# **Product Guide**

# Ceramic elements

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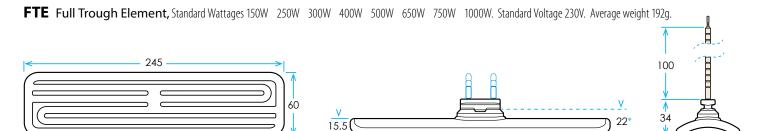




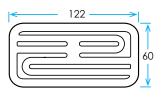
#### **CERAMIC TROUGH ELEMENTS**

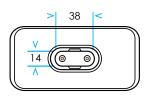
Useful wavelength range 2 to 10µm

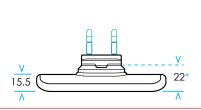
(FTE/HTE/QTE) are industry standard curved ceramic infrared heaters used in a wide range of industrial, commercial and domestic applications. These solid cast elements consist of a high temperature FeCrAL resistance alloy embedded in a specially formulated ceramic body allowing operating temperatures up to 750°C and a maximum power of 1000W (FTE Model Only).

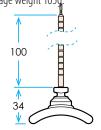


HTE Half Trough Element, Standard Wattages 125W 150W 200W 250W 325W 400W 500W. Standard Voltage 230V. Average weight 105g.

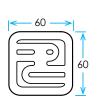


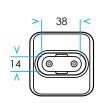


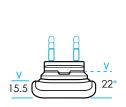


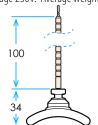


**QTE** Quarter Trough Element, Standard Wattages 125W 250W. Standard Voltage 230V. Average weight 65g.





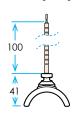




#### **QCE** Quarter Curved Element

Standard Wattages 150W 250W. Standard Voltage 230V. Average weight 70g

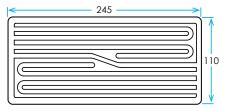


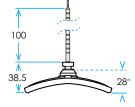


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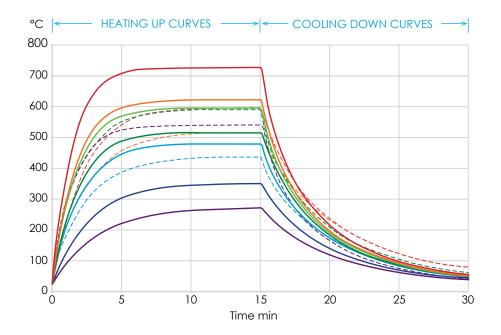
#### **LFTE** Large Full Trough element,

Standard Wattages 1000W 1500W. Standard Voltage 230V. Average weight 356g





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Heating up cooling down curves based on FTE tests of average surface temperature with an infrared thermometer set at an emissivity of 0.9 (element mounted in an aluminised steel reflector, RAS)

	FTE	HTE	QTE	
_	1000W	500W	250W	LFTE 1500
_	750W			LFTE 1000\
_	650W	325W		
_	500W	250W	125W	QCE 250W
_	400W	200W		QCE 150W
_	250W	125W		
_	150W			FTEL-LN 100

Wattage	150W	250W	300W	400W	500W	650W	750W	1000W
Mean surface temperature	272 °C	351 °C	405 °C	480 °C	515 °C	596 °C	624 °C	726°C
Max power density	$9\text{kW/m}^{\scriptscriptstyle 2}$	15 kW/m <sup>2</sup>	18 kW/m <sup>2</sup>	24 kW/m <sup>2</sup>	30 kW/m <sup>2</sup>	39 kW/m²	45 kW/m <sup>2</sup>	60 kW/m <sup>2</sup>
Radiant Watt density at 100mm	0.10 W/cm <sup>2</sup>		0.26 W/cm <sup>2</sup>		0.48 W/cm <sup>2</sup>	0.69 W/cm <sup>2</sup>		1.14 W/cm <sup>2</sup>



Based on tests of average surface temperature with an infrared thermometer set at an emissivity of 0.95 (element mounted in an aluminised steel reflector, RAS)

Wattage	125W	150W	200W	250W	325W	500W
Mean surface temperature	351 °C	405 °C	480 °C	515 °C	596°C	726 <i>°</i> C
Max power density	15 kW/m <sup>2</sup>	18 kW/m²	24 kW/m <sup>2</sup>	30 kW/m <sup>2</sup>	39 kW/m²	60 kW/m <sup>2</sup>
Radiant Watt density at 100mm		0.26 W/cm <sup>2</sup>			0.69 W/cm <sup>2</sup>	1.14 W/cm <sup>2</sup>



Based on tests of average surface temperature with an infrared thermometer set at an emissivity of 0.95 (element mounted in an aluminised steel reflector, RAS)

250W	125W	Wattage
726 °C	515 °C	Mean surface temperature
60 kW/m <sup>2</sup>	30 kW/m <sup>2</sup>	Max power density
1.14 W/cm <sup>2</sup>		Radiant Watt density at 100mm



Based on tests of average surface temperature with an infrared thermometer set at an emissivity of 0.95 (element mounted in an aluminised steel reflector, RAS)

#### FTEL-LN Full Trough Element Long - Long Neck,

Standard Wattage 1000W. Standard Voltage 230V.

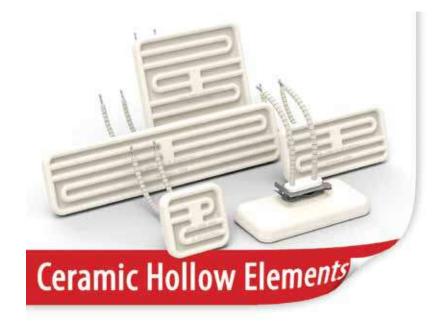








All dimensions mm Tolerances apply

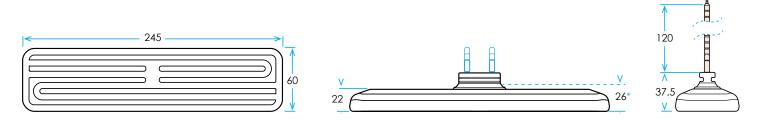


#### **CERAMIC HOLLOW ELEMENTS**

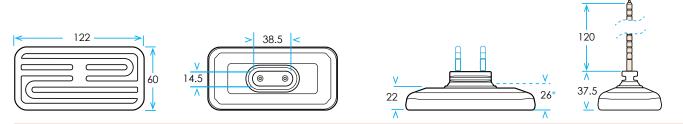
Useful wavelength range 2 to 10µm

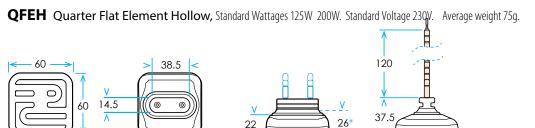
Ceramic Hollow Elements (SFEH, FFEH, HFEH, QFEH) are industry standard ceramic emitters used in a wide range of industrial, commercial and domestic applications. The hollow constructed ceramic element has the advantage of having a shorter heat up time combined with increased energy efficiency. These hollow constructed products consist of a high temperature FeCrAl resistance alloy embedded in a specially formulated light weight hollow cast ceramic body which is subsequently filled with a high density insulating material. This results in a significant reduction in rear heat loss and increased radiant output from the front of the element, the operating temperature is up to a maximum of 750°C and a maximum power of 800W (FFEH Model Only)

