HEATERS

The built-in flow switch prevents operation when there is no water flow and allows operation at flow rates between 15GPM 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 elements
- > Digital thermostat
- > Manual reset high temp limit
- > Flow switch
- > Heavy duty contactors
- > Element & flow "on" lights
- > Piping connections: 1-1/2" x 2" union connections for PVC pipe

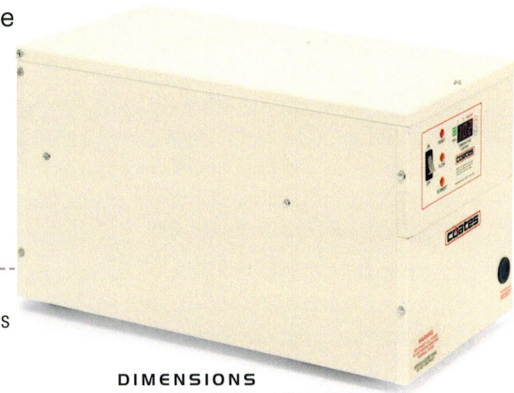
DIMENSIONS
17-1/2" L x 4" W x 14" H

MODEL NUMBER	KW	VOLTAGE	PHASE	AMPS	BTU'S P/H	SHIPPING WT.
12406ST	5.5	240	1	23	18,772	19 lbs.
12411ST	11.0	240	1	46	37,543	19 lbs.



ELECTRIC HEATERS FOR POOLS AND SPAS

These pool and spa heaters feature a flow switch to prevent operation when there is no water flow. An all stainless steel tank for long life and corrosion resistance is also standard. Available in single phase and three phase configurations.



DIMENSIONS
CE: 19" L x 10" W x 11" H (47 lbs.)
Min. Flow Rate: 20 GPM
Max Flow Rate: 80 GPM

CE 12kW – 18kW HEATERS

STANDARD FEATURES:

- > Incoloy heating elements
- > Digital thermostat
- > Manual reset high temp limit
- > Flow switch
- > 1-1/2" male NPT connections
- > Stainless steel tank
- > Heavy duty contactors
- > Element, flow and high temp "on" lights
- > Element fusing on units rated over 48 amps

240v SINGLE PHASE

KW	MODEL NUMBER	AMPS
12	12412CE	50
15	12415CE	63
18	12418CE	75

208v THREE PHASE

KW	MODEL NUMBER	AMPS
12	32012CE	34
15	32015CE	42
18	32018CE	50

480v THREE PHASE

KW	MODEL NUMBER	AMPS
12	34812CE	15
15	34815CE	19
18	34818CE	22

600v THREE PHASE

KW	MODEL NUMBER	AMPS
12	36012CE	12
15	36015CE	15
18	36018CE	18

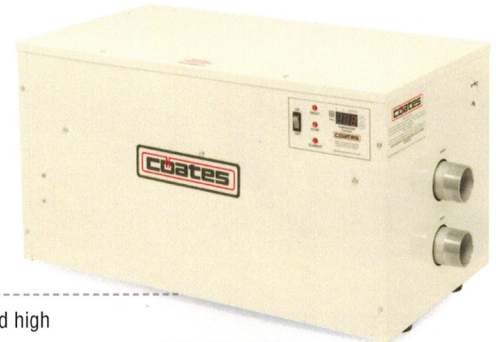
NOTE: Heaters also available in 220v, 380v, and 415v.
 Please see export brochure for details.



CPH 24kW – 30kW HEATERS PHS 36kW – 57kW HEATERS

STANDARD FEATURES:

- > Incoloy heating elements
- > Digital thermostat
- > Manual reset high temp limit
- > Flow switch
- > 2" male NPT connections PHS
- > 1-1/2" male NPT connections CPH
- > Stainless steel tank
- > Heavy duty contactors
- > Element, flow and high temp "on" lights
- > Element fusing on units rated over 48 amps



DIMENSIONS
CPH: 24" L x 12" W x 13" H (68 lbs.)
PHS: 28" L x 15" W x 15" H (100 lbs.)
Min. Flow Rate: 20 GPM
Max Flow Rate: 80 GPM

