

Hot plates

Basic values:

Parameter	Value
Dimensions	Ø 60 x 93.9 x 5.0 mm
Heated area	Ø 60 x 5.0 mm
T _{max}	1 000 °C

Details of Standard:

Description

A heated surface of 60 mm diameter, which can be heated up to 1 000 °C: These are the most important characteristics of the heating element of the RBD type. Due to the separate "contact legs" guided far to the outside, it can be ensured that the brazed contacts are only operated at a maximum temperature of 500 °C, even when operating the heating element at maximum temperature.

* The actual power depends on resistance, temperature and voltage.

Parameter	Value
Article no.	FLR 100 162
Resistance @ 20 °C	30 Ω ±25 %
Nominal voltage	230 V
Nominal power @ 20 °C	1 760 W*

Basic Material

Parameter	Scale unit	Si ₃ N ₄
max. temperature (T _{max})	°C	1 000
thermal conductivity (l)	W/mK	40
temperature shock resistance (ΔT)	K	500
emissivity (1 100 °C) (ε)	-	0.96
Young's modulus (E)	GPa	320
bending strength (δ _{BB})	MPa	400
compressive strength (δ _D)	MPa	2 000
coefficient of thermal expansion (α)	10 ⁻⁶ K ⁻¹	3
density (g)	g/cm ³	3.21
specific heat (c _p)	J/kgK	750
porosity (100 - % t.D.)	%	0
critical stress intensity factor (K _{IC})	MPa m ^{1/2}	6
Weibull - modulus (m)	-	7.9

The thermal shock resistance depends on the geometric shape of the heater.

Electrical parameters

Parameter	Scale unit	Si ₃ N ₄
resistivity	Ω cm	5 · 10 ⁻³ - 5 · 10 ⁻¹
isolation resistivity	Ω mm (20 °C)	10 ¹³
dielectric strength	kV/mm	25

Emission spectrum

Fully ceramic heating elements are long-wave infrared heaters with a maximum emission of 5 to 10 μm and a radiation coefficient of ε > 0.9.



