

HEATWAVE BY PYON PRODUCTS

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HEATWAVE HANDBOOK



RABDF
Livestock Machinery and
Equipment Award **2015**
WINNER

HEATWAVE BY POON PRODUCTS

www.heatwavemilkwarmer.com

IMPORTANT

**FILL TANK
WITH WATER
BEFORE
SWITCHING
ON**

QUICKSTART INSTRUCTIONS:

DO NOT PLUG IN - UNTIL YOU READ THIS FIRST!!

Fill the Heatwave tank with **water** until it covers the blue coils.

Insert the “push fit” plastic connectors into the 4 black “push fit” assembly points at either end of the Heatwave tank. The milk can travel either way through the Heatwave.

Use cable ties to attach the black teat panels to the pen side. Use a mesh to stop animals chewing the pipes.

Follow the diagram on Page 4 overleaf. Use the box as a plinth for calves, but for lambs put the Heatwave directly on the ground.

The length of pipe from the back of the teat to the Heatwave needs to be kept to a minimum but still allowing the non-return valve to hang VERTICAL.

Plug in and set the dial to 39°C

Mix up milk powder, cold, or use chilled whole milk, filtered.

To prime the lines, put the base of the hand pump into the milk, and connect the spout end to the straight connector on the inlet pipe. Pump the milk through the pipe until it arrives at the teat end. Repeat with line 2.

Reconnect, and put the inlet pipes into the milk reservoir. Draw the milk through by pumping the teat.

*Check any extension cable used is rated at least 2.2kw

*The system MUST be cleaned daily with a detergent/sanitiser.

FULL INSTRUCTIONS OVERLEAF.

Contents List

1 Heatwave Milk Warmer Storage Box

1 Heatwave Milk Warmer

2 Black teat panels

1x 5m length of outlet tube

2x 1.2 m of inlet tube c/w 2 straight connectors, 2 metal weights with yellow filters

4 calf teats, 4 lamb teats, 4 non-return valves, 2 Y connectors with short silicone tube

15 cable ties for the feeding plates

1 hand pump for priming and cleaning

1x 400g Heatwave cleaning powder

Instruction book and FAQ s

Specification

Water tank capacity 25L

Number of independent milk lines-2

Number of suckler teats 4

Heating element 2.2Kw

Power supply 240 v

Capacity 8 calves per teat or 12 lambs/kids/teat

Safety cut out switches -2

The thermostat in the Heatwave Milk Warmer is pre-set to heat water at 38-45°C aiming to achieve milk temperatures exceeding 30° C, depending on the ambient temperature.

Heatwave Optional extras

Wydale Mobile Milk Mixer 110L on wheels

Heatwave to Wydale connector.

Whole milk sieve

Preserver by Pyon- milk preservative.

Safety

Do not operate if the power cord becomes damaged or cracked.

Always disconnect the Heatwave Milk Warmer from the main supply, when carrying out maintenance.

Use of a power breaker/circuit breaker is recommended.

Never turn on the Heatwave Milk Warmer without submerging the internal coils in water.

