



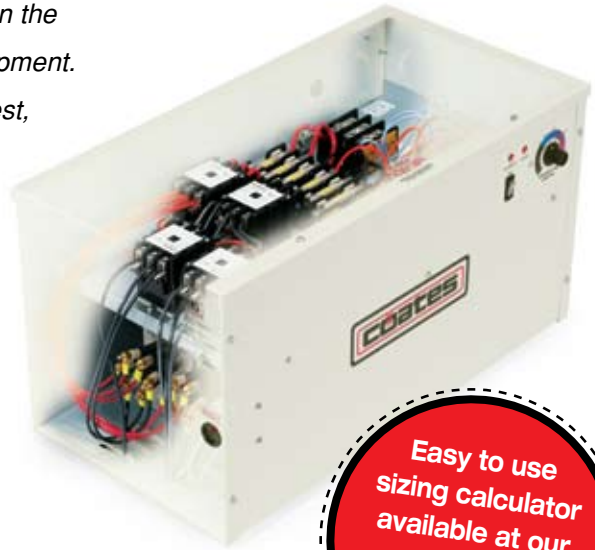
Pool & Spa Heaters

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.



Easy to use
sizing calculator
available at our
website. Visit
www.CoatesHeater.com

SIZING GUIDES

There are two ways to size a pool/spa. Either by the heat loss, which is used for maintaining the temperature, or the temperature rise, which is used when heat up time is a factor.

TEMPERATURE RISE METHOD:

For use when a rapid change in temperature is important.
(common for spas)

V = Volume of pool/spa in gallons
= Length x Width x Depth x 7.5

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 water temperature.
(common for pools)

A = Surface area of pool/spa (ft²)
= Length x Width

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

IN-LINE ELECTRIC SPA HEATERS

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



STANDARD FEATURES:

- > Replaceable incoloy 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 inch 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

5.5kw - 11kw HEATERS

The built-in pressure 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
- > Close differential thermostat
- > Manual reset high temp limit
- > Pressure 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	17 lbs.
12411ST	11.0	240	1	46	37,543	18 lbs.



12kw - 24kw HEATERS

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.



STANDARD FEATURES:

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

DIMENSIONS

CE: 19"L x 10"W x 11"H (47 lbs.)
 CPH: 24"L x 12"W x 13"H (68 lbs.)

240v SINGLE PHASE

KW	MODEL NUMBER	AMPS
12	12412CE	50
15	12415CE	63
18	12418CE	75
24	12424CPH	100
30	12430CPH	125

208v THREE PHASE

KW	MODEL NUMBER	AMPS
12	32012CE	34
15	32015CE	42
18	32018CE	50
24	32024CPH	67
30	32030CPH	84

480v THREE PHASE

KW	MODEL NUMBER	AMPS
12	34812CE	15
15	34815CE	19
18	34818CE	22
24	34824CPH	29
30	34830CPH	37

600v THREE PHASE

KW	MODEL NUMBER	AMPS
12	36012CPH	12
15	36015CPH	15
18	36018CPH	18
24	36024CPH	24
30	36030CPH	29

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



36kw - 57kw HEATERS

Along with the same features as our 12-24kw heaters, our 36-57kw heaters now include a digital thermostat for more precise control of pool water temperature.



STANDARD FEATURES:

- > Incoloy heating elements
- > Digital thermostat
- > Manual reset high temp limit
- > Flow switch
- > 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

DIMENSIONS

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

240v SINGLE PHASE

KW	MODEL NUMBER	AMPS
36	12436PHS-3	150
45	12445PHS	188
54	12454PHS-4	225
57	12457PHS	238

208v THREE PHASE

KW	MODEL NUMBER	AMPS
36	32036PHS-3	100
45	32045PHS	125
54	32054PHS-4	150
57	32057PHS	158

480v THREE PHASE

KW	MODEL NUMBER	AMPS
36	34836PHS-3	44
45	34845PHS	55
54	34854PHS-4	65
57	34857PHS	69

600v THREE PHASE

KW	MODEL NUMBER	AMPS
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

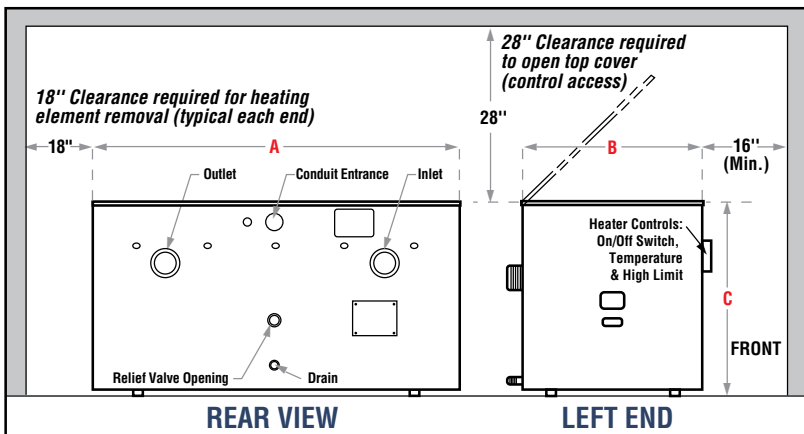
STANDARD FEATURES:

- > Stainless steel tank
- > 35psi design pressure – ASME "U" stamp
- > Incoloy heating elements
- > Close differential thermostat
- > Manual reset high temp limit
- > 120V control circuit
- > Lighted "on/off" switch
- > Element & flow "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.



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