

Laboratory Furnaces

STANDARD FEATURES

- Maximum operating temperature : 1200°C.
- High accurate test results under uniform temperatures.
- Display : 7 segment LED display.
- Accuracy : $\pm 1^\circ\text{C}$.
- Outstanding temperature uniformity inside chamber made up of Silicon Carbide cavity.
- Advanced Refractory interior, used in combination with energy efficient low thermal mass insulation.
- Over temperature limiter with adjustable cutout temperature for thermal protection of class 2 in accordance with EN 60519-2 as temperature limiter to protect the furnace and load.
- Power control through Solid state relay or Thyristor unit that provides low noise operation.
- Thermocouple break protection that help preventing thermocouple failure run away.
- Easy maintenance and operation.
- Power control through Solid state relay.
- NABL certified thermocouple.

MUFFLE FURNACE-MF



Muffle Furnace is box type heat treatment equipment used to change physical properties of samples at very high temperature. These laboratory furnaces are widely used in scientific experiments in physics lab, rice laboratories, steel and paint industries, biotech companies and small industrial production etc. Their major applications include general laboratory testing, annealing, ash determination, coal analysis, leaves carbonization and lime calcinations etc. The other applications include: Ignition tests, Heat treating steel parts and Gears, Coal sampling, Organic and inorganic ashing, Chemical analysis, soils & aggregates cement Testing, Glass blowing lab, Plastic tensile strength test, Gravimetric analysis, Heat treating Gears, Quench testing, Research facilities in chemistry, Annealing loss determination, Development of coatings and ceramics, Rice laboratory, Stoneware samples firing etc.

Tempsens is ISO and CE certified Laboratory & Industrial furnace manufacturers and suppliers. Our company makes these Furnaces in various temperature ranges and chamber sizes. Each unit is made with rugged construction and equipped with easy to use controller system and safety devices. Standard models of our muffle furnaces come with maximum temperature range upto 1200°C. Tempsens provide range of general purpose muffle furnace in four sizes, each available with max operating temperature 500°C to 1200°C.

TECHNICAL SPECIFICATION

CONSTRUCTION

- Powder coated 1.6 mm thick Mild Steel cabinet / 304 Grade Stainless Steel (Optional).
- Vacuum formed ultra-high purity alumina low thermal mass insulation with pre sintered fiber insulation board for maximum energy saving design.
- Silicon carbide muffle for better thermal uniformity and efficiency.
- Double shell case with cooling fan to keep low surface temperature and electric components safe.
- Maximum thermal efficiency using high grade ceramic fiber insulation.
- Door limit switch for cutting power to heating element while door is in open condition.

TEMPERATURE CONTROL

- Electronic/ Automatic Control.
- Temperature sensing through N type sensor.
- NABL certified thermocouple.
- Equipped with thermocouples break protection that help prevent thermocouple failure run away.

DOOR OPERATION

- Parallel motion swing door/ mechanical linkage.
- Push down lever mechanism for locking the gate

OPTIONAL FEATURES

- Programmable PID controller with RS-232/ RS-485/ Ethernet & Data Logging software.
- Provision for vacuum/ gas purging application (Ar, N₂, H₂, O₂, CO₂, etc.).
- Available in standard sizes and as per customer requirements.
- Observation hole on the door.

| MODEL | MAXIMUM OPERATING TEMP.(°C) | INSIDE DIMENSIONS (HxWxD) | EXTERNAL DIMENSIONS (H x W x D) (mm) | Volume (Liters) | kW | HEATING ELEMENT | CONTROLLING THERMO-COUPLE |
|--------|-----------------------------|---------------------------|--------------------------------------|-----------------|-----|-----------------|---------------------------|
| MF 112 | 1200 | 100 x 100 x 150 | 640 X 510 X 585 | 1.5 | 2 | FeCrAl | N |
| MF 312 | 1200 | 95 x 175 x 300 | 640 X 510 X 585 | 5 | 2.8 | FeCrAl | N |
| MF 412 | 1200 | 150 x 175 x 300 | 687 X 515 X 636 | 7.9 | 3.2 | FeCrAl | N |
| MF 512 | 1200 | 230 x 200 x 400 | 822 X 535 X 689 | 18.5 | 8 | FeCrAl | N |

ACCESSORIES

- Hand Gloves.
- Heating Element.
- Crucible.
- Tongs