Warranty

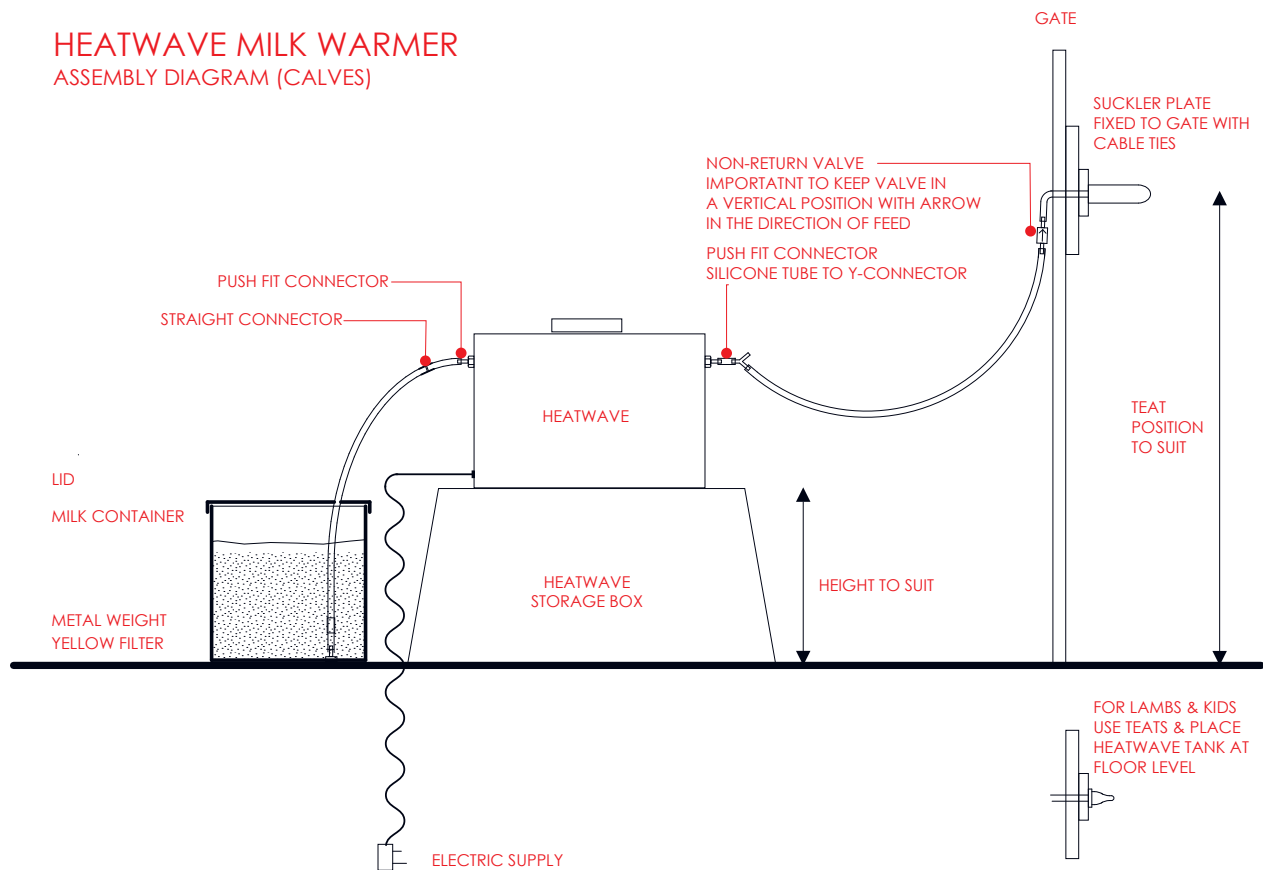
The Heatwave Milk Warmer is covered against manufacturing defects, under normal usage conditions for a period of 12 months from purchase.

The warranty is void if the Heatwave Milk Warmer is misused, modified, or tampered with.

Defective products returned within this period will be repaired or replaced if deemed defective.

Any injury to livestock, people, or property will not be covered under this warranty. Pyon Products Ltd shall have no liability for death or personal injury, loss or damage to any building, machinery, or other property. Neither will they have liability for loss or injury to any stock, or any other loss or damage, costs, or expenses resulting from the use of this appliance.

Diagram. Heatwave set up for calves:



Heatwave for Calves

Calf Accommodation for ad lib group rearing:

Pay attention to dry bedding and adequate drainage. Offer ad lib water and fresh starter feed from day 3. The machine will feed up to 30 calves. Calves should be matched for age, weight and aggression.

Teat height needs to promote natural suckling, so around 24in(60cm) high is usually a comfortable height. It may need adjustment as bedding builds up.

