

ELECTRIC OR GAS

ROTARY TEMPERING FURNACE

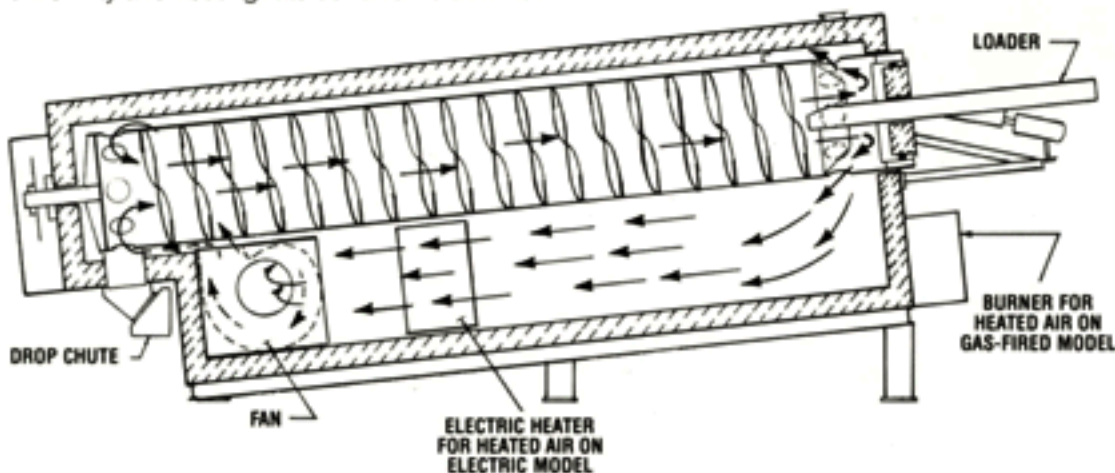
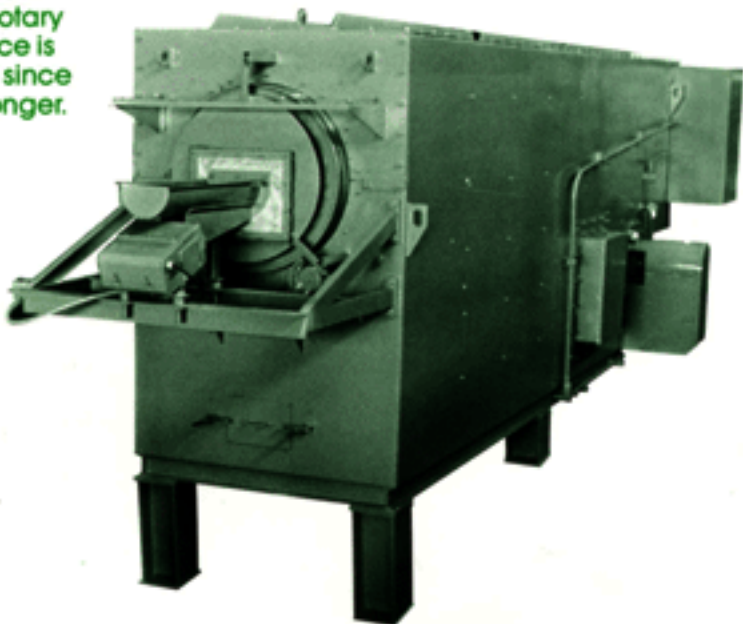
BULLETIN B-5330

Available in 900°F and 1200°F models, the rotary drum tempering furnace is designed to complement the rotary retort hardening furnace. The draw-tempering furnace is sized equal to or larger than the hardening furnace, since the draw-tempering cycles are usually somewhat longer.

Design considerations

RETORT—The 30½-inch-diameter fabricated drum utilizes an integral conveying screw with deep flights to create a large working volume. The furnace is tilted to enhance the flow of product and, consequently, the productivity of the retort.

AIR FLOW—Squirrel-cage fans are used to force heated air around and through the retort. Each end of the retort has a series of air flow openings to permit air to pass through the retort and mix with the product as it is tumbled. As the heated air flows counter to the product, an optimum uniformity and heating rate condition is obtained.



POWER DUMP GATE—A pneumatically powered dump gate in the drop chute opens twice per drum revolution to discharge the product, while maintaining an air seal the

balance of the time. When an oil coating or water quench tank is used following the draw, the dump gate is not used, since the liquid level forms the air seal to the drop chute.

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Standard features

MECHANICAL

- Fabricated retort with integral load-conveying screw.
- 6-inch high-temperature block-type insulation.
- Steel internal lining of furnace and combustion chamber
 - 900°F—aluminized steel
 - 1200°F—stainless steel
- Stainless steel air-circulating squirrel-cage fans with directional flow baffles. (Single fan on the 100-RD.)
- Load chute feeder mechanism.

ELECTRIC MODEL

- Electric heating package of heavy gage 80/20 Nichrome wire formed into helical coils and supported on refractory spools, removable as a unit.
- Element sub-circuit breaker with under-voltage trip.

ELECTRICAL

- Retort drive mechanism with variable-speed DC motor controller for precise control of retention time over a range of 30 to 120 minutes.
- Motor starters.
- Control and motor sub-circuit breakers.
- Control panel, floor-standing.
- Furnace main-circuit breaker.
- Thermocouple, type K.

GAS-FIRED MODEL

- Spark-ignited direct gas-fired combustion system, high-low-off firing.
- Combustion blower and filter.
- FM/IRI (FIA) combustion safety package.

Optional features

- Temperature control instruments
- Excess-temperature control
- JIC electric
- Electric power controls—contactor—SCR—reactor.
- Position proportioning valve for gas-fired units.
- Rotation monitor system.

Specifications

Model No.	Operating Temperature (°F)	Working Volume (Cu. Ft.)	Maximum Load (Lbs.)	Circulating Fans		Power Rating	
				(No.)	(HP)	Electric (KW)	Gas (BTU)
P-*-100-RD-900	900	8.73	1410	1	5	99	570,000
P-*-100-RD-1200	1200	8.73	1410	1	5	132	750,000
P-*-200-RD-900	900	14.96	2690	2	5	132	750,000
P-*-200-RD-1200	1200	14.96	2690	2	5	165	1,012,000
P-*-250-RD-900	900	19.08	3235	2	5	132	750,000
P-*-250-RD-1200	1200	19.08	3235	2	5	165	1,012,000

*E- (Electric), G- (Gas)

Temperature ranges—The operating range of these furnaces is from 275°F up to the maximum. The 900°F furnace uses a mild steel retort and an aluminized steel internal lining, while the 1200°F furnace has stainless steel internal lining and retort.

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