Horrods

70 years of engineering excellence

Operating Instructions

For Safe Use of Hot Air Rubber Melter

½ - 1 Drum Capacity Hand Stirred with Mechanical/Digital Thermostat Control

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Contents

Page:

Introduction

Thank you for choosing to purchase a new W.J. Horrod Ltd Safety ½ - 1 Drum Hot Air Rubber Melter hand-stirred with mechanical/digital thermostat control.

All our products are made to a very high, and recognised engineering standard, and if used correctly by a trained, certificated operative, to our operating and maintenance instructions, will increase the machines longevity.

Operatives must always read the manufacturers operating instructions before attempting to use the machine.

No attempt must be made to carry out any repairs or maintenance whilst equipment is in operation. Safe working practise is a legal requirement and must always be adhered to. Protective clothing should always be worn when operating this equipment.

Faulty equipment should be immediately shut down, and reported directly to the supervisor/person in charge, and not used again until the fault has been rectified.

PLEASE NOTE

This unit was manufactured for use with rubberised materials only. Using any other material goes against its intended use.

Using this unit for any other material is done so at your own risk, and could nullify the manufacturer's warranty.

Important Information

1] **NEVER attempt to operate machine before carefully reading the following operating instructions, and having been shown to do so by a qualified person. Machine must always be used outside.**

2] **Check your power lead for damage and wear (where applicable) and the 16-amp panel plug on the Melter.**

3] **Material should be placed into machine before lighting.**
IMPORTANT when adding material please ensure that material is liquid before you try to paddle material and that the lid is closed.

4] **Material MUST always be covering THERMOSTAT CAPILLARY sensor tube to avoid OVER HEATING of material which can cause material to FLASH and CATCH ALIGHT.**

5] **NEVER carry out any repairs or servicing whilst the machine is in use. All such repairs/service should only be undertaken with the gas turned off at the cylinder and power unplugged at the mains. Always allow the machine to go cold.**

6] **When faults are discovered the machine should be shut down, and these faults should be reported to the person directly responsible. The machine should, on no account, be used again until all faults have been corrected.**

7] **Machine should NEVER under any circumstances be left unattended when in use.**

8] **CARE should be taken when using SCRAPERS, and TROWELS. If these items are dropped into the machine, IT WILL JAM the PADDLE, which in turn will BURN out the ELECTRIC MOTOR/GEARBOX.**

USEFUL OPEATING INFORMATION AND ADVICE

1] **Never leave material in machine unless;**

a] **it is unavoidable due to circumstances beyond your control i.e., weather conditions or job is not ready to use material etc.**

b] **The Material is going to be used the following day.**

2] **We recommend this for the following reasons;**

a] **When a large volume of material is allowed to go cold, care must be taken, and more time allowed to re-heat the material before agitation of the material can begin.**

B] **The material level must never be permitted to fall below the thermostat sensor probe, (illustrated on page 6 *Thermostat Capillary Tube*) whilst the Melter is in use.**

C] **Full protective clothing, including a full-face shield must be worn at all times.**

D] **Always load the machine equally using both loading hatches, this will prevent uneven loading, and damage to the paddle assembly.**

E] **Always place the machine on level ground and apply all the brakes available.**

F] **Always secure the material outlet with suitable padlocks when leaving the machine unattended, to prevent vandalism.**

G] **Never leave gas cylinders attached to the machine once you have finished using the machine for the day, they must be stored in a suitable gas cylinder cage.**

3] **In the event of a fire please follow the instruction below, only if it is safe to do so;**

a] **Turn off the gas from cylinder(s), if the lids are not already closed, and it is safe to do so, close the lids. Disconnect the bottle and remove it to a safe place. Do not open the lids for at least 60 minutes after the fire to allow material and temperature within the pan to cool down. Full face mask and protective clothing should always be worn when operating Melters.**

P o w e r :
Connect your 16amp lead to the panel plug sited on the Melter. The maximum length of the power lead should not exceed 50 metres. This only applies to the hand stirred melters.

