

# Thermalec

## Titanium Electrical Heater

### The Thermalec pool and spa heater range

Built using titanium elements, to the same exact standards traditionally associated with Thermalec® heaters, the THR TITANIUM range fulfils all the required electrical safety standards.



### Size range from 3kW to 168kW

- Unique spiral flow allows efficient heat removal from the elements, minimising the scale and sediment build up.
- Unique design ensures cooler water from the filter pump does not strike the elements directly (giving longer life).
- Air generated from the pump passes harmlessly around the sides of the baffles and across the top of the heater elements (The heat pumps heat both air and water).
- The control thermostat is positioned to sense the temperature of incoming water and controls the pool to within 1°C.
- The safety thermostat senses the water temperature leaving the heater.
- Thermalec® heaters can be used in conjunction with other heating systems to provide year round heating solutions for your pool or spa.
- Each heater is designed with its own simple self diagnostic system.
- Heating elements are always submerged.

### Standards

Thermalec® pool and Spa heaters are CE marked and comply with:

EU Council Directive 89/336/EEC & 93/068/EEC on Electromagnetic compatibility

EU Council Machinery Directive 98/37/EEC

EU Council Low Voltage Directive 2006/95/EEC & 72/23EEC

**Harmonised Standards:** EN55014, EN55104, EN5501, EN5502, CEI801-2, CEI801-3 and EN60335-2-35

### Materials of Construction

**Heater vessel:** Fusion epoxy coated cast iron

**Element holding plate:** uPVC

**Gasket:** Silicone rubber

**Water connections:** uPVC socket

**Heater elements:** Titanium sheath

**Electrical enclosure:** Powder coated steel

### Control and indication

**Water temperature cut-out:** Factory set to trip at water outlet temperature of 52°C. Manual reset on front panel

**Thermostats:** Pressurised liquid filled capillary type

**Pool temperature control:** Analogue dial, calibrated 15°C to 45°C and graduated at 1°C intervals.

**Mains indicator lamps:** Red (mains power is on), Amber (filter pump interlock power present).

**Status indicator lamps:** Red (heater's ON/OFF switch ON), White (safety thermostat trip armed), Amber (pump interlock relay OK), Green (heating elements powered)

### Operating data

**Water inlet/outlet:** Socket for 50mm or 2" NB pipe

**Max. Water temperature:** 52°C heater outlet

**Operating pressure:** 2.0 bar max.

**Ambient temperature:** 40°C max.

**Pool temperature control range:** 15°C to 45°C

**Thermostat operating difference:** 0.5 C°

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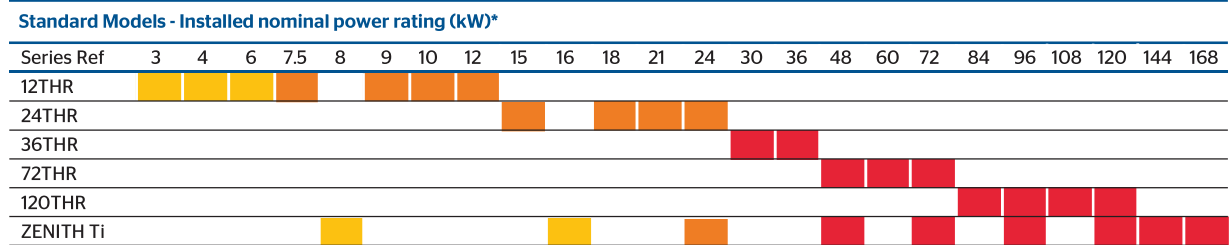
### The Thermalec pool and spa heater range - main features

The heaters in the Thermalec® pool and spa heater range are classified in series according to the body size. There are six series in the range. Each series offers a choice of nominal power rating. The following tables summarise the main features of the range and power ratings available in each series.

Feature	Series Reference					
	12THR	24THR	36THR	72THR	120THR	ZENITH TI
Body in robust fusion epoxy coated cast iron	●	●	●	●	●	●
Elements in corrosion resistant titanium	●	●	●	●	●	●
Suitable for sea / salt-water pools and spas	●	●	●	●	●	●
Pressure: tested to 4 bar, operating 2 bar max.	●	●	●	●	●	●
Safety pressure relief valve(s)	●	●	●	●	●	●
Easy installation - uPVC solvent weld sockets	●	●	●	●	●	●
Easy element replacement	●	●	●	●	●	●
Water drain for winterisation or repair	●	●	●	●	●	●
Removable top plate for easy vessel inspection	●	●	●	●	●	●
Water flow direction easy to reverse	●	●	●	●	●	●
Premium quality electrical components	●	●	●	●	●	●
Heavy duty contactors	●	●	●	●	●	●
Power isolation ON/OFF switch	●					
Power isolation circuit breakers		●	●	●	●	●
Filter pump safety interlock	●	●	●	●	●	●
Fused control circuit protection	●	●	●	●	●	●
Liquid filled capillary control and safety thermostats	●	●	●	●	●	●
Two stage temperature controller				●	●	●
Time delay switch powers elements in 2 stages				●		
Time delay switch powers elements in 3 stages					●	
Time delay switch powers elements in 4 stages						●
At least 6 indicator lamps to monitor operation	●	●	●	●	●	●
Analogue heater outlet water temperature indicator			●	●	●	●
High temperature safety trip with manual reset	●	●	●	●	●	●
Protection in the event of pool filter pump failure	●	●	●	●	●	●
Special design enclosure for spa applications	●					
Enhanced "Deluxe" model available		○	○			
Suitable for fish pond and aquarium use	○	○	○	○	○	○
Special models available for marine, central heating & renewable energy applications	○	○	○	○	○	○
Available for non-standard power supplies	○	○	○	○	○	
CE Mark - compliant with all relevant EU Directives	●	●	●	●	●	●
Two year return-to-base guarantee	●	●	●	●	●	●

