

Why Shield is necessary in Radio Frequency heaters?

Shield:

A Shield is merely a metallic box surrounding the parts of the equipment having high frequency voltages and currents. Shield is used to from reducing the electromagnetic field in a space by blocking the field with barriers made of conductive or magnetic materials. Shield is typically applied to enclosures to isolate electrical devices from the 'outside world', and to cables to isolate wires from the environment through which the cable runs, Shield that blocks radio frequency electromagnetic radiation is also known as RF shield or RF shielding.

Why Shield is needed:

The frequencies normally used for dielectric heating are in the range of 2 MHz to 200 MHz, with the lower frequencies normally being used for the larger loads. These frequencies are also used for radio communications, which legally have priority over Radio frequency heating. As all countries, the U.S. has an agency, the Federal Communications Commission (FCC), to regulate the use of all frequencies of the electromagnetic spectrum for civilian use. The National Telecommunications Information Agency (NTIA) of the Department of Commerce has this responsibility in the U.S. or governmental uses.

Many **Radio frequency heating** installations have higher power capabilities than any communications transmitters which is in between from 25KW to 50KW for various needs whereas Radio Frequency heaters have power capabilities of from 1 KW to 1500 KW , the communication transmission power cannot be increased above set standards as human body exposed to communication RF, and high power communication RF may lead to multiple health consequences on human body. Hence if the high power radio frequency radiate from the heater then there is always a chances that it may interfere with communication RF. Hence bodies such as ISM (Industrial, Science and Medical) had set the radiation limit of the all the applications of Radio frequency.

Even to achieve the maximum efficiency from the **Radio frequency heaters** it desired that all the power to deliver to load (material) hence complete radiation of RF waves, this enforced the Radio Frequency Heater manufacturer to properly take care of shielding.

At **KERONE** every care is taken by the engineers and designers to manufacture every single Radio Frequency (RF) heaters those are properly shielded to limit the radio frequency radiation and keep in accepted limit.

Where to find more details?

You can find more information on the Radio frequency heating system on www.kerone.com and can contact at info@kerone.com .