

Operating Instructions

1.5 and 3 Drum Gas-fired Hot Air Agitating Melter



For further information
visit: www.cookerhire.com
or a hire quotation call:

01858 412 100

COOKER HIRE Ltd
ROOFING PLANT & ACCESSORIES

Contents

Machine Requirements	3
Important Safety Information	4-5
The Hot Melt Machine	6-9
Operating the Melter	10-17
Specifications	18
Notes	19

About the Hot Air Melter machine

- Our fleet of **Hot Air Melters** offer either 1.5 & 3 drum capacity.
- These Hot Melt machines require a **110v** power supply to run the motor that drives the gearbox and agitating paddles PLUS two (2) number full **47 kg propane gas cylinders** (neither are supplied with the machine).
- Hot Melt machines are only shipped to site after being serviced and PAT tested. If you have any concerns about the Hot Melt Cooker as it has arrived call **01858 412 100**.
- The Hot Melt machines work by producing heat from an **open nozzle propane burner** firing down a series of stainless-steel perforated tubes, allowing hot air and radiated heat into the heat exchange chamber. This type of machine has no oil-jacket and therefore heats the material faster.
- All machines are fitted with **paddle agitators** that move left to right continually when turned on to prevent separation of hot melt waterproofing materials. A **110-volt power supply** will be required **within 20 metres** of the machine to power the electric motor.
- All machines are serviced on return from hire, and are maintained to the highest possible standards. We also provide a selection of tools and accessories for the installation of the materials.

These operating instructions incorporate guidance for lifting and moving, safe operation, maintaining working parts, and preparing the machine for return to our depot.

The following items are not supplied with the Melter and are essential for its operation and use.

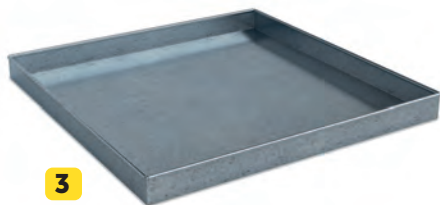
1. PPE: You must have the following items of personal protective equipment:

- **Goggles or Full-Face Visor** to BS EN166
- **Suitable Protective Work Gloves** to EN388:2016 and EN ISO 21420 (was EN420:2003)
- **Safety Boots** to EN ISO 20345:2011
- **Kevlar Protection Sleeves** to EN338:2003 and EN407:2004
- **Suitable Protective Clothing** to avoid skin contact from splashes

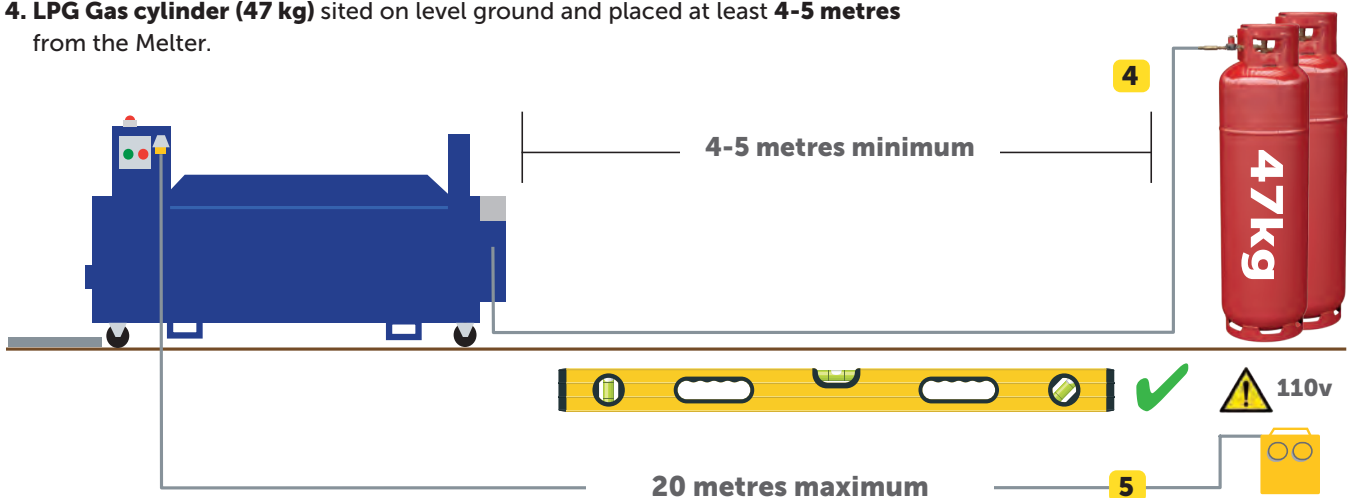


2. Fire Extinguishers: Blue (Powder) or Cream (Foam)

3. A drip tray



4. LPG Gas cylinder (47 kg) sited on level ground and placed at least **4-5 metres** from the Melter.



5. 110-volt power supply within, but no further than **20 metres** (65 feet) of the Melter, and a 20 metre cable fitted with an appropriate 110 v 3 Pin Male plug at one end and a 110 v 3 Pin Female plug at the other.