**FFEH** Full Flat Element Hollow, Standard Wattages 250W 400W 500W 600W. Standard Voltage 230V. Average weight 250g.

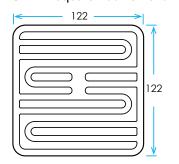


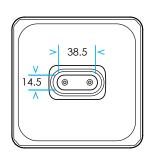
**HFEH** Half Flat Element Hollow, Standard Wattages 125W 200W 250W 300W 400W. Standard Voltage 230V. Average weight 117g.

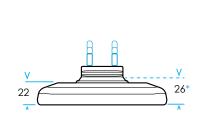


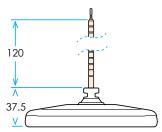


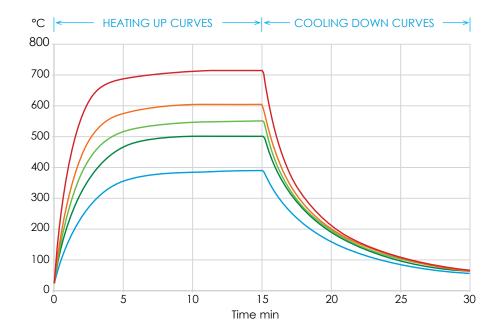
**SFEH** Square Flat Element Hollow, Standard Wattages 250W 400W 500W 600W. Standard Voltage 230V. Average weight 239q.











Heating up cooling down curves based on FFEH tests of average surface temperature with an infrared thermometer set at an emissivity of 0.9 (element mounted in an aluminised steel reflector, RAS)

	FFEH	HFEH	QFEH	SFEH
_	800W	400W	200W	800W
_	600W	300W	125W	600W
_	500W	250W		500W
_	400W	200W		400W
_	250W	125W		250W

Wattage	250W	400W	500W	600W	800W
Mean surface temperature	390 °C	497 °C	548°C	602 °C	710°C
Max power density	15 kW/m <sup>2</sup>	24 kW/m <sup>2</sup>	30 kW/m <sup>2</sup>	36 kW/m <sup>2</sup>	48kW/m <sup>2</sup>
Radiant Watt density at 100mm	0.25 W/cm <sup>2</sup>	0.44 W/cm <sup>2</sup>		0.73 W/cm <sup>2</sup>	

 $\epsilon$ 

Based on tests of average surface temperature with an infrared thermometer set at an emissivity of 0.95 (element mounted in an aluminised steel reflector, RAS)

Wattage	125W	200W	250W	300W	400W
Mean surface temperature	390 °C	497 °C	548 °C	602 °C	710°C
Max power density	15 kW/m <sup>2</sup>	24 kW/m <sup>2</sup>	30 kW/m <sup>2</sup>	36 kW/m <sup>2</sup>	48kW/m²
Radiant Watt density at 100mm		0.31 W/cm <sup>2</sup>		0.49 W/cm <sup>2</sup>	

 $\epsilon$ 

Based on tests of average surface temperature with an infrared thermometer set at an emissivity of 0.95 (element mounted in an aluminised steel reflector, RAS)

Wattage	125W	200W
Mean surface temperature	548 °C	710 °C
Max power density	30 kW/m <sup>2</sup>	48kW/m²

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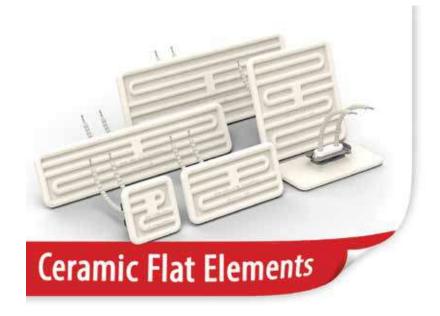
 $Based \ on \ tests \ of \ average \ surface \ temperature \ with \ an \ infrared \ thermometer \ set \ at \ an \ emissivity \ of \ 0.95 \ (element \ mounted \ in \ an \ aluminised \ steel \ reflector, RAS)$ 

Wattage	250W	400W	500W	600W	800W
Mean surface temperature	390 °C	497 °C	548°C	602 °C	710°C
Max power density	15 kW/m²	24 kW/m²	30 kW/m <sup>2</sup>	36 kW/m <sup>2</sup>	48kW/m²
Radiant Watt density at 100mm	0.28 W/cm <sup>2</sup>	0.51W/cm <sup>2</sup>		0.81 W/cm <sup>2</sup>	1.18W/cm <sup>2</sup>

CE

Based on tests of average surface temperature with an infrared thermometer set at an emissivity of 0.95 (element mounted in an aluminised steel reflector, RAS)





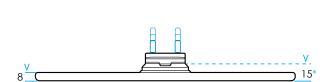
#### **CERAMIC FLAT ELEMENTS**

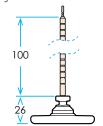
Useful wavelength range 2 to 10µm

Ceramic IR Flat Elements (FFE/HFE/QFE) are industry standard ceramic emitters used in a wide range of industrial, commercial and domestic applications. These solid cast ceramic elements consist of a high temperature FeCrAl resistance alloy embedded in a specially formulated ceramic body allowing operating temperatures up to 750°C and a maximum power output of 1000W (FFE Model Only). The solid cast heater body is flat, producing a diffuse radiant output to target distance in some applications.

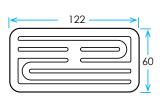
FFE Full Flat Element, Standard Wattages 150W 250W 300W 400W 500W 650W 750W 1000W. Standard Voltage 230V. Average weight 182q.

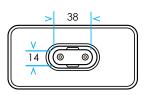


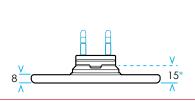


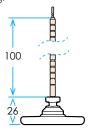


HFE Half Flat Element, Standard Wattages 125W 150W 200W 250W 325W 500W. Standard Voltage 230V. Average weight 105g.



