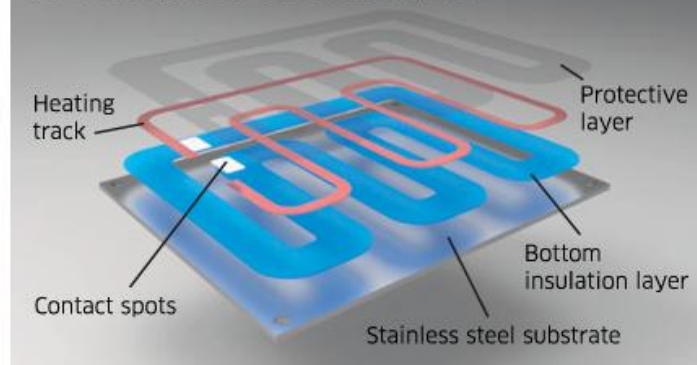


THICK FILM HEATING ELEMENTS

Abbreviated as TFE

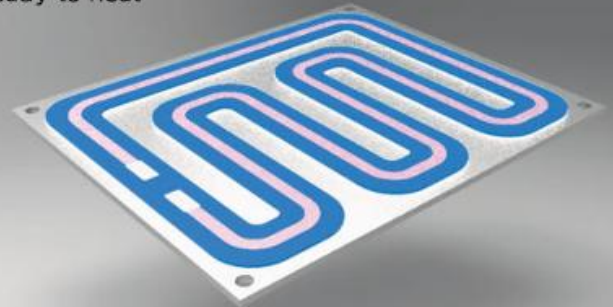
Thick Film Stainless Steel heaters are high-performance innovative heating elements manufactured by screen printing technology.

TFE consists of several layers



Finished TFE element

Ready to heat



■ HIGH EFFICIENCY ■ ENERGY SAVINGS ■ TIME SAVINGS ■ COST SAVINGS

EXAMPLES OF APPLICATIONS

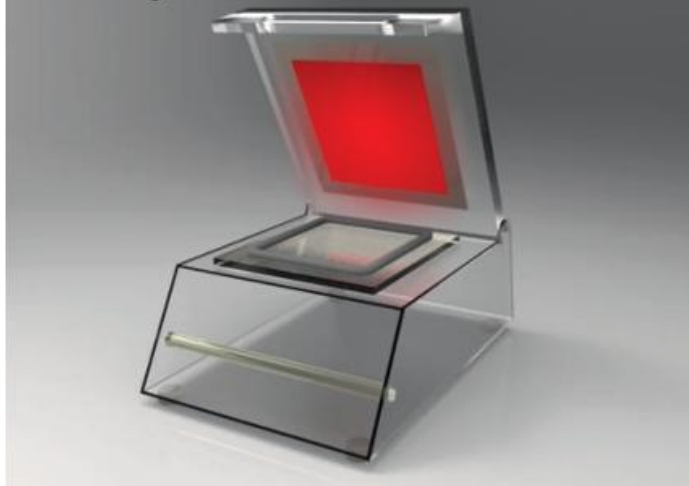
■ Gastro equipment for professional kitchens



■ Automatic coffee machines



■ Packing machines



TYPICAL CHARACTERISTICS AND BENEFITS

- High watt-density thus high performance
- High operation temperature till 350°C
- Electrical strength up to several kV
- Low thermal mass
- Fast ramp-up to operating temperature
- Low profile, thin substrate
- No risk of humidity absorption
- Excellent control over heat distribution
- Vibration and shock resistant
- Flexibility in size and shape
- Multi-zoned wattage or voltage combination
- Temperature sensors, controls can be built-in



HIGH LEVEL OF CERTIFICATION

Our QMS is certified according to ISO 9001 and ISO 14001 by DEKRA Certification.

TYPICAL FIELDS OF APPLICATIONS



Household electric appliances



Food laboratory devices



Gastro-facilities



Mini-breweries



Food industry vessels and tanks



Gastro-facilities

EXAMPLES OF REALISED HEATING SYSTEMS

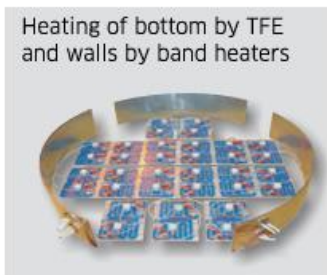
Mini-brewery



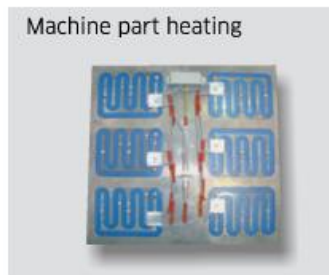
Round-bottom vessel



Heating of bottom by TFE and walls by band heaters



Machine part heating



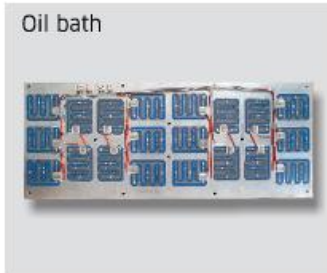
Gastro-vessels



Steam generator



Oil bath



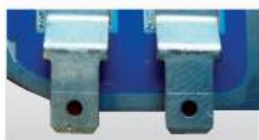
Gastro equipment



VARIOUS CONNECTIONS, FUSES, SENSORS



Soldered leads



Soldered flat connectors



SMD elements



Soldered sensors

MAIN AVAILABLE TECHNICAL PARAMETERS

Dimensions	Maximal length	Max. power density (W/cm ²)	Substrate material
Flat TFE - max. width 240mm	320 mm	48 W/cm ²	AISI 444
Tube - diameter 15mm	200 mm	53 W/cm ²	AISI 430
Tube - diameter 20mm	330 mm	51 W/cm ²	AISI 304