

Furnace Technical Specifications

M-Tech Quote No. 19-3940/R5

Mercer Technologies Inc. | Terre Haute, Indiana

General Specifications

Furnace Type	New 36" x 30" - 36" Argon Flow Retort Furnace
Quote Reference	M-Tech Quote No. 19-3940/R5
Maximum Temperature	2,200 Degrees Fahrenheit
Work Load Capacity	Minimum 36" diameter x 30" tall (up to 36" tall pending engineering)
Atmosphere	Argon Flow (Inert Gas)
Compliance Standards	AMS 2750E +/- 25 Degrees F and NADCAP Requirements
Base Furnace System	W.P. Keith Furnace System (used as base)

W.P. Keith Furnace System – Original Specifications

Model	KEITH ELEC. FURNACE – CAR TYPE/mfg. 6/95 Model KECG 48-36-48-2700 S/N 8226-0995
Type	Elevator Hearth Furnace
Max. Temp.	1,482°C / 2,700 Degrees F
Heating Element	Type SiC (Silicon Carbide)
Max. Furnace Load	1,200 Kg (2,645 lb.)
Furnace Box Weight	6,000 lbs (including charge & crucibles)
Insulation	Fire Brick & High Temp. Ceramic Fiber Blanket
Power Transformer	UL – mfg. 8/95 – 480v-150.Y.300Y/Temp. Class 220/60 Hz
Rear Fans	3 ea. AC Amp Ga. 0-200/3 ea. AC Volt Ga. 0-500
Furnace Dimensions	27" F.B. x 35" W. x 39" H. WT. 1,255 lbs.
Electrical Supply	480v/250 Amps/3 Ph./60 Hz
Control Cabinet Dimensions	27" F.B. – 30" W. – 6'3 1/2" H.
Control Cabinet Weight	Est. 400 lbs.

Extra Heat Elements	Approx. 4 Boxes – New Extra Heat Elements (inside furnace)
Bottom Cart	Heavy Duty, Triple Bricked 6'6" W. x 5'6" F.B. x 28 1/2" H. WT. 2,000 lbs.
Rail Track	4 ea. 10 ft. Long ea.
Lift-Platform	Chain & Elec. Gear Drive 10'2" W. x 9 1/2' x 7'8" H.Est. WT. 2,500 lbs.
Lift Controls	Auto. Stop, Micro Elec. Switches – Swing Lock-Down Clamps – Manual Adj.
Temperature Controller	Eurotherm Temp. Programmer/Controller 818P4
Limit Protection	Eurotherm Limit Protection #93
Furnace Outside Dimensions	8'5" x 8'5" x 8'H. including Vent Hood
Side Covers	Removable, All 4 Sides – Maintenance Access
Total Approx. Height	15' 8"
Total Est. Factory Weight	12,155 lbs.

Custom Add-ons

Lift System	Ball & lead screw lifts to raise/lower furnace, cooling shroud, and retort
Motorized Frame	Motorized "A" Frame driven on same track as heat chamber with lead screw drives and fixed lifting devices
Water Recirculation	Air cooled water recirculation system with pump, electrical and piping components
Stationary Base	Water cooled; load extended into heat chamber to minimize direct heat
Base Plate Seal	"O" ring seal design for optional vacuum purge operation
Lifting Eyes	Heat chamber and retort equipped with lifting eyes for mobility
Cooling Shroud	Insulated cooling shroud with lifting eye; lowered over hot retort by separate crane on monorail
Penetrations	All gas, exhaust and Type "K" thermocouple penetrations per customer request
Water Bubbler	Supplied and installed by Mercer Technologies

Gas Flow Controls

Furnace and digital gas flow controls designed to customer specifications; includes controls to monitor and control from workload thermocouples