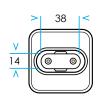




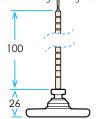


**QFE** Quarter Flat Element, Standard Wattages 125W 250W. Standard Voltage 230V. Average weight 65g.

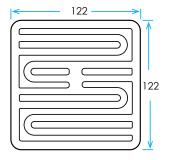


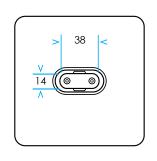


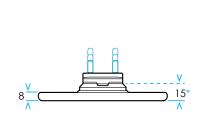


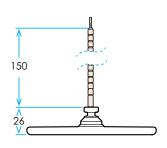


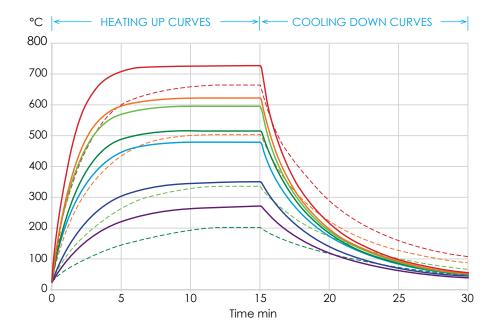
SFSE Full Flat Solid Element, Standard Wattages 250W 400W 500W 600W 800W . Standard Voltage 230V. Average weight 192q.











Heating up cooling down curves based on FFE tests of average surface temperature with an infrared thermometer set at an emissivity of 0.9 (  $\,$ element mounted in an aluminised steel reflector, RAS)

	FFE	HFE	QFE	SFSE
_	1000W	500W	250W	
_	750W			750W
	650W	325W		650W
_	500W	250W	125W	500W
_	400W	200W		400W
—	250W	125W		250W
—	150W			150W

	FFE	HFE	QFE	SFSE	LFFE
_	1000W	500W	250W		 1400W
_	750W			750W	 750W
_	650W	325W		650W	 350W
_	500W	250W	125W	500W	 150W
_	400W	200W		400W	
_	250W	125W		250W	
_	150W			150W	

Wattage	150W	250W	300W	400W	500W	650W	750W	1000W
Mean surface temperature	272 °C	351 ℃	405 °C	480 °C	515 °C	596 °C	624 °C	726°C
Max power density	9 kW/m <sup>2</sup>	15 kW/m²	18 kW/m²	24 kW/m <sup>2</sup>	30 kW/m²	39 kW/m <sup>2</sup>	45 kW/m <sup>2</sup>	60 kW/m <sup>2</sup>
Radiant Watt density at 100mm	0.10 W/cm <sup>2</sup>		0.25 W/cm <sup>2</sup>		0.47W/cm <sup>2</sup>			



Based on tests of average surface temperature with an infrared thermometer set at an emissivity of 0.95 (element mounted in an aluminised steel reflector, RAS)

Wattage	125W	150W	200W	250W	325W	500W
Mean surface temperature	351 °C	405 °C	480 °C	515 °C	596°C	726 <i>°</i> C
Max power density	15 kW/m <sup>2</sup>	18 kW/m <sup>2</sup>	24 kW/m <sup>2</sup>	30 kW/m <sup>2</sup>	39 kW/m <sup>2</sup>	60 kW/m <sup>2</sup>



Based on tests of average surface temperature with an infrared thermometer set at an emissivity of 0.95 (element mounted in an aluminised steel reflector, RAS)

250W	125W	Wattage
726 °C	515 °C	Mean surface temperature
60 kW/m <sup>2</sup>	30 kW/m <sup>2</sup>	Max power density



Based on tests of average surface temperature with an infrared thermometer set at an emissivity of 0.95 (element mounted in an aluminised steel reflector, RAS)

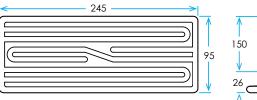
Wattage	150W	250W	300W	400W	500W	650W	750W
Mean surface temperature	272 °C	351 °C	405 °C	480 °C	515 °C	596 °C	624 °C
Max power density	9 kW/m²	15 kW/m <sup>2</sup>	18 kW/m²	24 kW/m <sup>2</sup>	30 kW/m <sup>2</sup>	39 kW/m <sup>2</sup>	45 kW/m <sup>2</sup>
Radiant Watt density at 100mm		0.23 W/cm <sup>2</sup>		0.39 W/cm <sup>2</sup>		0.71 W/cm <sup>2</sup>	0.81 W/cm <sup>2</sup>

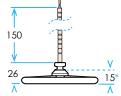


Based on tests of average surface temperature with an infrared thermometer set at an emissivity of 0.9 (element mounted in an aluminised steel reflector, RAS)



#### LFFE Large Flat Solid Element,





Standard Wattages 150W 350W 750W 1400W.

Standard Voltage 230V.

Average weight 342q.



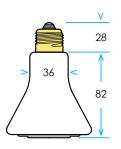
#### **CERAMIC EDISON SCREW ELEMENTS**

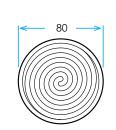
Useful wavelength range 2 to 10µm

Ceramic Edison Screw Elements (ESEB, ESES, ESER, ESEXL) are industry standard infrared bulbs used primarily in the area of reptile/animal/pet health care. These ceramic bulbs provide the infrared heat required without any of the negative effects of a light output that can disturb the day/night sleeping cycle of the reptile/animal. Ceramicx hollow cast bulbs consist of a high temperature FeCrAl resistance alloy embedded in a specially formulated ceramic body allowing operating temperature up to 530°C and a maximum power of 400W (ESEXL Model Only). The face of the ESE is circular and convex in design, producing a circular outward trending radiant output.

#### **ESES** Edison Screw Element Small,

Standard Wattages 60W 100W. Standard Voltage 230V. Average weight 113g

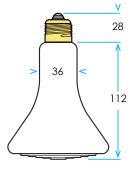


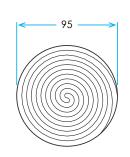




### **ESER** Edison Screw Element Regular,

Standard Wattages 150W 250W. Standard Voltage 230V. Average weight 165g







#### **ESEB** Edison Screw Element Bulb,

Standard Wattages 60W 100W. Standard Voltage 230V. Average weight 112g

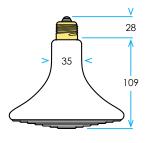


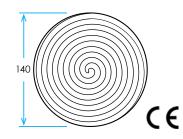


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## **ESEXL** Edison Screw Element Large,