● Standard feature      ○ Available as an option

### Power ratings of Thermalec® heater standard models



Single phase power supply only. ■ Single or three phase power supply. ■ Three phase power supply only. ■

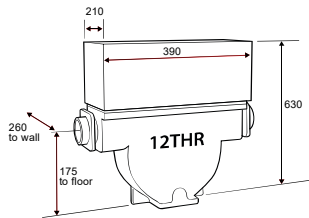
\*based on standard power supply 230V/1 ph/50Hz or 400V/3ph/50Hz



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### 12THR Series (3kW - 12kW)



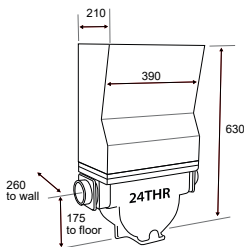
Packed dimensions: 425 x 450 x 190mm

Packed weight: 26kg

Code	Standard Power Supply: 230V/1ph/50Hz or 400V/3ph/50Hz				
	Load (kW)	Current (Amps) 1-ph/3-ph	Elements (no. x nominal kW)	1-phase version	3-phase version
12THR3	3	14/n.a.	1 x 3 kW	Yes	No
12THR4	4	17/n.a.	1 x 4 kW	Yes	No
12THR6	6	27/n.a.	2 x 3 kW	Yes	No
12THR75	75	33/11	3 x 2.5 kW	Yes	Yes
12THR9	9	40/13	3 x 3 kW	Yes	Yes
12THR12	12	53/17	3 x 4 kW	Yes	Yes

	Water Flow Rate Ranges						
	3 kW	4 kW	6 kW	7.5 kW	9 kW	10 kW	12 kW
Max. (hard water) l/min	152	152	152	152	152	152	152
Max. (soft water) l/min	76	76	76	76	76	76	76
Minimum l/min	4.5	6	9	11	14	15	18

### 24THR Series (15kW - 24kW)



Packed dimensions: 730 x 520 x 300mm

Packed weight: 42kg

Code	Standard Power Supply: 400V/3ph/50Hz		
	Load (kW)	Current (Amps)	Elements (no. x nominal kW)
24THR15	15	22	6 x 2.5 kW
24THR18	18	26	6 x 3 kW
24THR21	21	31	3 x 4 kW + 3 x 3 kW
24THR24	24	35	6 x 4 kW

	Water Flow Rate Ranges			
	15 kW	18kW	20kW	24kW
Max. (hard water) l/min	303	303	303	303
Max. (soft water) l/min	152	152	152	152
Minimum l/min	23	27	32	36

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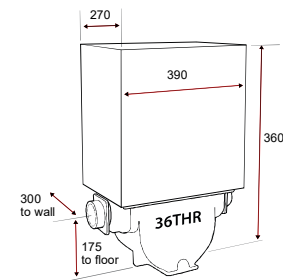
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### 36THR Series (30kW - 36kW)



Code	Standard Power Supply: 400V/3ph/50Hz		
	Load (kW)	Current (Amps)	Elements (no. x nominal kW)
36THR30	30	44	3x4 kW + 6x3 kW
36THR36	36	53	9x4 kW

	Water Flow Rate Ranges	
	30 kW	36 kW
Max. (hard water) l/min	300	300
Max. (soft water) l/min	150	150
Minimum l/min	46	55



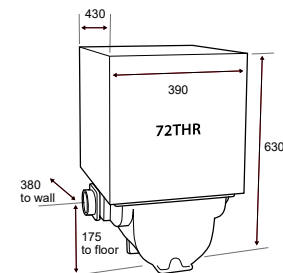
Packed dimensions: 660 x 450 x 330mm  
Packed weight: 52kg

### 72THR Series (48kW - 72kW)



Code	Standard Power Supply: 400V/3ph/50Hz		
	Load kW	Current Amps	Elements (no. x nominal kW)
72THR48	48	73	12x4 kW
72THR60	60	91	15x4 kW
72THR72	72	108	18x4 kW

	Water Flow Rate Ranges		
	48 kW	60 kW	72 kW
Max. (hard water) l/min	300	300	300
Max. (soft water) l/min	150	150	150
Minimum l/min	73	91	109



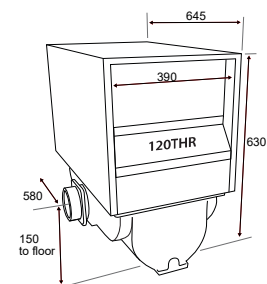
Packed dimensions: 660 x 450 x 470mm  
Packed weight: 81kg

### 120THR Series (84kW - 120kW)



Code	Standard Power Supply: 400V/3ph/50Hz		
	Load (kW)	Current (Amps)	Elements (no. x nominal kW)
120THR84	84	122	21x4 kW
120THR96	96	140	24x4kW
120THR108	108	157	27x4 kW
120THR120	120	174	30x4 kW

	Water Flow Rate Ranges			
	84 kW	96 kW	108 kW	120 kW
Max. (hard water) l/min	700	700	700	700
Max. (soft water) l/min	350	350	350	350
Minimum l/min	127	146	164	182



Packed dimensions: 750 x 580 x 750mm  
Packed weight: 140kg