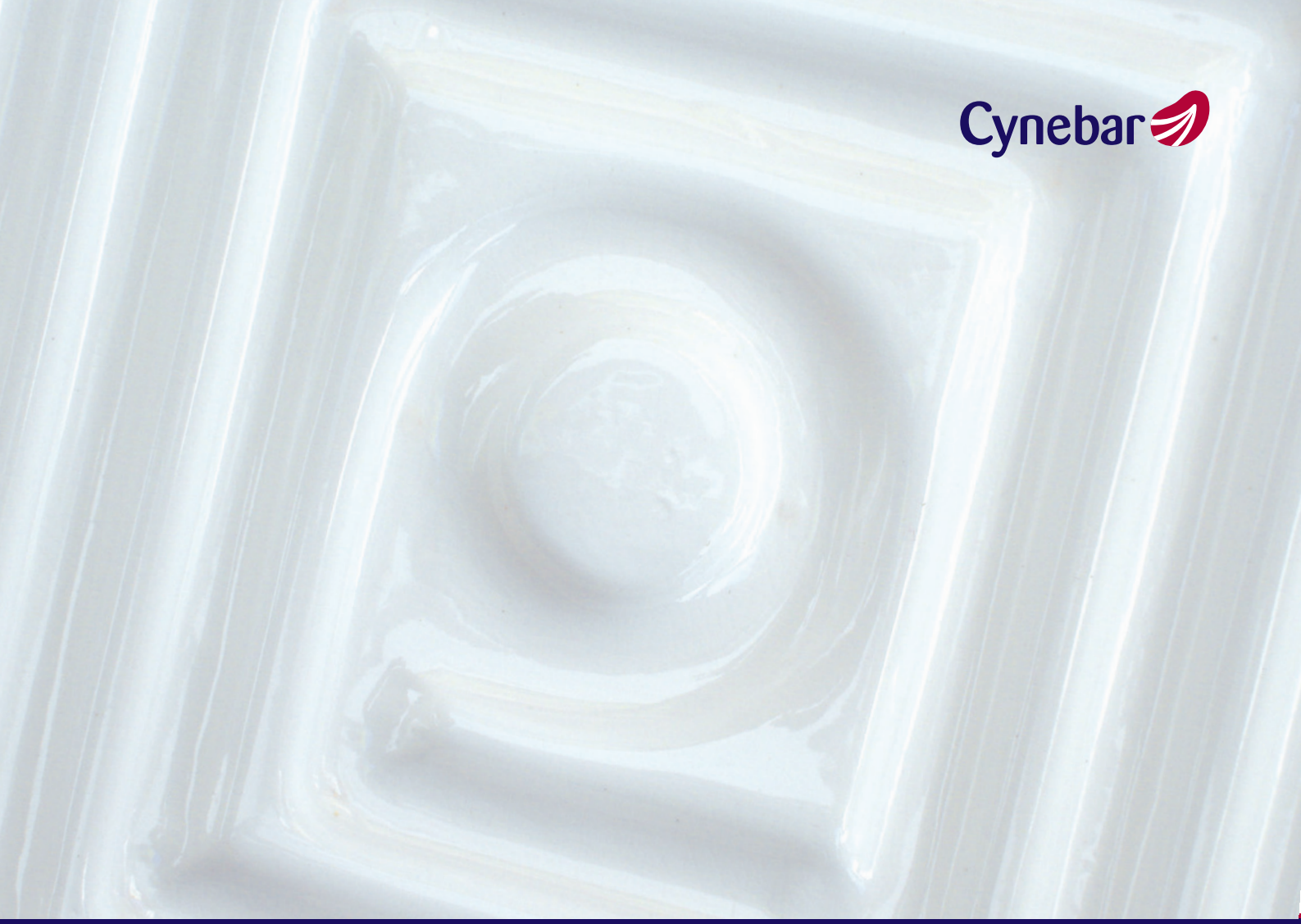


Cynebar

07 Ceramic Infrared Emitters

Precision Electrical Heating

Ceramic Infrared Emitters

Ceramic infrared emitters are a very efficient heat source in a wide range of industrial and commercial applications – easy to install with a long operating life and low on maintenance: potential uses are only limited by the imagination.

Why use infrared heating?