240v SINGLE PHASE

KW	MODEL NUMBER	AMPS
24	12424CPH	100
30	12430CPH	125
36	12436PHS-3	150
45	12445PHS	188
54	12454PHS-4	225
57	12457PHS	238

208v THREE PHASE

KW	MODEL NUMBER	AMPS
24	32024CPH	67
30	32030CPH	84
36	32036PHS-3	100
45	32045PHS	125
54	32054PHS-4	150
57	32057PHS	158

480v THREE PHASE

KW	MODEL NUMBER	AMPS
24	34824CPH	29
30	34830CPH	37
36	34836PHS-3	44
45	34845PHS	55
54	34854PHS-4	65
57	34857PHS	69

600v THREE PHASE

KW	MODEL NUMBER	AMPS
24	36024CPH	24
30	36030CPH	29
36	36036PHS-3	35
45	36045PHS	44
54	36054PHS-4	52
57	36057PHS	55

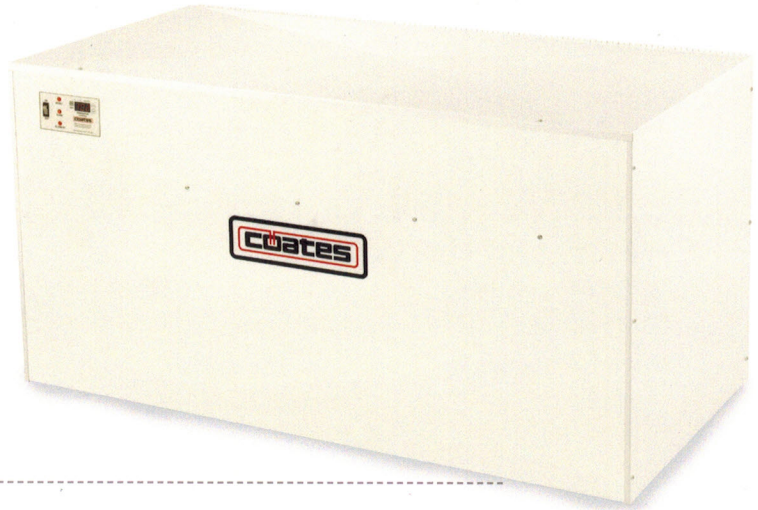
NOTE: Heaters also available in 220v, 380v, and 415v.
 Please see export brochure for details.



180kW – 300kW 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 easily accessible under the conveniently hinged cover. Terminal blocks are provided for simplified power supply wiring.



PHS-20
THREE PHASE

STANDARD FEATURES:

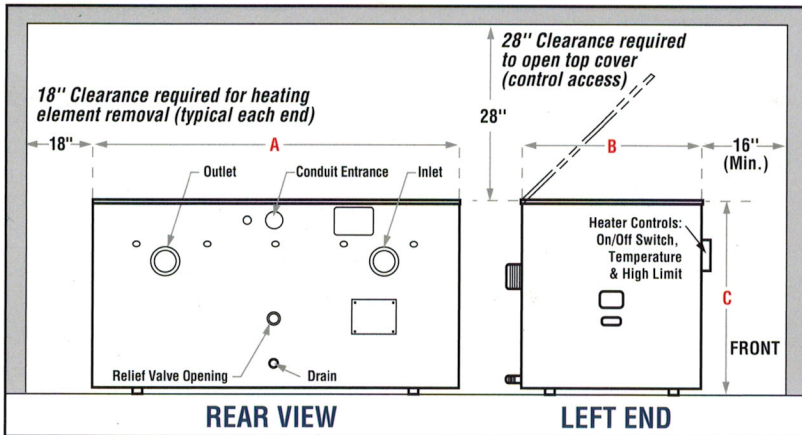
- > Stainless steel tank
- > 35psi design pressure – ASME "U" stamp
- > Incoloy heating elements
- > Digital thermostat
- > Manual reset high temp limit
- > Lighted "on/off" switch
- > Element, flow and high temp "on" lights
- > Pressure relief valve*
- > Flow switch*
- > U.L. listed for indoor installation

* Installation required

MODEL NUMBER	FLOW RATE			THREE PHASE AMPERAGE							
	KW	MIN. GPM	MAX. GPM	208V	220V	240V	346V	380V	415V	480V	600V
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



CANADIAN
REGISTRATION



PIPING SIZES: (PHS-20)

- Inlet/Outlet 3"
- Drain 1/2"
- Relief Valve 3/4"

DESIGN PRESSURE:

