

Barlow Whitney Almor Group Wild Barfield Heavy Duty 300°C VAF Electric Batch Oven

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| Stock No | OA2252 |
| Manufacturer | Barlow Whitney |
| Model | E300/666/VAF |
| Serial | Y21916 |
| Condition | Seen working by RSW, Excellent Condition |
| Internal Size (WxDxH mm) | 610 x 710 x 670 |
| Max Temp | 300°C |
| Other Info | Explosion relief panel on rear |
| Weight (kgs) | 500 |
| External Dimensions (WxDxH mm) | 1180 x 1080 x 200 |

Description

Barlow Whitney Wild Barfield Electrically Heated 300°C VAF Batch Oven

This oven is of very heavy duty, industrial type, double cased and lagged with hinged lagged door. Fitted with an explosion relief panel constructed from aluminium foil and light weight insulation in the rear wall designed to disintegrate upon a sudden rise in internal pressure.

Heating Elements

These are of the metal cased, fully protected type of conservative rating and are fitted in the roof of the oven in battery form. They are removable from the inside of the oven.

Control Gear Standard Arrangement

The electrical switchgear and controls are housed in a sheet steel cabinet that is stood off from the right-hand wall of the oven. The internal switchgear is accessible via a right-hand hinged door and the controls on the left-hand end panel of the cabinet so that they face the operator just to the right of the oven door(s).

Contactor Panel

The contactor panel carries the mains isolator, neutral link and main earth terminal for the incoming supply. A safety contactor is provided to isolate the mains from all heating elements and fan motors and extinguish all indicator lights at excess temperature state.

A set of HRC fuses, control contactors and terminals are provided for the single or two stage heating elements. An additional set of HRC fuses for the contactor and thermal overloads with reset knob and terminals are provided for the Circulating Fan motor.

A control circuit fuse and set of control terminals, some with removable links are provided for the alternative control systems and provisions are made ready for the variants listed below.

The Isolator

Is hand-operated by an external lever fitted through the door of the cabinet to switch the mains electricity supply on or off. The isolator is triple poled and enclosed in insulating covers. Interlocking device works in conjunction with the operating lever ensures that the isolator cannot be ON or switched to the ON position when the door is open.

Control Panel

The control panel, that faces the operator, houses the following control devices, as standard:

- Indicating Automatic Temperature Controller

The oven temperature control instrument is connected by a suitable compensating lead to a thermocouple in the oven. The control contact of the instrument is wired in series with the operating coil(s) of the heating element contactor(s) to switch the power on or off to maintain the pre-set operating temperature. The instrument is fitted with a Broken Couple Safety Device (BCSD) so that it will drive upscale to switch the oven off should the thermocouple open circuit.

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Excess Temperature (Safety) Reset button switch

This has to be pressed, to close the safety contactor, whenever the mains isolator has been closed or after an excess temperature trip of the safety thermostat (or alternative excess temperature instrument) which is normally set about 25 C above the operating temperature. The temperature must be below the excess temperature setting again, and any fault remedied, before the reset button is pushed after an excess temperature condition has been reached. None of the panel indicator lights can illuminate unless the safety contactor has been reset.

- **Circulating Fan Control Switch, with neon indicator**

This provides the means of switching the circulating fan on or off, or subject to it's overload trip and the Safety Contactor being closed.

- **Heating Control Switch, with neon indicator**

This provides the means of switching the heating elements on or off, or subject to the safety contactor being closed, the circulating fan running and the control action of the temperature controller.

Aerospace Packing Area Cleaning, Oiling and Bag Sealing Cell

This machine was originally part of a cell that worked on the following basis.

Stage 1: Kerosene (Exxsol D80) Spray Wash [[DA1414 - Vixen Tristar](#)]

Components are placed on the Vixen wash belt conveyor to be spray washed with Kerosene (exxsol D80), the speed of the conveyor is adjustable to achieve the required cleaning result an optical sensor at the end of the conveyor will stop the conveyor when a part is detected making unattended operation possible.

Stage 2: White Spirit Dip [[DA1412 2 Compartment Cleaning Tank](#)]

The components are removed from the Vixen spray wash and placed in a basket, the basket is placed in the white spirit tank and manually agitated up and down to remove the kerosene. The basket is placed on the side draining board and left for a short period of time for any excess white spirit to drain off back into the tank.

Stage 3: Drying [[OA2252](#) / [OA2253](#) / [OA2254 Ovens](#)]

The components are removed from the now drained basket and placed in the drying oven on a stainless steel tray, the oven temperature is set to 110 degrees centigrade the time in the oven is dependent on the shape complexity of the component, complex shaped components are left in the oven for 2 hours simple shaped components for 1 hour.

Stage 4: Oil Dip [[DA1413 Heated Cleaning Tank](#)]

At the end of the drying time the components are removed from the oven and either placed in a basket or on a jig and completely submersed in the oil tank containing Ardrox 311. Ardrox 311 is Hygroscopic i.e. it absorbs moisture from the air, it is for this reason the oil tank is equipped with a Pall moisture sensor and Pall Purifier. The pall purifier pumps a measured amount of oil out of the tank into a chamber which is under vacuum the oil is spread thinly on a plate and the

moisture evaporates back to the atmosphere the now 'dry' oil is then pumped back to the tank and the process is repeated for the next measured amount, this can continue until the desired moisture level is achieved. The tank is also equipped with a circulating pump and oil cooler, with hot parts being submerged into the Ardrex 311 the temperature of the oil gradually rises and should not be used above 30 degrees Celsius the, oil cooler can be set to operate at a temperature that will maintain the oil tank temperature below 30 degrees Celsius.

Stage 5: Draining [DA1413 Heated Cleaning Tank]

When the components are cool enough to handle they are removed from the oil tank and placed on a draining board next to the oil tank to allow any excess oil to drain off and pass back to the oil tank

Stage 6: Identification [MA763 RADYNE Welder Sealer]

Once the excess oil is drained off the unique component identifier is found on the component and written on the packing bag. The component is placed inside the bag.

Stage 7: Bag Sealing [MA763 RADYNE Welder Sealer]

The now bagged component is placed on the Radyne RF bag sealer. The Radyne RF bag sealer utilises radio frequencies to heat fiberglass tape covered blades to seal the bag. The open end of the bag is at first not completely sealed enough room is left to insert the suction pipe from the vacuum pump to be inserted into the bag. The vacuum pump is operated by a foot switch keeping the operators hands free to manipulate the bag and component, the air is sucked out of the bag and the final seal is made completely sealing the bag.

Photographs taken prior refurbishment. Our refurbishment service is not available on all machines.