

General instructions

The cell is designed to be a stand-alone self-contained facility to heat treat moulded components in preparation for the subsequent bonding process.

After the cell has been powered up the operator presses the cycle start button to initiate the auto sequence allowing the machine to be run.

The operator steps through the safety light curtains and places the mould onto its rest. Once securely in place the operator steps back out of the light curtain and initialises the auto sequence by pressing the ready to load button on the control panel.

The table will rotate and transfer the required mould for heat treatment into the secure flame treatment area. The table is locked in place, mould clamped and the robot starts its cycle traversing the flame over the mould. After flame cycle has finished the final sprue is cut from the mould and the treatment cycle is complete.

During the flame treatment sequence the operator can place another mould into the 2nd nest, after the mould is in place the operator steps out of the light curtain and presses the ready to load button. Once the flame treatment cycle has finished the table rotates taking the recently placed mould into the flame treatment area, and brings the treated mould out in the operator for removal. The treated mould is removed manually from the rest by the operator ready to replace with another mould for treatment. The rest is in an interlocked sequence which is locked.

Note

If the Amber light of the traffic light flashes, this is due to one or more of the following faults which will be shown on the alarms page of the HMI screen:

1. The flame is not at its correct temperature at the start of the treatment.
2. The flame is not at its correct temperature at the end of the treatment.

Any repeated error should be reported to the supervisor so appropriate investigation can take place.

The Flame treatment cell

The picture shown below is the flame treatment cell.

The cell is supplied with compressed air via an air service unit mounted to the frame inside the cell.

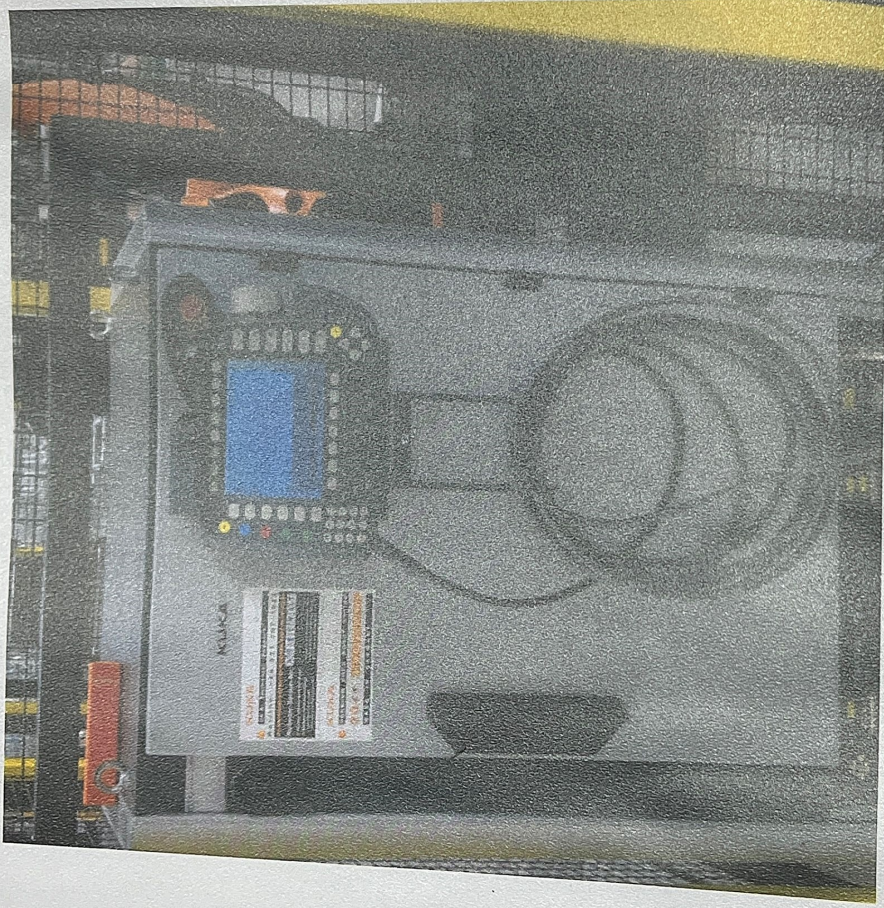
On the right hand side of the cell is the main electrical panel which contains the electrical equipment for the cell, it is locked and is fitted with a door isolator which ensures that the cabinet can only be opened if the power is first switched off. Access to this cabinet must be restricted to maintenance personnel; there is no need for operators to have access. It is locked with a proprietary key.



To the front of the cell is load / unload area which is protected via safety light curtains. This is where the operator will handle the moulds.

Robot controller

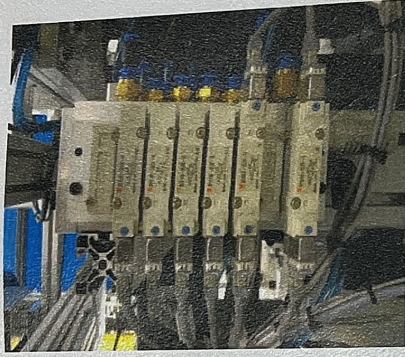
The controls for the robot are sited to the rear left of the cell and can be accessed from the outside without the need to enter the danger area.



Pneumatic valves

Attached to the main frame of the cell are the pneumatic valves as shown in the photo below:

- 1) Thermocouple Airblast
- 2) Pilot Check Valve
- 3) Spruecut
- 4) Shot Pin
- 5) Table Lift
- 6) Rotation



Each valve has been marked to correspond with its actuator.