Standard Wattages 300W 400W. Standard Voltage 230V. Average weight 253g

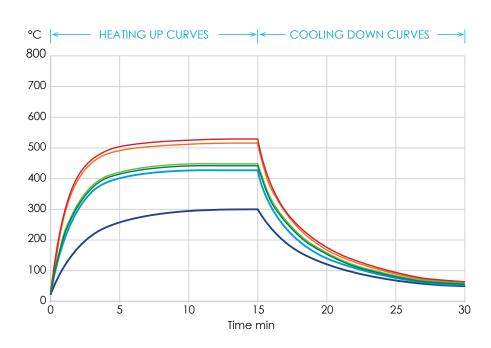




Wattage	150W	350W	750W	1400W
Mean surface temperature	204°C	338°C	501 °C	667 °C
Max power density	5.4 kW/m <sup>2</sup>	12 kW/m²	27 kW/m <sup>2</sup>	50 kW/m <sup>2</sup>



Based on tests of average surface temperature with an infrared thermometer set at an emissivity of 0.9 (element mounted in an aluminised steel reflector)



Heating up cooling down curves based on tests of average surface temperature with an infrared thermometer set at an emissivity of 0.9 (element mounted in an aluminised steel reflector, RAS)

	ESES	ESER	ESEB	ESEXL
_				400W
_		250W		
_				300W
_		150W		
_	100W		100W	
_	60W		60W	

	ESES		ESER		ESEB		ESEXL	
Wattage	60W	100W	150W	250W	60W	100W	300W	400W
Mean surface temperature	300°C	426°C	441°C	516 °C	300°C	426 °C	450°C	530 °C
Max power density	7.3kW/m²	12 kW/m²	15kW/m²	25 kW/m <sup>2</sup>	13.5kW/m <sup>2</sup>	22.5 kW/m <sup>2</sup>	22.5kW/m <sup>2</sup>	30 kW/m <sup>2</sup>

Based on tests of average surface temperature with an infrared thermometer set at an emissivity of 0.9  $\,$ 

#### **UNIT CONVERSION**

Celsius (°C) - Fahrenheit (°F) °F = (°C x 1.8) + 32.0

FTE 1000W, mean surface temperature  $726^{\circ}\text{C} = (726 \times 1.8) + 32.0 = 1338.8 \,^{\circ}\text{F}$ 

Millimetres (mm) - inches (in) in = mm x 0.039370

FTE 1000W, dimensions 245 x 60 mm =  $(245 \times 0.039370)$  x  $(60 \times 0.039370)$  =  $9.65 \times 2.36$  in

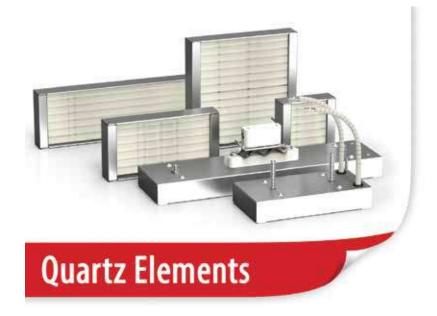
Grams (g) - ounces (oz)  $oz = g \times 0.035274$ 

FTE 1000W, average weight  $192g = 192 \times 0.035274 = 6.77 \text{ oz}$ 

Watts per meter square ( $W/m^2$ ) - Watts per inch square ( $W/in^2$ )  $W/in^2 = W/m^2 \times 0.000645$ 

FTE 1000W, max power density  $60 \text{ W/m}^2 = 60 \times 0.00645 = 0.387 \text{W/in}^2$ 





#### **QUARTZ ELEMENTS**

Useful wavelength range 1.5 to 8µm

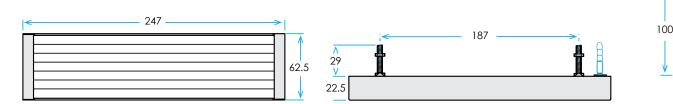
Quartz infrared heating elements provide medium wave infrared radiation. They are favoured in industrial applications where a more rapid heater response is necessary, including systems with long heater off cycles.

Quartz infrared heating elements are particularly effective in systems where rapid heater response and/or zone controlled heating is required.

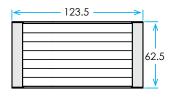
They have a broad emission spectrum from around 1.4 to 8 microns, slightly shorter in wavelength than ceramic elements.

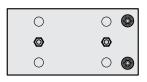
Pillared quartz elements have the same mounting fixture as ceramic elements allowing easy replacement.

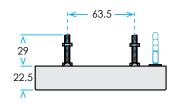
FQE Full Quartz Element, Standard Wattages 150W 250W 300W 400W 500W 650W 750W 1000W. Standard Voltage 230V. Average weight 403g.

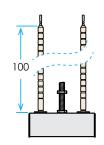


**HQE** Half Quartz Element, Standard Wattages 150W 250W 400W 500W. Standard Voltage 230V. Average weight 210g.

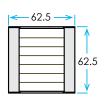


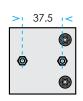


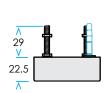


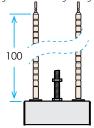


**QQE** Quarter Quartz Element, Standard Wattages 150W 250W. Standard Voltage 230V. Average weight 144g.

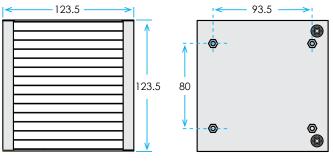


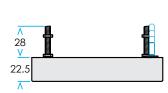


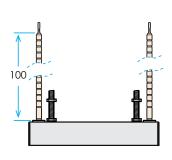


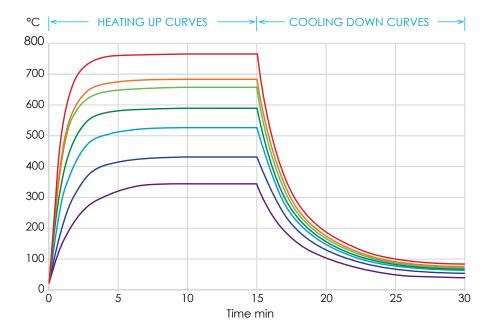


**SQE** Square Quartz Element, Standard Wattages 150W 650W, 1000W. Standard Voltage 230V. Average weight 401g.









Heating up cooling down curves based on FQE tests of average surface temperature with an infrared thermometer set at an emissivity of 0.7 ( element mounted in an aluminised steel reflector, RAS )

	FQE	HQE	QQE	SQE
_	1000W	500W	250W	1000W
_	750W			750W
_	650W	325W		650W
_	500W	250W		500W
_	400W			400W
_	250W			250W
_	150W			150W
	PFQE	PHQE		

Wattage	150W	250W	300W	400W	500W	650W	750W	1000W
Mean surface temperature	343 °C	438 °C	477 °C	542 °C	593 °C	664°C	690 °C	772 °C
Max power density	9 kW/m²	15 kW/m <sup>2</sup>	18 kW/m²	24 kW/m <sup>2</sup>	30 kW/m <sup>2</sup>	39 kW/m <sup>2</sup>	45 kW/m <sup>2</sup>	60 kW/m <sup>2</sup>
Radiant Watt density at 100mm	0.10 W/cm <sup>2</sup>		0.26 W/cm <sup>2</sup>		0.48 W/cm <sup>2</sup>	0.69 W/cm <sup>2</sup>		1.14 W/cm <sup>2</sup>