**REMEMBER: Health and safety on site is
EVERYONE'S responsibility**



Health & Safety

- Suitable PPE and a full-face mask should always be worn when operating the Hot Melt machine or loading the Hot Melt material.
- The loading hatch doors must be closed at all times whilst the agitating paddle(s) are engaged.
- Never leave equipment unattended when alight or running.
- If a fault occurs, shut down the equipment immediately and report fault to the person directly responsible.
- Always turn off the motor and burners before maintenance or repairs are carried out, AND remove external power sources (where applicable).
- If the Hot Melt machine is being used where the general public may come into contact, 'HOT SURFACE' warning signs should be posted around the machine and the Hot Melt machine enclosed with protective fencing.
- Safety is everyone's responsibility, never do anything that is likely to put yourself or anybody else at risk.

Basic Safety Information

- Hot Air Melters are shipped to site only after being serviced and PAT tested. If you have any concerns about the Melter on arrival call 01858 412 100.
 - Most operatives recognise the many risks working on a building site. Using this Melter comes with four specific risks:
 - risk of explosion from the LPG cylinders
 - risk of burns from touching either the surface of the Melter when lit
 - having hot molten material on your clothing/skin causing severe burns
 - risk of respiratory irritation from excessive fumes from hot materials used within the Melter.
 - Gas-fired Hot Air Melters are designed specifically for use with the material specified and should only be used in accordance with the rules and regulations of the site.
 - Under no circumstances should the Melter be used inside any building
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IN THE EVENT OF A FIRE



1



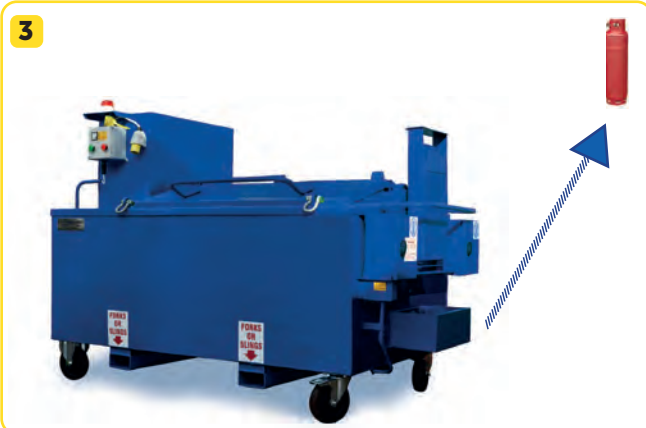
Turn off the gas cylinders.

2



Disconnect the gas cylinders.

3



Remove gas cylinders to a safe place.

4



Close the loading hatch doors if not already closed and safe to do so.

5



DO NOT open loading hatch doors for a minimum of **60 minutes** after a fire. This allows the Hot Melt material to cool and temperatures within the drum to drop to safe levels.

6



Call 01858 412 100 to report the fire and have the Hot Melt machine checked for safety or replaced.

How the Hot Melt Machine works

1. The I.M.O control box has a **RED (STOP)** and **GREEN (START)** button on the front face. It is also fitted with an AMP meter to show voltage. A Red **EMERGENCY STOP** button is on the side.



2. An electric motor/gearbox drives the **AGITATING PADDLES**.



3. A **110-VOLT POWER SUPPLY** is required to drive the agitators.



4. A **32 AMP/16 AMP PANEL PLUG** is situated beside the I.M.O. control box, plug your 20 metre power cable into this socket.



5. A **RED BEACON** is located on top of the gearbox housing. When the red beacon is flashing, this indicates the Hot Melt machines agitating paddles and gas burner are working. If the red beacon is not flashing, this indicates the agitating paddle and burner have stopped working, but the pilot(s) will still be alight. If the red beacon stops flashing, turn off the pilot(s) **IMMEDIATELY** until any fault has been identified and rectified or the machine replaced.