L i g h t i n g :
The cylinder(s) to be used should always be checked to ensure no damage or debris is in the inlet/outlet of the cylinder valve connection. Clearing dirt or debris with an air hose or similar is the preferred clearing method. Using a clean dry cloth to ensure no particulates can obstruct a true seal between the connections.
N e v e r u s e a s h o r t b l a s t f r o m o p e n i n g t h e g a s c y l i n d e r t o c l e a r t h r e a d s .
Connect the full 47 kg propane cylinder.
Connect the hose assembly(s) attached to the Melter, to the cylinder(s).
As above, ensure the connections are clean and free from dirt before connecting them to the bottle, the minimum distance between the cylinders and the machine should be 3 metres, and the armoured hose should be laid flat along the ground to prevent any trip hazards. The armoured hose that we supply with the machine is 6 metres long.
Once the gas connections are completed check all gas tap(s) on the Melter are in the 'off' position.
Turn gas on at the cylinder(s), check connections at the bottle(s) and Melter for leaks using a LEAK DETECTOR SPAY, propane has a very distinctive smell.
N e v e r u s e a n a k e d f l a m e t o t e s t f o r g a s l e a k s .

M E C H A N I C A L T H E R M O S T A T :
Turn on and light the auto torch, depress the blue flame failure button, and light the pilot burner(s) using the auto torch. Keep the button depressed for approximately 15 seconds. After the pilot flame has been established turn off auto torch.
Turn on main burner toggle switch, slowly open the yellow handle burner ball valve(s).
Now leak test all remaining gas joints with the Leak detector spray.
Set thermostat to the required temperature. Using the regulator on the propane bottle you can adjust the working pressure to the Melter. The regulator in the control box(es) has been set to 1.5 bar – 22 PSI.
PLEASE NOTE: The burner(s) will shut down once material has reached the required temperature, the material temperature will continue to rise between 10-20ºc, this is due to residual heat in the machine. Once all the material has melted the temperature should equalize.

D I G I T A L T H E R M O S T A T :
Thermostats are factory set at 200ºc Maximum and can be easily adjusted by the operator to suit material working temperature.
NOTE: Once burners have switched off on the set temperature, the material will continue to rise between 10 and 20ºc. Once material is fully melted temperature should equalize.

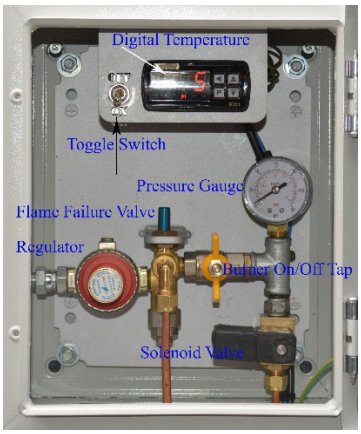
A d j u s t i n g T e m p e r a t u r e S e t t i n g :
1] Switch power on at the toggle switch.
2] Press 'P' for 1 second until 'SP' flashes.
3] Using up and down buttons set required temperature.
4] Press 'P' again to return to operation screen.

When temperature is below 0ºc the digital display will present 3 dash lines - - -, leave the power switch and thermostat on and close the control box door, this will allow the heater which is fitted in the control box to raise the temperature above 0ºc in the box.

PLEASE DO NOT ADJUST ANY OTHER SETTINGS.

MECHANICAL THERMOSTAT

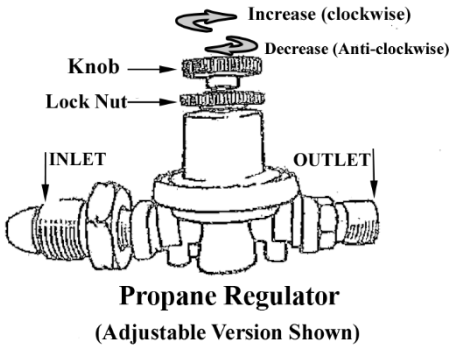
DIGITAL THERMOSTAT



REMEMBER THAT LIGHTING THE BURNERS SHOULD ONLY TAKE PLACE ONCE THE MACHINE IS LOADED WITH MATERIAL.

NEVER PLACE HANDS WITHIN THE PAN WHEN THE MACHINE IS IN USE.

The photo below illustrates how you couple 2 bottles together with a manifold connector, if required, to stop cylinders freezing in the colder weather, and gives an illustration of the propane regulator Horrod's supply.