 $Based\ on\ tests\ of\ average\ surface\ temperature\ with\ an\ infrared\ thermometer\ set\ at\ an\ emissivity\ of\ 0.7\ (element\ mounted\ in\ an\ aluminised\ steel\ reflector,\ RAS)$ 

Wattage	150W	250W	325W	400W	500W
Mean surface temperature	477 °C	493 °C	644°C	709°C	772 <i>°</i> C
Max power density	18 kW/m <sup>2</sup>	30 kW/m <sup>2</sup>	39 kW/m²	48 kW/m²	60 kW/m <sup>2</sup>
Radiant Watt density at 100mm	0.26 W/cm <sup>2</sup>		0.69 W/cm <sup>2</sup>		1.14 W/cm <sup>2</sup>



Based on tests of average surface temperature with an infrared thermometer set at an emissivity of 0.7 (element mounted in an aluminised steel reflector, RAS)

Wattage	150W	250W
Mean surface temperature	642 °C	772 °C
Max power density	36 kW/m <sup>2</sup>	60 kW/m <sup>2</sup>
Radiant Watt density at 100mm		1.14 W/cm <sup>2</sup>



Based on tests of average surface temperature with an infrared thermometer set at an emissivity of 0.7 (element mounted in an aluminised steel reflector, RAS)

Wattage	150W	250W	300W	400W	500W	650W	750W	1000W
Mean surface temperature	343 °C	438 °C	477 °C	542 °C	593 °C	644°C	690 °C	772 <i>°</i> ℃
Max power density	9 kW/m²	15 kW/m <sup>2</sup>	18 kW/m²	24 kW/m²	30 kW/m²	39 kW/m <sup>2</sup>	45 kW/m <sup>2</sup>	60 kW/m <sup>2</sup>

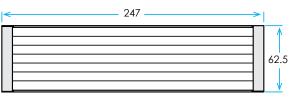
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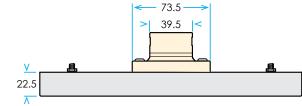
 $Based \ on \ tests \ of \ average \ surface \ temperature \ with \ an \ infrared \ thermometer \ set \ at \ an \ emissivity \ of \ 0.7 \ (element \ mounted \ in \ an \ aluminised \ steel \ reflector, RAS)$ 

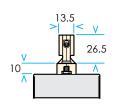


**PFQE** Pillared Full Quartz Element, Standard Wattages 150W 250W 400W 500W 650W 750W 1000W. Standard Voltage 230V. Average Weight 403g

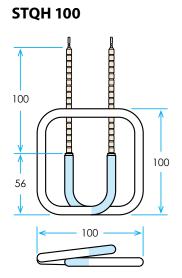








#### **STQH** Single tube Quartz Heaters,

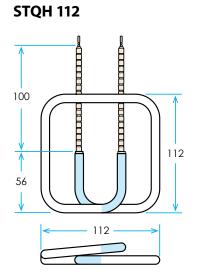


Standard Wattage Range 150W - 400W.

Standard Voltage 230V

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Unheated area



Standard Wattage Range 150W - 400W.

Standard Voltage 230V

CE

Unheated area



#### **PANEL HEATERS**

Useful wavelength range 4 to 6µm

They are a neat, easily mounted and readily expanded heating solution.

Infrared panel heaters are custom built infrared heaters operating primarily in the long wave range. The basic construction consists of a resistance coil embedded into a ceramic fibre board which is then located behind an emitting surface of either anodised aluminium or glass ceramic. This is then placed inside a 75mm high aluminised steel housing which normally contains 50mm of thermal insulation to reduce heat loss through the rear of the unit.

STANDARD OPTIONS (Other options available on request. Please contact us for further details.)

Emitting surface Glass ceramic face - Very good radiant efficiency, high percentage transmission of radiant output in

medium to short wave range, surface can be easily cleaned.

**Anodised aluminium face** - Good radiant efficiency, very robust, surface sheet can be easily cleaned or

replaced if damaged by molten material.

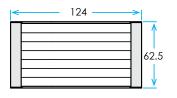
**Electrical terminations** Open 2P terminal block, Terminal block with cover, M6 or 1/4" threaded stud, Type K thermocouple with

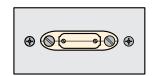
fixed high temperature socket and removable plug

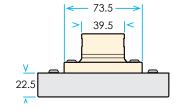
Fixing studs M5/M6/M8/0.25" x 25mm long

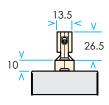
PHQE Pillared Half Quartz Element, Standard Wattages 150W 250W 400W 500W. Standard Voltage 230V. Average Weight 268g

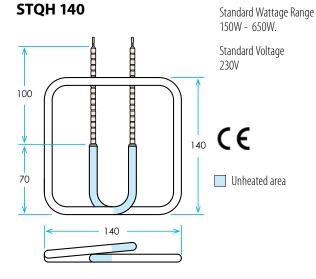


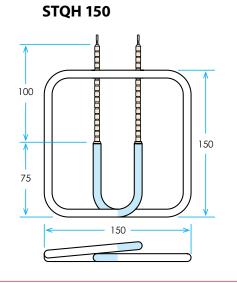












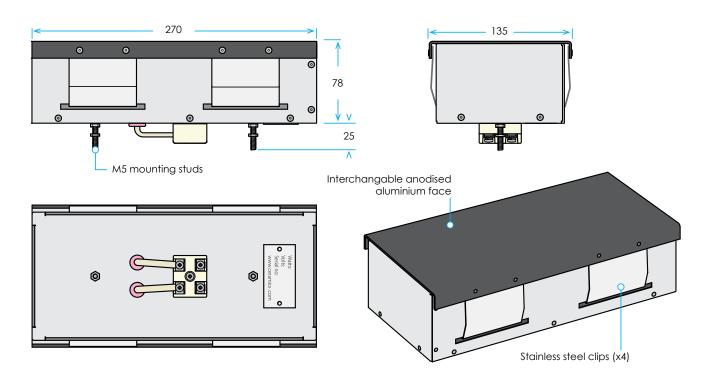
Standard Wattage Range 150W - 650W. Standard Voltage

230V

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Unheated area

**Sample panel heater,** black anodised aluminium face, 270 x 135mm, 500W, 230V, with open 2P terminal block connection.





# QUARTZ TUNGSTEN/ QUARTZ HALOGEN TUBES

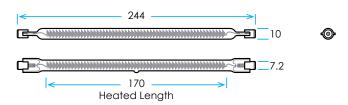
The tungsten filament used in these quartz tungsten heaters is the porcupine or star type coil, which can be operated at temperatures up to 1500°C (2732°F), with a peak wavelength emission of approximately 1.6 microns. It reaches top temperatures within seconds.