Infrared radiation is electromagnetic energy which is generated in a heat source. The resultant energy can be controlled and directed to specific objects where it is absorbed and then heat is created. Infrared energy passes through air at the speed of light with only negligible heating of airborne water vapour, carbon dioxide and dust particles.

Infrared heating describes all emitted radiant energy between the wavelengths of 0.76 and 1000 microns. For industrial heating applications the practical wavelength range falls between 3 and 10 microns. Major forms of electric infrared heating are metal-sheathed tubular elements, quartz tubes & lamps, open coil wire elements and ceramic infrared emitters.

Ceramic emitters have the highest infrared efficiency of up to 96%. Ceramic emitters are best when the process requires:

- **Gentle heat**
- **Even heat**
- **Accurate heat**
- **Zone control**
- **Energy efficiency.**

Applications

The radiant energy of infrared emitters is suitable for a wide range of processes in many industries. In our table below we have listed just a few of the more common usages with an indication of the optimal emitter ratings to efficiently carry out the task. Ultimately trials and pilot tests are often necessary to fine-tune issues like material energy absorption efficiency, process time and distance between the emitter and material.

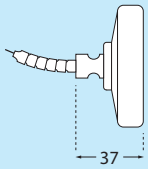
FEATURES AND BENEFITS

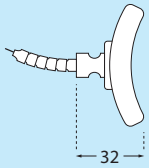
- **All rectangular and square emitters come with integral Type 'K' thermocouples. This reduces downtime when your 'emitter with the thermocouple' fails.**
- **Thermocouple controlled accurate face temperature allows you to achieve the most efficient wavelength for the task.**
- **Universal thermocouples give total heat zone flexibility.**
- **Match heater emissivity to the product absorption for higher efficiency and lower running costs.**
- **Chose flat or curved emitter faces to create either an even or focused heat pattern.**
- **Typical life expectancy is greater than 10,000 hours.**

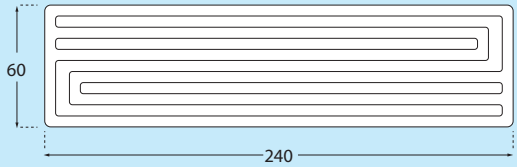
Application / process	Emitter and Wattage				
	RFD / RCD	250W	400W	600W	1000W
	RFS / RCS	125W	200W	300W	500W
Drying / Heating Water – paper, textiles and powders		○			○
Screen Printing – print drying				○	○
Glass – tempering layered glass			○	○	
Powder Coating – melting of powder to metal		○	○		
Paint Drying – preheating, curing primers and baking top coats		○	○	○	
Vacuum Thermoforming – plastic sheeting		○	○	○	○
Comfort Heating – in offices, outside eating areas and factories		○	○	○	○
Incubation and Warming – young animals, hatchlings		○			
Food Service – food warming, melting and cooking		○	○	○	○
Dehydrating Processes – food, spices, seafood		○			○
Shrink Wrap Packaging – plastic film				○	○
Textiles – heat setting of man-made fibres and drying			○	○	
Thermal Adhesives – activating			○		

Products

RFD 240 x 60 mm Flat **RCD** 240 x 60 mm Curved

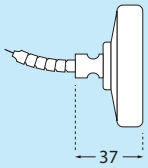


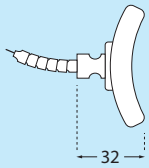


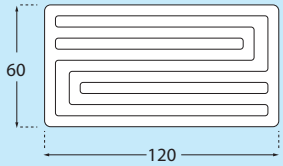


Wattage @ 240V	250	400	600	1000
Wavelength Range (microns)	2 – 10			
Surface Operating Temperature °C (typical)	400	500	570	730
Installation Grid (centre to centre mm)	250 x 62.5			

RFS 120 x 60 mm Flat **RCS** 120 x 60 mm Curved

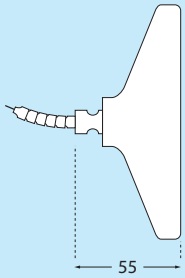


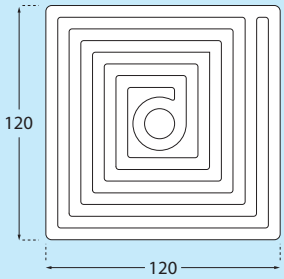




Wattage @ 240V	125	200	300	500
Wavelength Range (microns)	2 – 10			
Surface Operating Temperature °C (typical)	400	500	570	730
Installation Grid (centre to centre mm)	125 x 62.5			