6. The temperature of the Hot Melt material is controlled by a **DIGITAL THERMOSTAT (5a)** connected to a thermostat within a **CAPILLARY SENSOR TUBE (5b)**.



7. A red emergency **STOP** mushroom button is on the side.

NOTE: All illustrations are for information and recognition purposes only and may not always be set up in the same manner on each machine. This is always contingent on the needs of the customer. If you have any questions then please call us on **01858 412 100**.



Before use

NEVER:

- Operate the machine before carefully reading and understanding these operating instructions. If you have any questions call 01858 412 100.
- Operate machine before having been shown to do so by a qualified person.
- Operate machine with safety guards or covers removed.
- Add Hot Melt blocks when the agitating paddle is running. To add Hot Melt blocks, STOP the agitating paddle. ADD the Hot Melt blocks. CLOSE the lid. RESTART the agitating paddle.
- Leave the machine unattended when in use under any circumstances.
- Attempt to carry out any repairs or servicing before Hot Melt Cooker is shut down with the motor stopped and gas turned off at the cylinder. The Hot Melt Cooker must be allowed to go cold before touching any components.
- Leave gas cylinders attached to the Hot Melt machine once you have finished using the Hot Melt machine for the day. Gas cylinders MUST be stored in a suitable gas cylinder cage.

DO NOT:

- Drop scrapers, trowels and/or scaffold poles into the drum of the Hot Melt machine. If these items are dropped into the Hot Melt machine, IT WILL JAM THE AGITATING PADDLE and burn out the electric motor and gearbox. All damage is chargeable to the hirer.
 - Leave Hot Melt material in the Hot Melt machine at the end of hire. Cleaning the Hot Melt machine is chargeable to the hirer.
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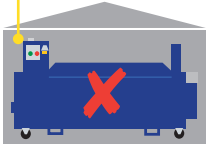
ALWAYS:

- Secure the outlet and engine cover doors with a suitable padlock when leaving the Hot Melt machine unattended to prevent vandalism.
 - Load the Hot Melt machine only while wearing suitable PPE and a full-face shield to prevent potential splashing.
 - Load the Hot Melt machine equally using both loading hatches. This prevents the uneven loading of the drum.
 - Ensure the mixer contains enough molten Hot Melt material to cover the Thermostat Capillary sensor tube to avoid overheating. Overheating could cause the molten Hot Melt material to flash and catch alight.
 - Shut down the mixer when faults are discovered and report them to the person directly responsible for Hot Melt Cooker operation. DO NOT operate the machine until all faults have been corrected. Call **01858 412 100** for support if required.
 - Leave the agitating paddle in the centre of the drum (i.e., vertical to the shaft) before lighting the Hot Melt machine.
 - Place the Hot Melt blocks into the Hot Melt Cooker before lighting.
 - Keep the Thermostat Capillary sensor tube covered with liquid Hot Melt material. If the Thermostat Capillary sensor tube is exposed, the Cooker will overheat the Hot Melt material, which can cause it to catch fire.
 - Stop the Hot Melt machine with the agitating paddle in the centre of the drum i.e., vertical to the shaft before lighting the machine.
 - Re-heat any Hot Melt material left in the machine overnight, or for any prolonged period, before starting the agitating paddle. Starting the agitating paddle before the Hot Melt material is at the correct temperature could damage the electric motor & gearbox. When a large volume of Hot Melt material is allowed to go cold, allow more time for the Hot Melt material to re-heat before turning on the agitating paddle.
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Before use