Halogen heaters are filled with a halogen gas to allow the supported tungsten filament to reach temperatures as high as 2600°C (4712°F). Peak emissions for these tubes is around 1 micron.

These emitters heat up and cool down within seconds making them particularly suitable for systems requiring short cycle times.

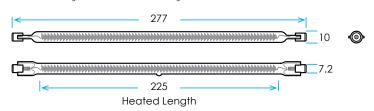
#### QTS Quartz Tungsten Short,

Standard Wattage 750W. Standard Voltage 240V.



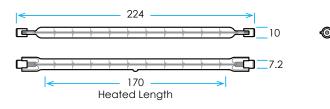
#### **QTM** Quartz Tungsten Medium,

Standard Wattage 1000W. Standard Voltage 240V.



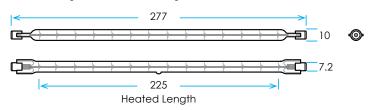
#### QHS Quartz Halogen Short,

Standard Wattage 750W. Standard Voltage 240V.



#### QHM Quartz Halogen Medium,

Standard Wattage 1000W. Standard Voltage 240V.

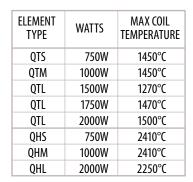


Bespoke sizes are also available but a minimum order of 25 pieces applies.

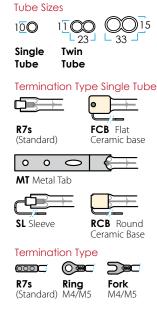
Twin tube medium wave heater, 750W, 240V, 400 x 23.3 x 11.7mm, terminal type B, 3,000 mm leads, Gold reflective coating.

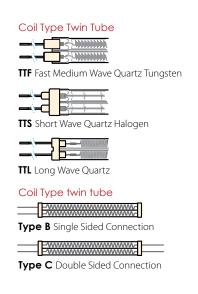
Quartz halogen tube, 2,000W, 240V, 473mm, terminal R7s, Ruby coating. Quartz tungsten tube, 450W, 120V, 342mm, terminal R7s, Gold reflective coating.

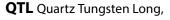
Quartz tungsten tube, 450W, 120V, 342mm, terminal RCB, 100mm leads. Ceramic coating.



# Coatings Ceramic Gold

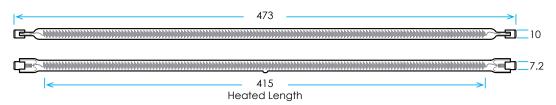






Ruby

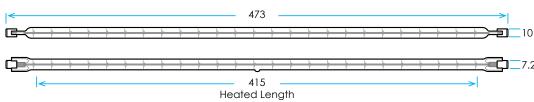
Standard Wattage 1500W 1750W 2000W. Standard Voltage 240V.



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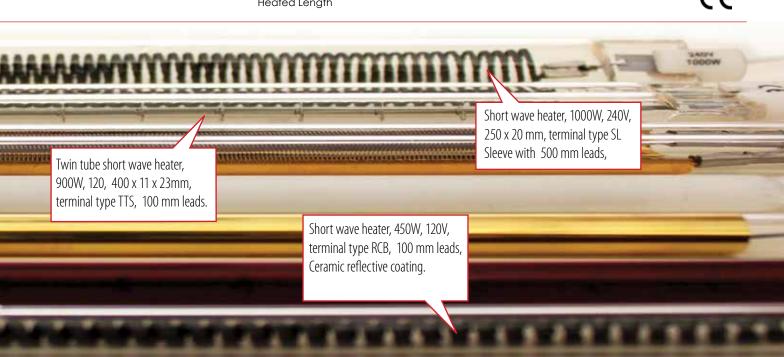
#### QHL Quartz Halogen Long,

Standard Wattage 1000W 1750W 2000W. Standard Voltage 240V.



CE

Product Guide 49





#### **REFLECTORS AND PROJECTORS**

Highly reflective aluminised steel projectors and reflectors

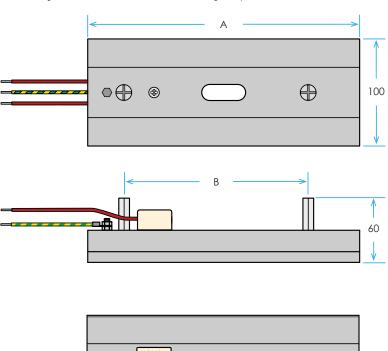
At Ceramicx, our reflectors are designed to cater for a wide range of ceramic and quartz infrared emitters. units can be mounted individually or side-by-side forming infrared heat panels.

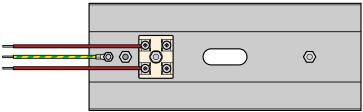
Our projectors are designed to cater to a wide range of ceramic elements and are the ideal solution where positional heat is required economically, efficiently and guickly.

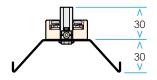
#### **RAS** Reflector Aluminised Steel

Reflector material 0.75mm polished aluminised steel.

Mounting studs with M6 internal thread. 300mm, high temperature leads.







**C E**RAS 1 shown as example

**RAS 5** Suitable for FTE, FFEH and FFE elements. Overall length A = 1,254 mm Distance between fittings B = 1,028 mm

Overall length A = 1,254 mm Distance between fittings B = 1,028 mm



**RAS 4** Suitable for FTE, FFEH and FFE elements.

Overall length A = 1,004mm Distance between fittings B = 778 mm



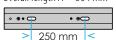
**RAS 3** Suitable for FTE, FFEH and FFE elements.

Overall length A = 754 mm Distance between fittings B = 528 mm



**RAS 2** Suitable for FTE, FFEH and FFE elements.

Overall length A = 504 mm Distance between fittings B = 278 mm



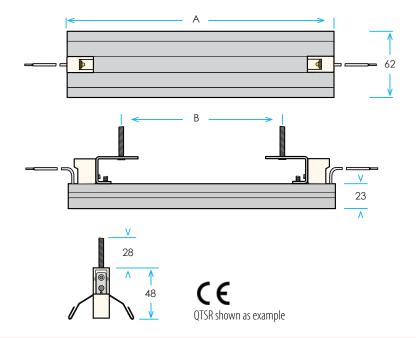
**RAS 1** Suitable for FTE, FFEH and FFE elements.

