

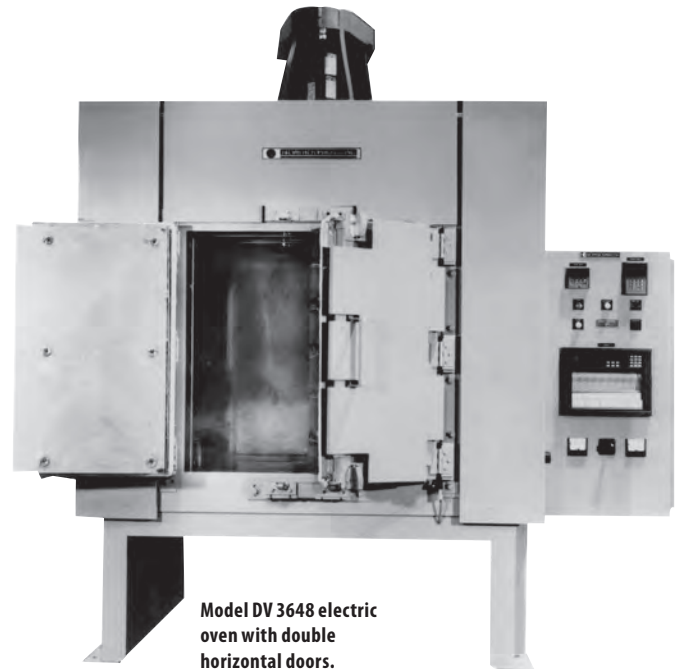
## HEAVY DUTY FLOOR STANDING GAS OR ELECTRIC RECIRCULATING 1,300°F (700°C) TEMPERING OVENS

### APPLICATIONS

The DV/DR Series floor standing recirculating cabinet ovens feature high volume air recirculation for high temperature uniformity, gas or electric operation, a stainless steel interior and a precision PID digital control system. They are designed for heavy duty production heat treating applications such as tempering, annealing and solution heat treating, although they have many other uses. The furnaces are rated to 1,300°F (700°C) operation. Horizontal (DV) or vertical (DR) doors are available.



Model DRG 3648 with pneumatic vertical door, roller hearth tray system and gas fired operation.



Model DV 3648 electric oven with double horizontal doors.

# FEATURES

## RECIRCULATION FOR UNIFORMITY OF +/-10°F

A heavy duty high volume, high velocity air cooled alloy fan is mounted in the top with full recirculation ducting. The ducting features adjustable vents to control the recirculation pattern of the air. A minimum of 40 volume changes per minute of the entire interior is achieved. The fan is dynamically balanced and engineered for long life at high temperatures. The fan is manufactured by Industrial Gas Engineering and is very reliable.

## HEAVY GAUGE STAINLESS STEEL INTERIOR

The entire interior is made of stainless steel for heat and corrosion resistance. The bottom is 10 gauge while the liners and baffles are 16 and 14 gauge. They are designed to expand and contract with the heat.

## HEAVY DUTY UNITIZED CASE CONSTRUCTION

The oven case is constructed of reinforced 10 gauge steel with an integrated floor stand that includes leveling bolts and mounting holes. The case is primed with 800°F silicone paint and finished in machine enamel.

## SEVEN INCHES OF INSULATION

1" of 2,300°F ceramic fiber insulation is backed up with 6" of mineral wool sandwiched between the interior and exterior of the oven. The bottom insulation is non-compressible 2,300°F firebrick and calcium silicate. No asbestos is used.

## HORIZONTAL OR VERTICAL DOORS

The DV Model door is a deep plug horizontal door. The models that are 36" wide (or wider for special models) feature two doors that meet in the middle. The horizontal doors include ceramic fiber tadpole seals. Pneumatic and electric vertical doors are also available (DR models). These feature a front vestibule of castable refractory and ceramic fiber lined doors that seal against this non-expanding vestibule. The DR models can be supplied with traveling rollers on the vertical doors to match the roller hearths inside the oven. Special hydraulic forklift loaders are also available for heavy loads.

