

Curing Ovens & Burn-Off Ovens



Introduction

Rotary's range of burn-off and curing ovens can be found in motor repair workshops around the world. Made in Sheffield, these ovens are designed and manufactured specifically for the motor repair industry.

All our ovens are based on a substantial structural steel frame with galvanized steel exterior panels and aludip lining. They feature high quality mineral wool insulation. Ovens are supplied with robust rail mounted trolleys for ease of loading and unloading. Recirculating fans ensure temperature uniformity with independent thermocouples to monitor internal temperatures.

Fuel options include electric, natural gas or LPG.



Safety Features:

- Pre heat purge to remove any residual volatile agents
- Pressure relief panels
- Emergency shutdown
- Interlocked doors
- Internal handle
- Over temperature protection



All ovens have the option of a standard push button control system or full monitoring and data capture of the process with a PLC touch screen controller and data output via USB.



Installation

Our standard range of ovens are fully built, tested and commissioned before despatch. All ovens require a firm and level floor location with enough space around the oven for maintenance access. Installation of services such as gas, electricity, water and flue extraction are the responsibility of the customer, however Rotary will provide technical information and advice in advance to ensure efficient installation at site.

Rotary Engineering UK Ltd offers a full range of equipment for the dismantling and repair of electric motors. The use of correct procedures when dismantling a motor is essential to prevent damage to the motor and effect an efficient repair. Rotary's dismantling equipment includes stator cut off machines for cutting off the end windings prior to the burn off operation and pneumatic coil pullers to assist with the removal of coils from the motor after burn off in addition to a range of bearing pullers, gear heaters and armature stands.

All our equipment is manufactured to order here in Sheffield so you can be assured of the best quality and reliability for your workshop.



Stator Cut Off machine for removal of old windings prior to the burn off operation.

- Direct drive motor spindle
- Depth stop and cutter path guides
- Grit edged saw blades
- Emergency stop and guarded cutter



Armature Stands



Bearing Puller



Pneumatic Coil Puller
for pulling coils from the stator after the burn off operation.

- Pneumatically assisted pulling device
- Vertical removal of coil to prevent damage to laminations
- Pneumatically assisted, clamping of stator
- Foot pedal operation



Gear Heater

Curing Ovens

These ovens operate at up to 225°C and are used to cure the varnish on new windings, after being immersed in either a varnish tank (see our VT range) or after Vacuum Pressure Impregnation.

They may also be used to dry out windings where it is suspected dampness may be causing low earth leakage insulation resistance.

CURING OVEN SPECIFICATIONS	RS100	RS125	RS150	RS200
Internal Dimensions:				
Height	100cm	125cm	150cm	200cm
Width	100cm	125cm	150cm	200cm
Depth	100cm	125cm	150cm	200cm
External Dimensions:				
Height	180cm	205cm	287cm	337cm
Width	232cm	257cm	245cm	295cm
Depth	154cm	179cm	227cm	277cm
Minimum footprint	2.5m x 2.5m	2.75m x 2.75m	3m x 5.5m	3.5m x 6m
Temperature range	Ambient to 225°C			
Insulation	100mm mineral wool with aludip lined interior			
Controls	Side mounted, PID Digital temperature and process timer. Optional PLC Control and Data Output			
Safety Features	Pressure relief panels, over-temperature protection, internal handle, emergency shut down			
Doors	Double	Double	Double	Double
Fans	2 x 0.47m ³ /sec	2 x 0.47m ³ /sec	2 x 0.47m ³ /sec	2 x 0.94m ³ /sec
Circulation	12.5 air changes / minute	12.5 air changes / minute	12.5 air changes / minute	12.5 air changes / minute
Ventilation	1 fan at 0.47m ³ /sec	1 fan at 0.47m ³ /sec	1 fan at 0.47m ³ /sec	1 fan at 0.47m ³ /sec
Trolley	Removable Rack	Removable Rack	2 Tonnes	3 Tonnes
Trolley rails	Use Forklift Truck	Use Forklift Truck	Supplied	Supplied
Electrical characteristics:				
Control Panel Supply	240 VAC – 415V, 3 phase, 50Hz neutral & earth. Rated for non-hazardous areas.			
Current	45 amps per phase	55 amps per phase	61 amps per phase	107 amps per phase
Heat source	Electric (enquire for gas option)	Electric (enquire for gas option)	Electric (enquire for gas option)	Electric (enquire for gas option)
Installation:				
Connections	Exhausted out of the building via customers ducting. Electrical connection to isolator at oven control panel			
Construction	Mild steel frame, galvanised exterior with blue door set			
Plan	Layout drawing available on request			