Overall length A = 254 mm Distance between fittings B = 172 mm



**RAS 0.5** Suitable for HTE, HFEH and HFE elements.





#### **QTR** Quartz Tungsten / Halogen Reflectors

Reflector manufactured from 0.75 mm polished aluminised steel. 2 x M5 fixing bolts

R7s holders with 200mm leads Ø 0.75mm with PTFE-insulation

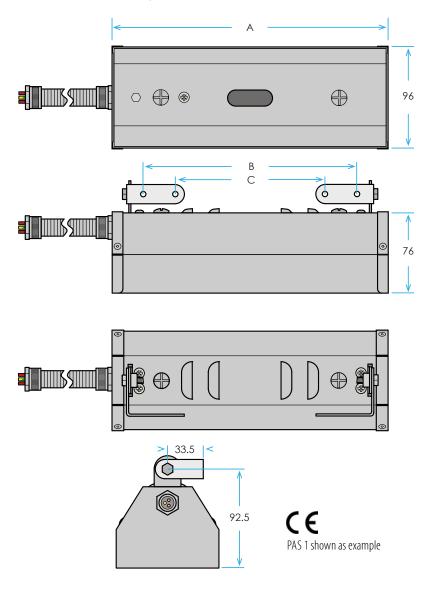
**QTSR** Quartz Tungsten Halogen Short Reflector Suitable for QTS/QHS tubes with R7s terminations Overall length A = 250mm Distance between fittings B = 153mm

**QTMR** Quartz Tungsten Halogen Medium Reflector Suitable for QTM/QTL tubes with R7s terminations Overall length A = 300 mm Distance between fittings B = 203 mm

**QTLR** Quartz Tungsten Halogen Long Reflector Suitable for QTL/QHL tubes with R7s terminations Overall length A = 497mm Distance between fittings B = 400mm

#### **PAS** Projector Aluminised Steel

Reflector material 0.75mm polished aluminised steel. Ø16 mm metal conduit, length 1.5m



**PAS 5** Suitable for FTE, FFEH and FFE elements. Overall length A = 1,258 mm B = 1,200 mm C = 1,140 mm



**PAS 4** Suitable for FTE, FFEH and FFE elements. Overall length A = 1,008 mm B = 950 mm C = 890 mm



**PAS 3** Suitable for FTE, FFEH and FFE elements. Overall length A = 758 mm B = 700 mm C = 640 mm





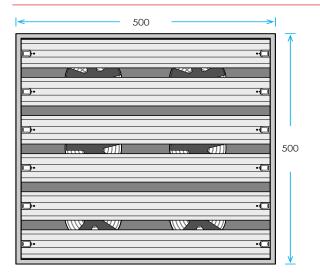
**PAS 1** Suitable for FTE, FFEH and FFE elements. Overall length A = 258 mm B = 200 mm C = 140 mm

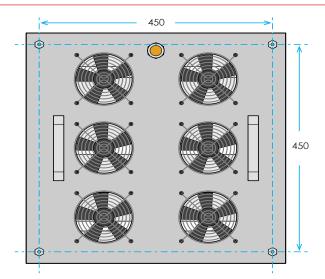
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#### **FAST IR**

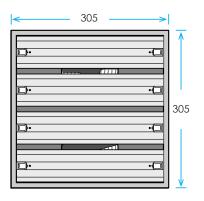
These compact robust systems form an ideal installation for quartz heating elements - quartz tungsten/halogen glass tube emitters. Optimum efficiency is achieved by highly polished aluminium steel reflection and rear mounted axial flow fans, which eliminate rear convection losses and keep the reflectors cool for better directional quality on the infrared output. The external body which manufactured from aluminium can be maintained at "touch safe" temperature.

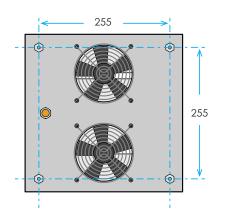


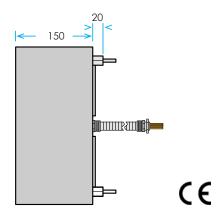




**FAST IR 305** Suitable for 1000W Quartz tungsten/Halogen heaters QTM or QHM. Standard FastIR 305 designed to hold 4 tubes (4kW), also available as 5 tube (5kW).

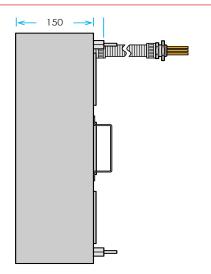






4 x Aluminium stand off with M6 threaded screw with fixing nut.

Electrical termination made via 1.5m of 16mm diameter flexible metal conduit with additional 0.5m of glass fibre insulated NPC conductors. 2 rear mounted axial flow fans. Suitable for heater type QTM (Quartz Tungsten Medium) or QHM (Quartz Halogen Medium) tubes with R7s termination, 240V (1000W maximum) See page 48 for details of tubes.



**FAST IR 500** Suitable for 1500W, 1750W, 2000W Quartz Tungsten heaters QTL or 2000W Quartz Halogen heaters QHL.

Standard FastIR 500 designed to hold 6 tubes (12kW) also available as 7 tube (14kW). 4 x Aluminium stand off with M6 threaded screw with fixing nut.

Electrical termination made via 1.5m of 25mm diameter flexible metal conduit with additional 0.5m of glass fibre insulated NPC conductors.

6 rear mounted axial flow fans.

Suitable for heater types QTL (Quartz Tungsten Long) or QHL (Quartz Halogen Long) tubes with R7s termination, 240V (2000W maximum)

See page 49 for details of tubes

Please note other configurations are available on request.

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Solutions

Research and development



INFRARED FOR INDUSTRY





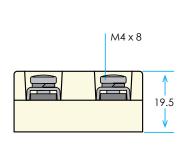
#### **ACCESSORIES**

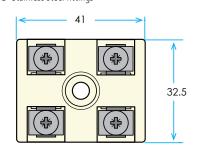
Ceramicx manufactures a range of accessories, including steatite press components.

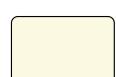
Steatite ceramic dust has proven itself to be the material-of-choice for the manufacture of electrical insulators thanks to its good mechanical strength, ideal dielectric properties and high temperature resistivity of up to 1000°C

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#### **2P Ceramic terminal block** Stainless steel fittings







Maximum voltage:	500V
Maximum temperature:	450°C
Maximum current:	20A*
Maximum cable CSA (solid):	4.0mm sq.
Maximum cable CSA (stranded/with ferrule)	2.5mm sq.
*11 . 204	

\*Up to 30A permissible at lower temperatures.