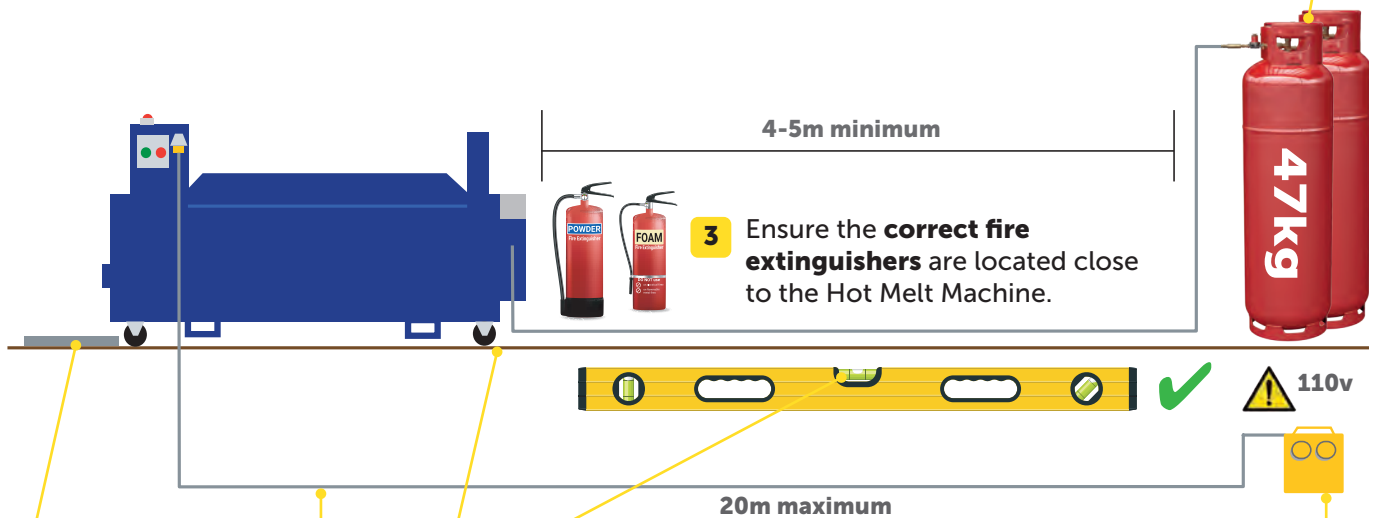
Siting and Set-up.

- 1** Hot Melt machines should be used **OUTSIDE ONLY. NEVER INSIDE.**



Ensure the **2** number **full 47 kg propane gas cylinders** are on level ground a minimum of **4 to 5m** away from the Hot Melt machine.

2



- 4** Ensure a **drip tray** is positioned below the material outlet.

- 5** Place the Hot Melt machine on a **level roof surface** and apply all the brakes available.

Ensure the **power source** is no more than **20 metres (65 feet)** from the Hot Melt Cooker. Positioning further away from the power source will reduce the electricity flow and may lead to problems with the Hot Melt Cooker being unable to start.

6

- 7** Use a **20 metre 110 v lead** fitted with **Male/Female 3 pin plugs**. Check the power lead for damage and wear. Do not use if worn or damaged.



Once gas connections are completed check that all gas tap(s) on the Melter are in the off position.

The yellow ball valve should be vertical (off).

Turn the gas on at the cylinder(s), check connections at the bottle(s) and Melter for leaks using a Leak Detector Spray, propane has a very distinctive smell.

Connecting the gas cylinders

1. Always check the **PROPANE GAS CYLINDERS** exit manifold to ensure there is no damage, or debris, located in the inlet/outlet of the cylinder.

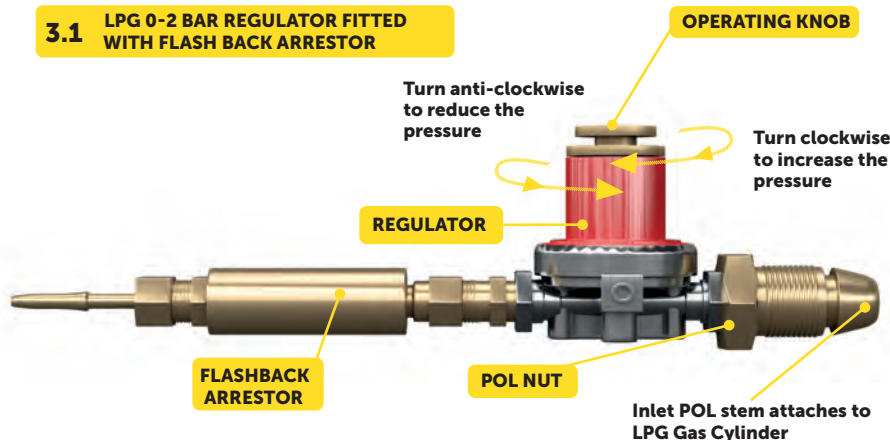
Where dirt or debris is present, clear out with an air hose or similar device. Then use a clean, dry cloth to ensure no particles can obstruct the seal between the connections. **NEVER** use a short blast from opening the gas cylinder to clear threads.