## INCOLOY ELEMENTS FOR ELECTRIC

Electric ovens include elements located in the recirculating plenum chamber away from the working zone. These are incoloy sheathed elements that are rated for 1,600°F. They are replaced easily from the back.

## HIGH TURNDOWN RATIO GAS BURNER FOR GAS

Gas fired ovens feature an Eclipse gas burner with a high turndown ratio. The gas system includes a proportional motor control that adjusts both gas and air to maintain stoichiometric firing, a gas regulator, lubricated

gas cock, a combustion air pressure switch, a high/low gas pressure switch, a pilot system with pilot solenoid and pilot regulator, two shutoff solenoids, UV flame safety, an air purge system (four volume changes) and an integrated combustion blower. The system meets NFPA and FM standards. The gas burner fires into the plenum chamber, avoiding flame impingement on work. It may be specified for natural gas or propane.

## DIGITAL PID CONTROL AND HIGH LIMIT SYSTEM

The standard control is a Honeywell UDC 2500 digital PID 3 mode tuning control. All fuses, transformers, contactors and controls are located in a NEMA 1 panel. Quiet, long life solid-state contactors are standard on electric ovens (SCRs are optional). The thermocouples are sheathed Type K. The control voltage is transformed to 120 volts. A Honeywell UDC 1200 digital high limit backup control with manual reset, backup contactors and separate thermocouple is included. Single point power connection is included.

## TESTING AND INSTRUCTIONS

The electric ovens are power tested to ensure proper watt ratings. Gas ovens are completely tested at operating gas pressures that are specified by the customer. A complete instruction manual includes easy startup instructions, theory of operation, maintenance instructions, a parts list and a detailed troubleshooting guide. A ladder logic diagram and panel layout are prepared on CAD for easy readability. Gas ovens include a gas schematic.

## WARRANTY

The furnace is warranted for one year except for elements and thermocouples, which are warranted for six months.

## OPTIONS

- **1,400°F (760°C) OPERATION:** The interior is 316 stainless steel.
- **JIC CONTROL OPTION:** This includes a NEMA 12 control cabinet and a panel fused disconnect switch.
- **INERT ATMOSPHERE BLANKETING:** On electric units only
- **RAMP/SOAK PROGRAM CONTROLS**
- **TEMPERATURE RECORDERS:** Round and strip chart
- **SCR POWER CONTROL:** For electric units
- **MANUAL OR POWERED VENTURI VENT:** A manual or motor powered venturi can be provided for venting the oven. An optional safety package for solvent use is available.
- **SHELVES AND SPECIAL HEARTHES:** Perforated stainless steel shelves, roller hearths, piers, etc.
- **ON-SITE STARTUP AND TRAINING**

## SPECIFICATIONS

Model Number	Working Dimensions			Inside Dimensions			Door Model Height	Stand K.W.	Max K.W.	Fan H.P.	Max Load LBS	Ship Weight
	W	H	D	W	H	D						
DV 244	24	24	24	70	91	50	148	21.6	48.0	3	400	1,600
DV 246	24	24	36	70	91	62	148	24.0	48.0	3	600	1,800
DV 248	24	24	48	70	91	74	148	32.4	72.0	3	800	2,200
DV 272	24	24	72	70	91	98	172	43.2	96.0	5	1,200	2,600
DV 3636	36	36	36	84	103	62	172	43.2	96.0	7.5	900	2,500
DV 3648	36	36	48	84	103	74	172	48.0	144.0	7.5	1,200	2,800
DV 3672	36	36	72	84	103	98	172	72.0	144.0	10	1,800	3,200

Dimensions are in inches. Weight is in pounds. Working dimensions have clearances of a minimum of 3" extra in each dimension. Add about 12" to the depth for gas fired ovens. Special sizes and load weights are available. 240 or 460 volts are normal. 208 volts decreases power by 25%. Other voltages are optional. Three phase is normal although single phase is available. Gas ovens typically have one 500,000 BTU burner, which will yield 250,000-300,000 BTU/hour net (higher BTU ratings are available.) Gas fired ovens should be flued to the outside. Specifications are subject to change without notice.

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