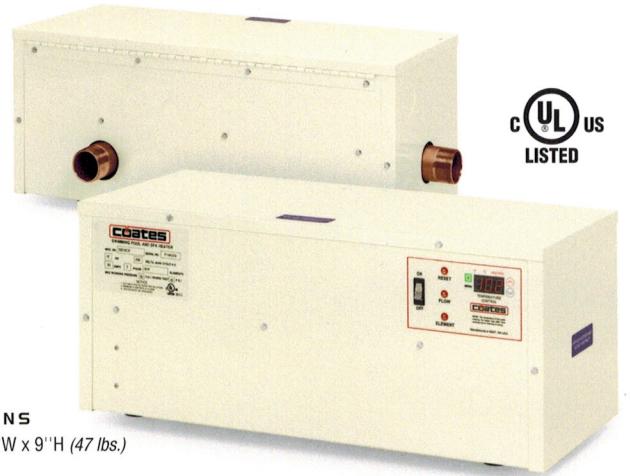
PHS-20 35 PSI

DIMENSIONS (INCHES):

MODEL NUMBER	A	B	C	SHIP WT.
PHS-20	54	26	28	450 lbs.

ELECTRIC HEATERS FOR SALT WATER POOLS AND SPAS

Pools and spas that use salt water chlorine generators as their sanitizing system need a heater that offers increased corrosion resistance. The Coates TR and PHS-CN heaters are designed specifically for use in pools and spas with a maximum salt concentration of 3,500ppm.



TR 12kW-18kW HEATERS

DIMENSIONS
TR: 24" L x 9" W x 9" H (47 lbs.)

240v SINGLE PHASE

KW	MODEL NUMBER	AMPS
12	12412TR	50
15	12415TR	63
18	12418TR	75

208v THREE PHASE

KW	MODEL NUMBER	AMPS
12	32012TR	34
15	32015TR	42
18	32018TR	50

480v THREE PHASE

KW	MODEL NUMBER	AMPS
12	34812TR	15
15	34815TR	19
18	34818TR	22

600v THREE PHASE

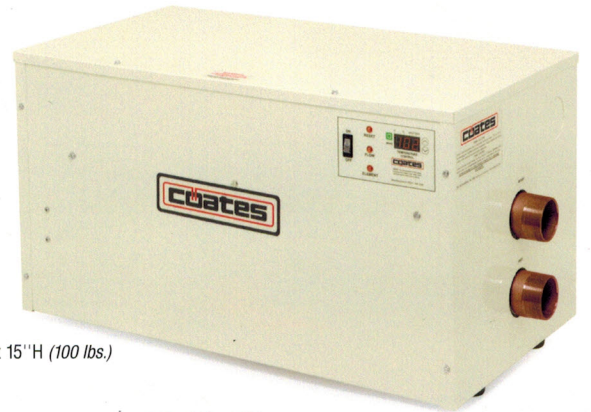
KW	MODEL NUMBER	AMPS
12	36012TR	12
15	36015TR	15
18	36018TR	18

TR/PHS-CN STANDARD FEATURES:

- > Titanium heating elements
- > Copper-Nickel tank
- > Digital thermostat
- > Flow switch
- > TR: 1-1/2" male NPT connections
- > PHS-CN: 2" male NPT connections
- > Manual reset high temp limit
- > Heavy duty contactors
- > Element, flow and high temp "on" lights
- > Element fusing on units rated over 48 amps

PHS-CN 24kW-57kW HEATERS

DIMENSIONS
PHS: 28" L x 15" W x 15" H (100 lbs.)



240v SINGLE PHASE

KW	MODEL NUMBER	AMPS
24	12424PHS-CN	100
30	12430PHS-CN	125
36	12436PHS-CN	150
45	12445PHS-CN	188
54	12454PHS-CN	225
57	12457PHS-CN	238

208v THREE PHASE

KW	MODEL NUMBER	AMPS
24	32024PHS-CN	67
30	32030PHS-CN	84
36	32036PHS-CN	100
45	32045PHS-CN	125
54	32054PHS-CN	150
57	32057PHS-CN	158

480v THREE PHASE

KW	MODEL NUMBER	AMPS
24	34824PHS-CN	29
30	34830PHS-CN	37
36	34836PHS-CN	44
45	34845PHS-CN	55
54	34854PHS-CN	65
57	34857PHS-CN	69

600v THREE PHASE

KW	MODEL NUMBER	AMPS
24	36024PHS-CN	24
30	36030PHS-CN	29
36	36036PHS-CN	35
45	36045PHS-CN	44
54	36054PHS-CN	52
57	36057PHS-CN	55

NOTE: Heaters also available in 220v, 380v, and 415v. Please see export brochure for details.





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www.CoatesHeater.com