2. Connect each of the **FULL** 47 kg propane gas cylinders to the Hot Melt machine using the two armoured hoses attached to the Hot Melt machine ensuring they are nipped tightly and not leaking gas. The minimum distance between the propane gas cylinders and the Hot Melt machine should be 3 metres, with the armoured hose being laid flat along the roof surface to prevent any tripping or accidents.

The armoured hose attached to the Hot Melt machine is 6 metres long.

3. Fit with a **0-2 BAR GAS REGULATOR** to the exit manifold of each propane gas cylinder.

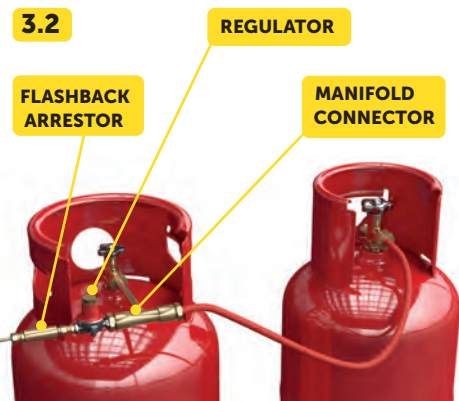
Ensure the connections are clean and free from dirt before connecting them to the propane gas cylinders.



- 3.2 Alternatively, the 2 x 47kg propane bottles can be coupled together.
NOTE: Coupling 2 x 47kg PLG cylinders together is generally only required to prevent the liquid gas from freezing in cold weather.

4. When the propane gas connections are completed, turn all gas taps on the Hot Melt machine to the off position and ensure the regulator is set to zero by turning the **yellow wing nut vertically to yellow butterfly ball valve**.

Perform a leak test of the connections between the propane gas cylinders and the Hot Melt machines burners using a suitable leak detector spray. Propane also has a very distinctive smell and can be easily detected. **Never use a naked flame to test for gas leaks.**

