THERMALEC®
POOL & SPA PRODUCTS

ZENITH
HEATER RANGE

Thermalec® Electric Swimming Pool and Spa Heaters

The Zenith range of swimming pool and spa heaters from Thermalec® expands the heating capacity to 168kW, ideal for larger pool and spa projects.

Built to the same exacting standards, traditionally associated with Thermalec® heaters, the Zenith range fulfils all the required electrical safety standards, with improved performance and greater stability. By utilising Zenith heaters, it allows design engineers to provide solutions with reduced pumps, piping, valves and control gear. It is this simple but effective design capability which can and will reduce the overall costs of pools or spas. Zenith range available in incoloy 825 or Titanium.

Developed features:

- Expanded range: 8, 16, 24, 48, 72, 96, 120, 144 & 168kW
- Uses electronic time delay relays on 48kW and above.
- Simplified design
- Simple & highly effective heat transfer into the water
- Larger sizes allows an installation reduction in pumps, piping, valves and control gear
- Reduce overall cost of projects

Original features:

- Unique spiral flow allows efficient heat removal from the elements, minimising the scale and sediment build up.
- Unique design ensures cooler water from filter pump does not strike the elements direct (giving longer life).
- Air generated from the pump passes harmlessly around the sides of the baffles and across the top of the heater elements (heat pumps heat both air and water).
- The control thermostat is positioned to sense the incoming water temperature 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 always submerged.

ZENITH HEATER RANGE

The Zenith range of heaters is in keeping with its older partner the PHR range of heaters. Each Zenith heater maintains the unique design of Thermalec® heaters with its spiral flow of water through the heater, providing excellent heat transfer from the elements into the water and reducing scaling of the elements. With its baffle and weir system it reduces the amount of cold water coming from the pool striking the elements directly therefore reducing the thermal shock. It is by maintaining the intrinsic design of Thermalec® heaters, which builds the reliability expected in our heaters. By building to the same outer dimensions, it is possible to add the Zenith range of heaters into an existing poolroom. Again this will enable you to reduce the cost of pool and spa refurbishments.

The Zenith range of heaters has been developed by Thermalec® engineers in the UK due to the increased demand from existing pool builders and distributors who know and rely on Thermalec® for their quality customers. The ever increasing demand from commercial developer to lower costs has provided the challenge to the Thermalec® engineers to provide solutions to this ever increasing situation.

MODEL REF:	HEATER SIZE:	METRIC					
		24˚C		27˚C		30˚C	
		M^2	M^3	M^2	M^3	M^2	M^3
ZHR 8	8kW	16	22	13	18	30	30
ZHR 16	16kW	32	44	26	36	21	29
ZHR 24	24kW	48	66	38	53	31	42
ZHR 48	48kW	96	132	77	105	62	85
ZHR 72	72kW	144	197	115	158	93	127
ZHR 96	96kW	192	263	154	210	124	170
ZHR 120	120kW	240	329	192	263	155	212
ZHR 144	144kW	288	396	230	311	180	256
ZHR 168	168kW	336	461	268	363	217	299

The sizing chart is for the South of England, running from the beginning of May until the end of September - based on a 7hr heating period per 24 hours with floating solar cover.

HEATER POWER CALCULATIONS FOR POOLS IN THE MIDDLE EAST

These calculations are intended to help select the correct size of heater to be fitted into a pool installation, based upon the volume of the pool and its environment.

Design assumptions (based upon 40 years experience):

1. Pool heater is running twenty-four hours per day.
2. In a twenty-four hour period an unheated swimming pool will experience a temperature drop of less than 8°F (4.4°C).
3. One KW of heater power for every 1000 gallons of volume will result in a temperature rise of 8°F (4.4°C). This is assuming no thermal losses.
4. Theoretical heater power should be multiplied by the following factors to calculate the actual size of Thermalec® heater required.

Indoor pool temperature greater than air temperature	1.25
Indoor pool temperature less than air temperature	0.75
Outdoor pool without cover	1.50
Outdoor pool in exposed environment	1.30
Any pool less than 1 metre deep	1.50

Conversions

Gallons to Litres: multiply by 4.55
Litres to gallons: multiply by 0.22
Metre ^{3} to gallons: multiply by 220
Feet ^{3} to gallons: multiply by 6.23

Worked Example

For an indoor pool of volume of 600m3 where the air temperature is less than the pool temperature, calculation is as follows:

- Gallons = 600m^3 x 220 = 132,000
- Allowing 1kW per 1000 gallons the theoretical heater power would be 132kW
- Multiply by 1.25 to allow for temperature differential = 165kW
- Nearest Thermalec heater is Zenith 168kW – therefore only 1 heater required thus saving cost on pumps, piping, valves and control gear

Meddings Thermalec Ltd.
Kingsley Close, East Way, Lee Mill Industrial Estate, Ivybridge, Devon PL21 9LL United Kingdom
Telephone +44 (0) 1752 313343 Fax +44 (0) 1752 313353 E-mail info@thermalec.co.uk Web www.thermalec.co.uk

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