Propane Regulator

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.

H e a t i n g P r o c e s s :

Hot air 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. 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. Machines are fitted with a thermostat control, once the material reaches the temperature the unit has been set at, it will cut out the burners – the thermostat then controls the burners to maintain the heat level required to optimize the materials. (As from 2010 all new machines are fitted with Thermostat Control – it is no longer an option).

T h e r m o s t a t C a p i l l a r y T u b e :

At no time should the molten material be permitted to fall below the thermostat temperature probe located within the material pan – as shown in the diagram. The probe indicates the temperature to the thermostat unit and if this is not detected the burner(s) will remain lit and overheat the material causing it to ignite.

IMPORTANT: – When adding material DISENGAGE/STOP the paddle, always STOP the paddle in the centre of the pan, i.e., vertical to the shaft. Once the material has been added, close the lids and engage the paddle. When emptying the machine, **always** turn the main burner off.

W o r k i n g T e m p e r a t u r e :

170°c – 218°c Based on information available at the time of writing. However, this may vary depending on the material manufacturer. Always check the manufacturer's guidelines and instructions when using these materials.

E x p a n s i o n :

Material expansion is approximately 25% at working temperature. **Never overfill**.

Agitation of Material:

We are always asked the question when should the paddle(s) be initiated? The answer is when the material starts to melt and the paddles will operate, be very careful at first as un-melted material may be present. NEVER force the machine if paddles are stuck, this will only result in damage to drive arms, etc.

Material Packaging:

The material was packed in the beginning in what the manufacturers call ‘drums’, but this proved to be a health and safety issue due to the size and weight. The material is now packed in various ways, and differing weight/sizes depending on the manufacturer.

Shutting down the machine and leaving it safe/secure:

Procedure:

1) Turn off both gas cylinders. Once the burner and pilot are fully extinguished, turn all gas taps to the off position. (flick toggle switch to the off position.)
2) Turn engine off (hydraulic drive only)
3) Remove plug from power source (electric drive only)
4) Dismantle hose and regulator assembly from the cylinders and store in a lockable cage or similar.
5) Lock the material outlet.
6) Make sure lids are closed, and where possible, lock the lid, and engine access doors.

HEALTH & SAFETY

1: Equipment should only be used by a **trained certified operative**.
2: The lids must be closed at all times whilst the paddle is engaged.
3: Protective clothing and full-face mask should always be worn when operating or loading material.
4: **Never leave equipment unattended when alight or running.**
5: If a fault occurs, shut down the equipment immediately and report the fault to the person directly responsible.
6: Always turn engine/burners off, and where applicable allow cooling before maintenance or repairs are carried out. Remove external power sources (where applicable).
7: When the machine is being used where the general public may come into contact 'HOT SURFACE' warning signs should be posted on and around the machine and the machine enclosed with protective fencing.
8: Important (de-mountable machines only), machine must only be lifted empty and never with the undercarriage attached.
9: All machines are fitted with tested lifting eyes at time of manufacture; this means the machine has been test lifted. All our hire machines, where applicable, will always come to site with a current examination certificate for the shackles, as the eyebolts are part of the machine and do not need certification. It is your responsibility to ensure any machines that are owned by your company are examined every 6 months. (Many sites require test lift certified documentation.)
10: Last, but not least, always remember that safety is **everyone's responsibility**, **never** do anything that is likely to put yourself or anybody else at risk.
11: The machine must never be used inside – only outside.

Regulators must be marked BS:3016 or BS: EN:12864 or BS: EN:16129. Any regulator marked BS:3016 will be over 10 years old and should be replaced.

Use only certified hoses to BS:3212 or BS: EN:1763-1 or BS: EN:16436-1 which bear the year and name of manufacturer or stainless-steel convoluted hoses marked EN:10380 as LPG attacks and erodes natural rubber.

Horrod's advise that all operatives are retrained at least once every 24 months, to ensure that the knowledge acquired on these courses are of continued benefit to the user, and any advances can be incorporated.

WJ Horrod Ltd reserves the right to alter or change the content herein should legislation or other recommendations from manufacturers or suppliers change.

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