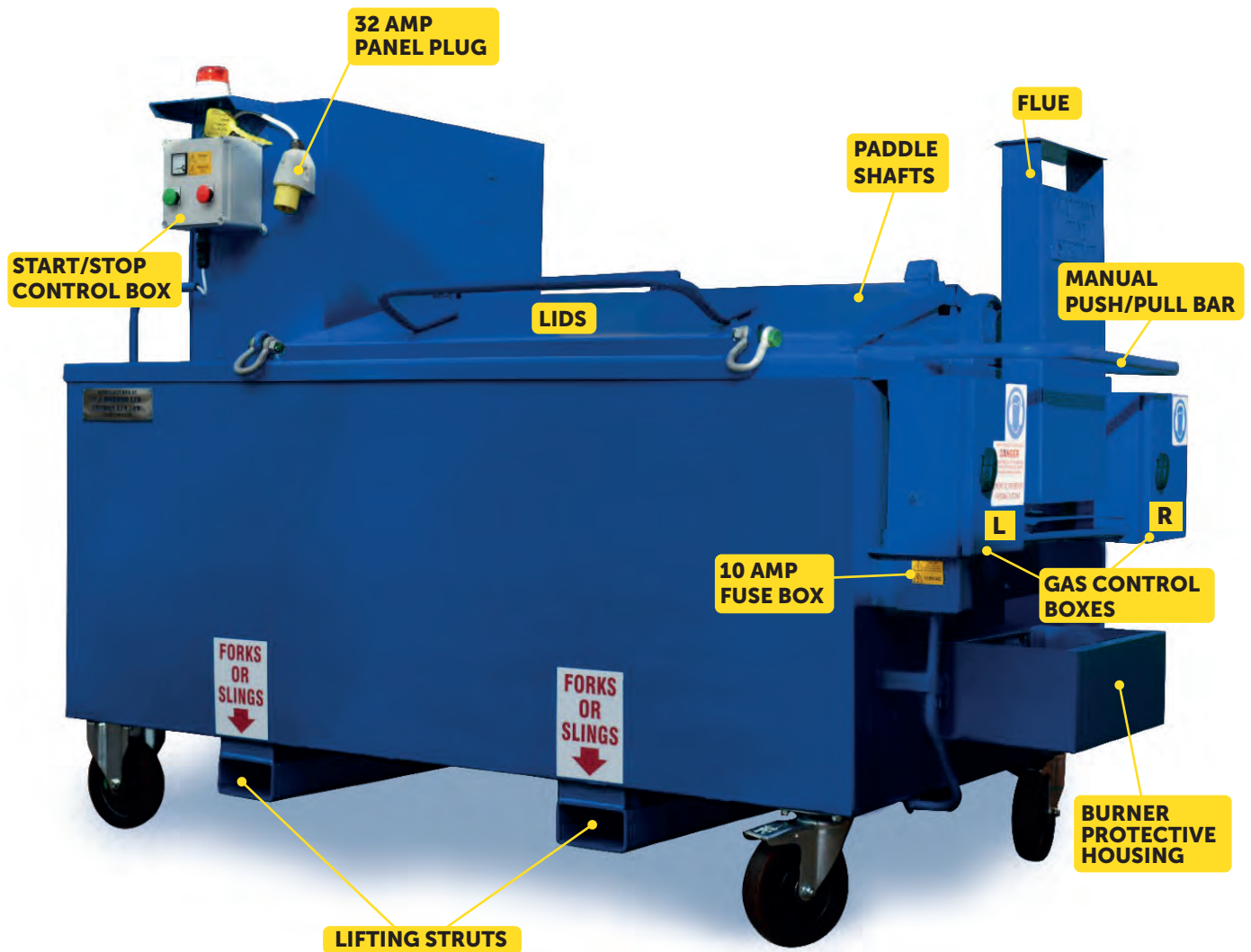


Hot Melt Machine Components (right-hand view)

PLEASE NOTE:

All Hot Melt machines are braced underneath for lifting by forks or slings.

The Hot Melt machines are also fitted with tested lifting eyes; however, this does not mean the machine has been test lifted. If you require your machine to be test lifted prior to delivery, this must be indicated on your paperwork as this constitutes an extra cost. (Many sites require test lift certified documentation).



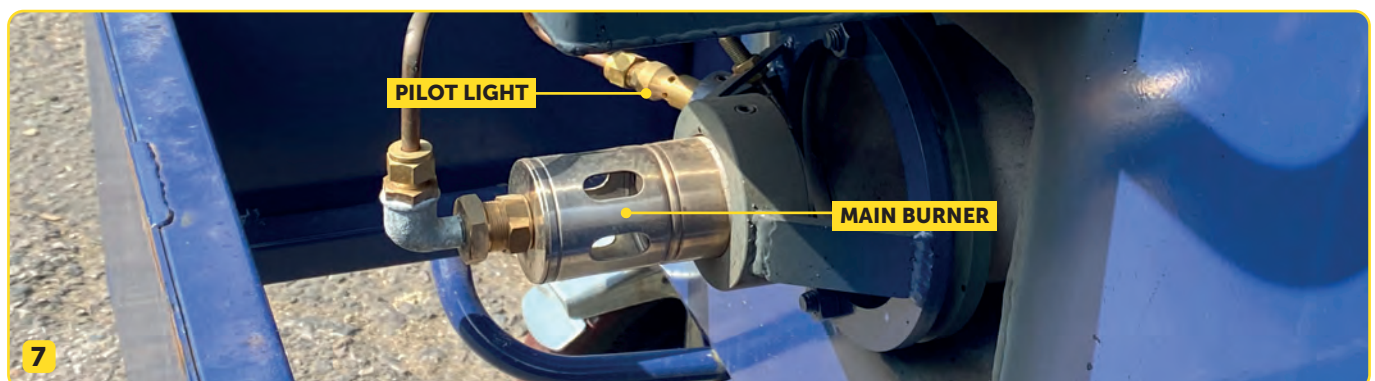
IMPORTANT: Hire machines must be returned empty of material to avoid a material removal charge, additional to the standard hire rate.

Hot Melt Machine Components (left-hand view)