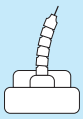
SFS 120 x 120 mm Flat

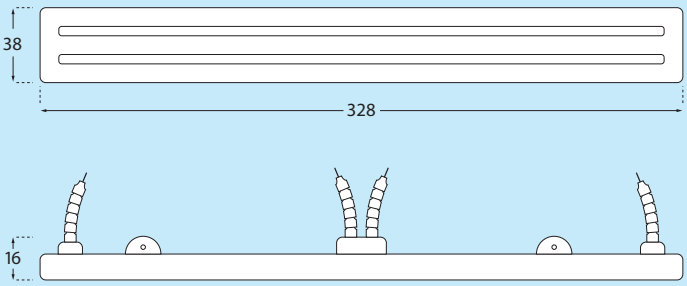




Wattage @ 240V	150	250	400	600	1000
Wavelength Range (microns)	2 – 10				
Surface Operating Temperature °C (typical)	235	345	435	510	605
Installation Grid (centre to centre mm)	125 x 125				

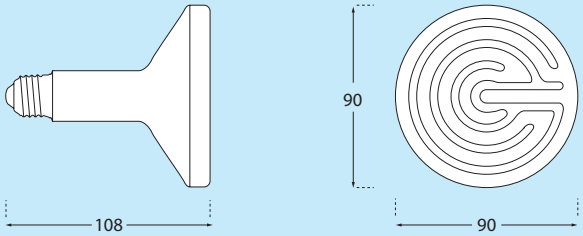
RFT 328 x 38 mm Flat





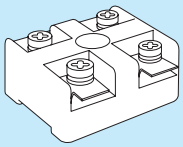
Wattage @ 240V	600
Wavelength Range (microns)	2 – 10
Surface Operating Temperature °C (typical)	670
Installation Grid (centre to centre mm)	330 x 40

CFE 90mm Diameter Edison Screw

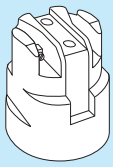


Wattage @ 240V	50	75	100	150	250
Wavelength Range (microns)	2 – 10				
Surface Operating Temperature °C (typical)	270	325	380	420	510
Installation Grid (centre to centre mm)	100				

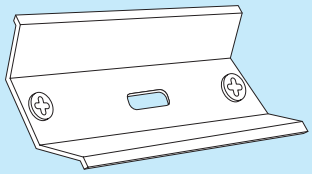
Accessories



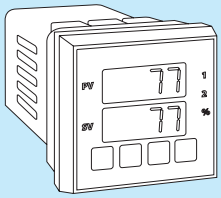
Terminal Block



Edison Screw Socket

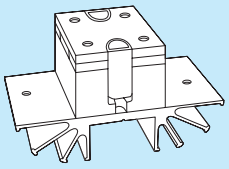


Reflector Panel



Controller

Description		Part Number
Terminal Block	2-pole Ceramic & S/Steel	CYN0700050
Edison Screw Socket	Ceramic High Temperature	CYN0700055
Reflector	250mm x 95mm	CYN0700051
Reflector	125mm x 95mm	CYN0700052
Mounting Channel	1220mm x 63mm	CYN0700053
Mounting Channel	1220mm x 125mm	CYN0700054
Controller	48mm Electronic PID	CYN1000000
Solid State Relay & Heatsink	40 amp	CYN1000020



Solid State Relay

Part Numbers Cross Reference List

Elstein	Grimwood	Pearlco	Stokes	Hotco	Cynebar	Helios	TEE	Vulcan	Salamander	Ceremix
HTS/1	HTS250	FSR-245			RFD		FSF	V1	FTE	FTE
FSR	FSR250		FTE	FRS 245M	RCD	A-1	FSC	V9	FFE	FFE
HTS/2	HTS2	FSR-123			RFS		HSF	V2	HTE	HTE
FSR/2	FSR2		HTE	FRS 123M	RCS	A-2	HSC	V4	HFE	HFE
HTS	HTS	FSQ						V3	HSE	SHSE
HFS	HFS				SFS		SFE			
FSL	FSL				RFT				QFE	QFE
IOT/90	10T	CSE	ESE		CFE			V6	ESES	ESE
							LSC			

CYN07B10610

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