

Watkins Johnson Mesh Belt Furnace



Stock No	OB2281
Manufacturer	Watkins Johnson
Model	6 zone Furnace Model 14TF
Serial	C00889
Condition	From a working environment, Excellent Condition
Internal Size (WxDxH mm)	355 wide x 80 high above belt
Max Temp	900°C
Other Info	Variable Speed Conveyor Belt.
Location	Our Central Warehouse, Aldridge, UK
Weight (kgs)	2500
External Dimensions (WxDxH mm)	1350 x 7050 x 1400

Description

This Watkins Johnson 6 zone furnace consists of the following major components and operational features.

Control

- This is achieved by an internal Eurotherm Mini 8 programmable controller linked to an external PC which is used to input data and display information.
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Heated area – 2 side, 1 top and 1 bottom element in each zone.

- Independent variation of power to top, bottom and the pair of side elements. This allows the whole width of the belt to be utilized as cross belt temperatures can be kept to a tight tolerance.
- Belt speed control – this is continuously variable by means of a lockable potentiometer on the front panel. The speed is displayed on the screen in inches per minute but is only a guide. Accurate, timed measurements should be made regularly.

Operations

- Multiple temperature profiles may be stored and accessed easily. Please note that belt speeds have to be changed manually.
- Automatic, timed shut down of heat or change to a different temperature is possible but the belt should not be stopped whilst the furnace is at temperatures above 300°C. For this reason, the belt will always be moving unless manually switched off even if a nightly “heat off” program is employed.
- An 850°C profile will be reached in around 3 hours dependant on the power settings selected. Anywhere from 5% to 100% power can be selected within a profile and as long as the customer’s power circuits are correctly rated then we recommend running at 90% of maximum power to prolong element life.
- If an idle profile is manually selected from the PC at night, the internal timer can be set to change to a production profile at a pre-set time in early morning so ensuring the furnace is at temperature ready for work when required.
- Once the furnace has been loaded with the appropriate profile and placed on line, the PC is no longer required to run the furnace but is used to display zone temperatures and belt speed.

Safety Features

- There are 2 over temperature controllers to ensure a safe shut down of power to the elements if a fault occurs and 2 manually operated switches to stop the belt in an emergency.
- These controllers monitor the temperature of all 6 zones by thermocouples placed in zones 2 and 5. At present they are set to shut down heat if 900°C is reached but are easily readjusted to suit the customer’s needs and may be locked to prevent unauthorised adjustment.
- Fume extraction hoods to facilitate extraction as required.

Issues / Repairs / Spares.

- One zone has a bottom heater is open circuit fault.
- No controller or PC included.
- The furnace was given some maintenance in August 2020, belts were cleaned etc.
- A belt drive motor was replaced.
- Spare belt brushes would come with the sale.
- There is also a spare belt drive motor that would be supplied..

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