#### **2P Mini** Ceramic terminal block



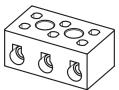
Nickel galvanised brass inserts. Zinc plated steel screws. 21 x 18 x 15mm

#### **TB2** Ceramic terminal block



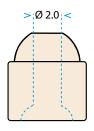
Plated brass inserts. Nickel galvanised screws. 34 x 30 x 22mm

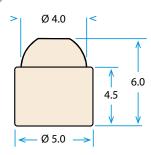
#### **TB3** Ceramic terminal block

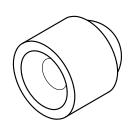


Plated brass inserts. Nickel galvanised screws. 51 x 30 x 22mm

#### Ceramic beads beads strung

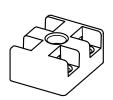






Material: Steatite C-221

#### **2P Terminal block** no fittings



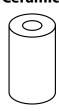
40 x 32 x 20mm

#### **Grommet set** Ceramic grommet and star-lock



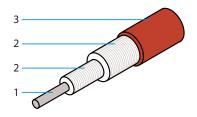
fastener set, used as insulator in sheet metal with 6mm hole 9.5 x 7.5 mm

#### **Ceramic tubes**



Ø5 x 11.5 mm Material: Steatite C-221

#### **High temperature NPC cable**



- 1. Flexible nickel plated copper core
- 2. Multiple silicone-impregnated glass lapping
- 3. Silicone coated fibreglass braid

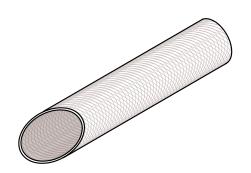
Continuous working temperature: -60°C to +280°C

Peaks at 350°C

Working voltage: 300/500V

Nominal core cross –section	Nominal core stranding	Outer cable diameter	Linear weight approx
0.75 mm <sup>2</sup>	11 x 0.30	2.4 mm	11.9 kg/km
1.50 mm <sup>2</sup>	21 x 0.30	2.8 mm	20.5 kg/km
2.50 mm <sup>2</sup>	35 x 0.30	3.2 mm	32.2 kg/km
4.00 mm <sup>2</sup>	56 x 0.30	4.0 mm	50.1 kg/km

#### Fibre glass braided sleeving

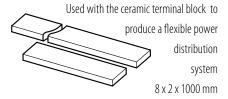


Fibre glass braided sleeving non-impregnated
Continuous working temperature: -60°C to +450°C

Nominal I diamet			r weight oprox
2 mm	0.2	20 3.10	kg/km
4 mm	0.3	7.60	kg/km
6 mm	0.3	30 12.00	) kg/km



#### Stainless steel buss bar



#### **R7s ceramic holder**



For standard quartz tungsten/halogen tubes

#### Steel wave and spring clip





For further details of our products see our website

# www.ceramicx.com

CERAMIC ELEMENTS - Trough elements FTE, HTE, QTE, QCE, LFTE. Hollow elements FFEH, HFEH, QFEH, SFEH. Flat elements FFE, HFE, QFE, SFSE, LFFE. Ceramic bulbs ESEB, ESES, ESER, ESEXL QUARTZ ELEMENTS - Standard quartz elements FQE, HQE, QQE, SQE. Pillared quartz elements PFQE, PHQE. Quartz square tube elements STQH100, STQH112, STQH140, STQH150. QUARTZ TUNGSTEN/HALOGEN TUBES - Quartz tungsten tubes QTS, QTM, QTL. Quartz halogen tubes QHS, QHM, QHL. REFLECTORS AND PROJECTORS - Reflectors RASO.5, RAS1, RAS2, RAS3, RAS4, RAS5, RAS6. Projectors PAS, PAS2, PAS3, PAS4, PAS5. QTS reflectors QTSR, QTMR, QTLR. EQUIPMENT - Fast IR systems Fast IR 305, Fast IR 500. Panel Heaters. Spot heaters. Furnace heaters. Test ovens. Clam shell ovens. ACCESSORIES - High temp connectors, 2P terminal block, 2P mini, TB2, TB3, Buss bar. Mounting components Flat ceramic base holder, R7s holder, Steel wave and spring set, Dust press components Ceramic beads, Grommet and star lock, Ceramic tubes, 2P block. High temperature cable 0.75, 1.5, 2.5, 4.0, Fibre glass sleeving.





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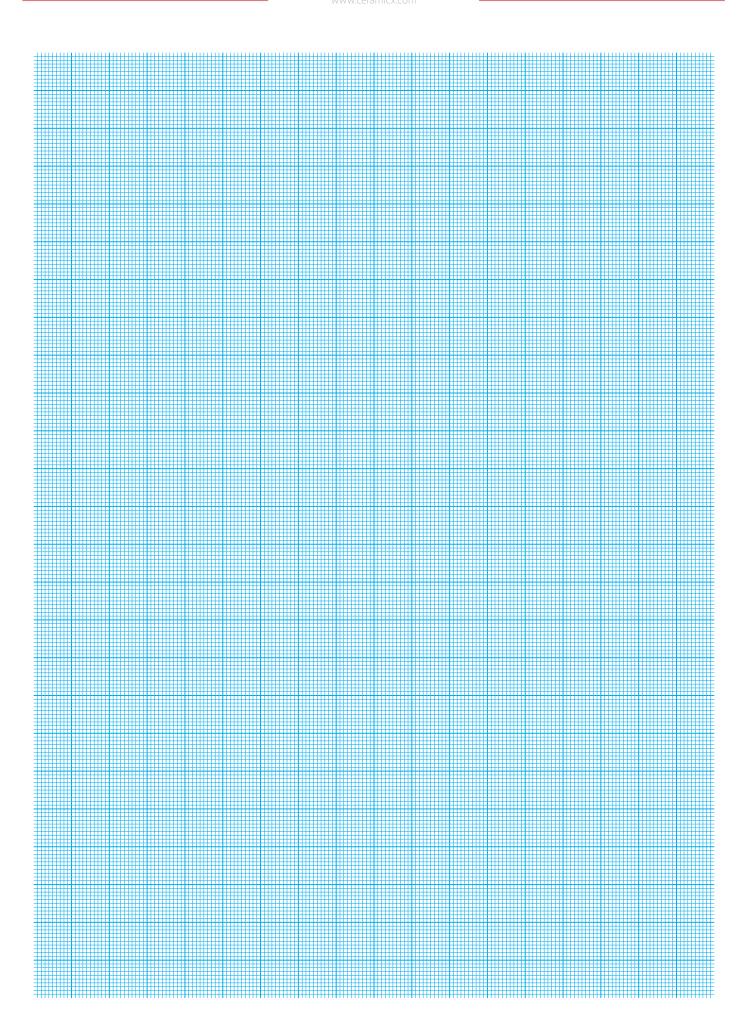
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