Our high temperature burn-off ovens operate up to 400 °C to safely burn-off old insulations prior to a full motor rewind. A correctly controlled burn-off process eliminates damage to the stator during the repair. A water injection system regulates oven temperature if ‘runaway’ conditions occur, with a 450 °C ultimate safety cut out.

To meet environmental standards our burn-off ovens include an afterburner chamber operating in excess of 850 °C which converts the output from the main chamber into carbon dioxide and water vapour.

Correct use of a Rotary Burn-Off Oven fully complies with the latest recommendations in BS EN IEC 60034-23:2019 which is the standard for the repair, overhaul and reclamation or rotating electrical machines.

Full timing and temperature control is available through PLC controls with data output via USB.

BURN-OFF OVEN SPECIFICATIONS	RB100	RB125	RB150	RB200
Internal Dimensions:				
Height	100cm	125cm	150cm	200cm
Width	100cm	125cm	150cm	200cm
Depth	100cm	125cm	150cm	200cm
External Dimensions:				
Height	260cm	285cm	370cm	420cm
Width	245cm	270cm	270cm	320cm
Depth	170cm	200cm	240cm	290cm
Minimum footprint	3.8m x 3.8m	4.25m x 3.0m	5.5m x 3.5m	6m x 4m
Temperature range	Ambient - 400°C, Afterburner 850°C			
Insulation	100mm mineral wool with Aludip lined interior			
Controls	Side mounted, PID Digital temperature and process timer. Optional PLC Control and Data Output			
Safety Features	Door interlock, pressure relief panels, over-temperature protection, internal handle, emergency shut down, pre-start purge, Interlocked water suppression			
Doors	Front mounted, side hinged			
Fans	Integrated with burners			
Circulation	By burner fan and circulation fan			
Exhaust	Through insulated stack into customers ducting			
Trolley	Removable Rack	Removable Rack	2 Tonnes	3 Tonnes
Trolley rails	2 off detachable trolley rails provided will all ovens as standard			
Burners:				
Main chamber	110kW	110kW	160kW	160kW
Afterburner	110kW	110kW	110kW	160kW
Electrical characteristics:				
Control Panel Supply	240 VAC – 415V, 3 phase, 50Hz neutral & earth Rated for non-hazardous areas Option to supply to customer specification			
Installation:				
Connections	Gas pressure: 17 to 40 mbar and 30m³ per hour max Water supply: Mains water at 1.75 bar min Flue: Supplied with 1 metre of insulated stack, customer to install ducting above this Electrical connection: 415V, 3 Phase, 50Hz with neutral & earth			
Construction	Mild steel frame, galvanised exterior with blue door set			
Floor	Castable concrete			
Plan	Layout drawing available on request			



Rotary Engineering works in partnership with clients worldwide, manufacturing a range of equipment and offering everything from a one off piece of equipment to an entire workshop.

Our experienced team are happy to provide specialist advice, respond to tenders and support our contacts around the world.

Rotary's origins can be traced back to 1896 when W.E Burnand first made industrial equipment from our workshop here in Sheffield. Today the business has evolved to become Rotary Engineering UK Ltd, proudly established as an innovative specialist UK manufacturer supplying the motor rewind and coil manufactures in addition to the design, manufacture and repair of electromagnets.



Designed and manufactured in the UK



Specialist advice and support available



Option to configure specifications to meet individual requirements



Easy to operate, cost effective equipment



Worldwide service and support