Before using the Heatwave:

Feed colostrum at 10% of body weight in the first 6 hours of life, i.e. 4 litres for a 40kg calf. Continue twice a day (minimum 2x2 litres) for 3 to 5 days individually, before group penning. Ideally, using a teat similar to the ones on the Heatwave. Move to the group pen when they recognise the teat and are feeding vigorously. **Do not feed colostrum or transition milk through a Heatwave**

Feed warm milk to each calf before introduction to the group pen, then while their stomach is full, allow them access to ad- lib milk and allow them to restrict themselves.

When introducing young calves, it is best to prime the Heatwave lines with milk first. Either keep pumping the teat with your hand until the milk draws through, or use the hand pump provided. Immerse the pump base in the milk reservoir, and connect the spout end to the straight connector in the milk inlet pipe. Pump milk through to fill the line. Put the inlet pipes back in the reservoir and pump the teats to finish priming.

If you have only a small number of calves on the Heatwave, i.e. less than 8, only use one line of the Heatwave to keep milk moving through the tubes, and/or blank off one outlet from the Y connector using only one teat using a short piece of silicone tube folded and tied to keep air tight.

As each calf comes to the teat and feeds without help, mark with a wax marker while feeding. You only need help those calves without a mark, and stir them up once or twice a day, to remind them where the teat is. They generally suck your finger long enough to bring them over to the teat.

Calves soon learn that the feed is available all the time and feed little and often. If they do gorge on the first introduction, their muck may be loose for a day, but this is only a transient nutritional scour, and the calf should not appear ill in any other way, and will not have an abnormal temperature.

Do not feed colostrum or transition milk through the Heatwave. If you use whole milk, sieve any clots out first with the bucket filter (see "optional extras")

If you use milk powder, use an instant version which mixes cold. One with a low pH keeps better.

Wash through the Heatwave every day. This is easiest done using 2 x 5L containers. One with water and one with diluted dairy circulation cleaner. Disconnect the line behind the teat then use the same method as when priming the teats i.e. start by connecting the pump to the straight connector in inlet line, then use pump to flush with water, then circulation cleaner, then water again. Then reconnect pipe to the teat.

Clean both lines daily. Wash out the barrel. Do not mix old milk with fresh milk.

Do not allow calves to run out of milk, this can result in gorging.

Weaning.

The calf should double its birthweight before weaning monitor with scales or a weigh band.

The method depends on the equipment available. If you have previously used teated buckets, these could be used for weaning.

Draft any animals which have doubled their birthweight, and are 6-8 weeks old into a separate pen, and put on a once a day 3 litre feed, then 2L then 1 litre, so the concentration remains the same but the volume is reduced over 7 days.

Once they are ruminating and eating a minimum of 1.5 kg of cake a head then remove the milk completely.

Ad lib fresh water is very important to stimulate feed intakes and rumen development.

Alternatively, if the calves are all similar size and ready for weaning as a group, turn down the heat on the heatwave and place the inlet tubes in COLD water for the 12 hours at night. Increase the amount of time they have access to water and wean over 7-10 days, until they are totally on cold water and dry feed.

DO NOT LET THE TEAT RUN DRY, or they will chew the teats!

At this stage remove the teats from the pen and let them settle onto ad lib cake and water before removing to adult accommodation. By 10 - 12 weeks they should be eating 3 kg of dry feed and ad lib straw/hay and fresh water.

At 12 weeks they are ready for the next stage i.e. introducing grass, hay, silage, etc depending on their final destination. Consult your feed advisor for a feed plan at this stage.

Lamb and goat kid rearing

Accommodation should be clean, dry and well ventilated. Ad lib water and fresh starter feed should be provided from Day 3.

The Heatwave Milk Warmer will feed up to 50 lambs. One teat will serve 10-12 lambs and the initial teat height will be 12-15 inches (30-38cm). This may need adjustment later.

Assemble the unit following the diagram on Page 3, but put the Heatwave on the ground (no plinth needed). The reservoir and Heatwave will be outside the pen.