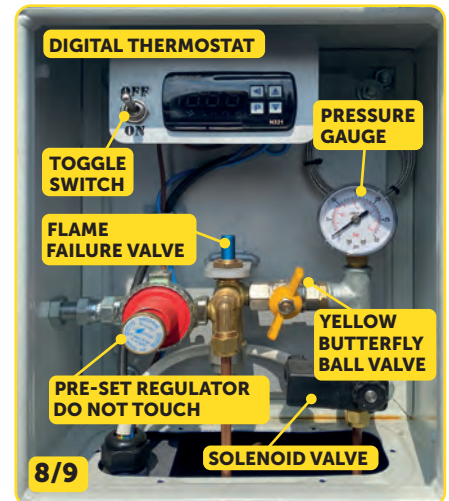
Starting the Hot Melter

1. Turn on the propane gas feed at the gas cylinder and adjust the regulator clockwise until some resistance is felt from the regulator spring
2. Lift both loading hatch doors open.
3. Push the **GREEN** button on the I.M.O controller to check the operation of the agitating paddle(s). If working correctly, press the **RED** button to stop the paddle(s) in a vertical position (centre of the drum). If the agitating paddles DO NOT go back and forth IMMEDIATELY, press the RED BUTTON to stop the gearbox from trying to move the agitating paddles. Failure to stop the gearbox will result in the electronic overload cutting the power to prevent motor damage. To reset, press and hold the red button. **NEVER** try to operate the agitating paddle if Hot Melt material has been left in the drum overnight as this will damage the electric motor and gearbox, **ALWAYS** heat the Hot Melt material to operating temperature before starting the agitating paddle.
4. Load the machine with Hot Melt material while it is switched off. Allow for the Hot Melt material to expand by approximately 25% when at working temperature. Never overfill.
5. Identify the **PILOT BURNER (a)** and **FLAME FAILURE (b)** button.
6. Light the **AUTO-TORCH**.
7. Depress the **FLAME FAILURE BUTTON** and light the **PILOT BURNER** using the **AUTO-TORCH**, keeping the Flame Failure button depressed for approximately 15 seconds. After the pilot flame has been established, turn off the auto-torch



8. Turn the **TOGGLE SWITCH** to **ON** then slowly turn the yellow butterfly ball valve clockwise. Now leak test all remaining gas joints with the Leak Detector Spray.

9. Adjust the regulator on the propane gas bottle to set the working pressure of the Hot Melt Machine. The pre-set regulator is set to 1.5 bar (22 psi), adjust the regulator on the propane gas bottle to ensure that the pressure gauge reads 1.5 bar.

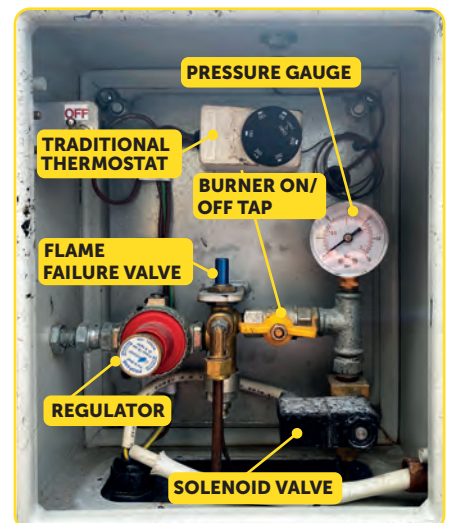


10. Switch on the **DIGITAL THERMOSTAT**. The thermostat is factory set to 200°C but can be altered by the operator if that is required by the Hot Melt manufacturer.

- Adjusting Temperature Setting
- Press 'P' for 1 second until 'SP' flashes.
- Use the up or down button to set the required temperature.
- Press 'P' again to return to the operation screen.
- Never adjust any other settings



11. Care should be taken not to heat the material too quickly as this will create hotspots, especially on the first load when the machine is cold.



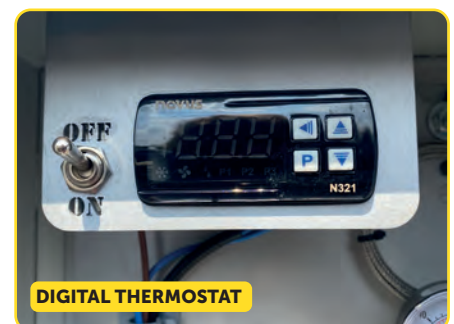
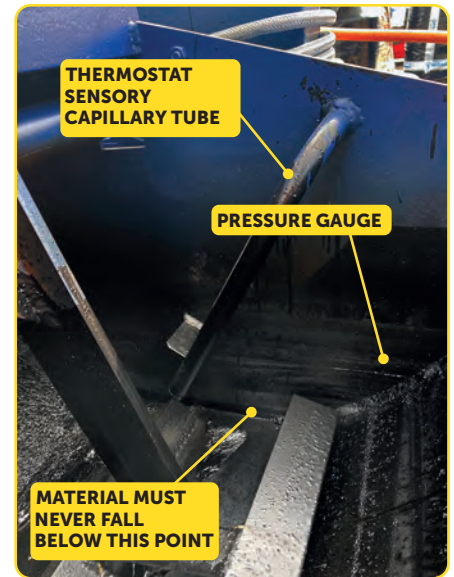
12. Push the **GREEN** button on the **I.M.O CONTROLLER ONLY** when the Hot Melt material starts to melt significantly. Be very careful at the early stages of the melting process as un-melted material may be present. Never force the machine if paddles are stuck; this will only result in damage to the drive arms, gearbox, motor etc. If the Hot Melt material has sufficiently melted, the paddles will operate smoothly.

13. **EMERGENCY STOP BUTTON** stops both the power supply to the Melter and cuts the main burner(s), leaving them on a pilot light only.



Operating Hot Melt machines

1. At no time should the molten material be permitted to fall below the end of the **CAPILLARY SENSOR TUBE** which contains the thermostat temperature probe within the drum. The **THERMOSTAT TEMPERATURE PROBE** indicates the temperature to the thermostat unit, and if this is not detected, the burner will remain lit and overheat the Hot Melt material potentially causing it to ignite.
2. When adding additional Hot Melt material **ALWAYS STOP THE AGITATING PADDLE** in the centre of the pan (i.e. vertical to the shaft) by pressing the **RED** button on the **I.M.O CONTROLLER**. Add the Hot Melt material, close the loading hatch doors and start the agitating paddle by pressing the **GREEN** button.
3. **NEVER OVERFILL** with Hot Melt material and allow for approximately 25% expansion of the Hot Melt material at working temperature.
4. The thermostat will ensure that the correct working temperature of the Hot Melt material is maintained. This is typically between **170° C to 218° C** based on information available at the time of writing. However, this may vary depending on the individual manufacturer. Always check the manufacturer's guidelines.



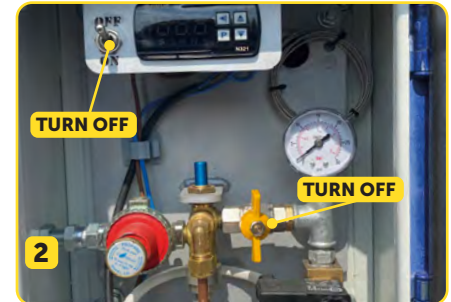
Closing down the Hot Melt machine and leaving it safe/secure

1. Turn off **PROPANE GAS CYLINDERS**.
2. When the main burner(s) and pilot burner are fully extinguished, turn the **YELLOW BUTTERFLY BALL VALVE** anti-clockwise to the off position **AND** push the **TOGGLE SWITCH** on the digital thermostat into the **OFF** position.
3. Lift the loading hatch and turn off the agitating paddle by pressing the **RED BUTTON** on the **I.M.O CONTROLLER**, making sure the agitating paddle(s) are in a **vertical position**.
4. Remove the **110 VOLT POWER LEAD** from the power source and then remove it from the Hot Melt machine.
5. Disconnect the propane gas cylinder connections and store the armoured houses in the cage on the Hot Melt machine. Take care not to drop or damage the end connections as this may cause damage to the seating surfaces. Store the propane gas cylinders in a lockable cage or similar.
6. Lock the material outlet, and where possible lock the lid and engine access doors.

Important: Always ensure that you release the pressure from the regulator before you open cylinders that are full. This will avoid lock-up pressure that will damage the flame failure valve.

Returning the Hot Melt machine at the end of hire

Carry out the process above AND ensure the Hot Melt machine is emptied. Removing any Hot Melt material left in the machine after hire is chargeable to the hirer.



Gas-fired Hot Air Materials Melters

General Specifications/Site Compatibility information

1.5 Drum Model	
Drive	Electric
Chassis	Caster Mounted
Overall Length	2420 mm
Width	880 mm
Working Height	835 mm
Overall Height	1250 mm
Tare Weight (unladen)	780 kg
SWL	1100 kg
Proof Load	780 kg
No Burner Heads	1
Burner Head diameter	50 mm
O ₂ emissions	3.3%
CO ₂ emissions	11.6%
CO PPM	40
CO/CO ₂ emissions	0.003
3 Drum Model	
Drive	Electric
Chassis	Caster Mounted
Overall Length	2540 mm
Width	1270 mm
Working Height	1025 mm
Overall Height	1570 mm
Tare Weight (unladen)	1021 kg
SWL	1600 kg
Proof Load	2000 (25% overload) kg
No Burner Heads	2
Burner Head diameter	50 mm
O ₂ emissions	13.4%
CO ₂ emissions	11.6%
CO PPM	670
CO/CO ₂ emissions	0.005

Operator's personal notes

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or call: **01858 412 100**