Use the cable ties to connect the feeder panels to the pen and prevent lambs from chewing the silicone pipes.

Mix up cold milk powder. Do not mix old milk with new.

Set the dial to 39°C. As the lambs get older it can be turned down to 20°C.

Prime the system by putting the base of the hand pump into the milk reservoir and the spout into the inlet pipe where the straight connector splits the line. Pump milk through to the back of the teat and continue to pump the teat by hand until fully primed.

Lambs should receive colostrum at birth. 50ml/kg bodyweight per feed. This should be fed through a teated bottle for as long as possible, and gradually replaced with mixed milk powder by bottle.

Individuals vary but most lambs can be left under an infra-red lamp to get warm and hungry for 6 hours, and then introduced to the warm milk via ad lib teat. For best results try to introduce before Day 3. Older lambs can be difficult to train.

Weaning

Wean lambs abruptly at 35 days old, when they are 2.5 times birthweight and eating 250g of starter feed. Make sure they always have access to palatable straw or stalky hay, pellets, and clean water. Weaning abruptly is the best way to avoid digestive upsets associated with gradual weaning.

Remember to wash the milk reservoir and silicone lines daily with the detergent /sanitiser provided. It takes less than 5 mins.

Frequently Asked Questions.

1.Can I feed first colostrum via the Heatwave?

No. It will clog the lines.

2.How long does it take to clean out?

Regular cleaning takes 5 mins or less. Have 2 cans ready, one with cold water, the other diluted cleaning chemical to make life easy.

3.The milk at the teat end is too cool.

The distance from the Heatwave to the back of the teat needs to be as short as possible as a small amount of cold milk lies behind the teat.

Turn off the electric and check the temperature in the tank. It should be around 38-45°C

If the knob is turned to max and the tank is too cool you need to re set the thermostat (5 min job)

How to increase the temperature on the Heatwave Milk Warmer

First, unplug from the mains electric. Pull and wiggle the knob on the front panel that controls temperature till it comes off. You may need some grips if it is difficult.



Inside the knob are a series of numbers and in one section is a peg. Note the number it is located in then prise it out with a small screwdriver or knife, taking care not to lose the peg in the straw as it flips out.



Replace the peg 1 sections to the right, then push the knob back on the spindle taking care to line up the flat face on the spindle with the flat section on the knob. If that is not hot enough, move the peg again one more segments to the right.

4. The milk at the teat end is too hot.

Turn down the temp on the knob.

If you have less than 10 animals sucking 4 teats the milk could be lying in the pipe for too long. Reduce to one line and 2 teats (or one teat) for small numbers. i.e. use half the machine.

5. There's air getting in the line.

Check the most likely causes:

- 1) Check there are no small holes in the silicone tubes where they have been chewed, they are not easy to spot but will allow air in and milk to drain back to the bucket. If lambs can reach the tubes they will put holes in the pipes. Use wire netting or mesh to stop lambs/calves reaching the milk lines. NB Cats can be a problem!!
- 2) Check the connectors are pushed in correctly. Once they are in correctly, **leave them there** all season, don't remove them when washing.
- 3) Non Return Valve. (NRV) Check they are hanging vertical and the correct way in the line. Arrow points in the direction of flow. Check for holes in the casing. You can fit a syringe with water (no needle) into the end of the NRV and block the other end with your finger and apply gentle pressure to the syringe. If water comes out of the case, replace the NRV. Also check there is no debris in the NVR by flushing water back through both ways. If there is one problem line, swap the NRV onto the other line and see if it is cured.

Other points to check.

Are the teats in good condition, no holes allowing air back into the line? Replace if necessary. If lambs run out of milk they will chew the teats very quickly.

Check there are no blockages on the yellow filters.

Check that the inlet pipe is covered with milk and can't draw air.

If the connectors are pushed fully home into the Heatwave and you can still see that air is getting in the line as it goes through the Heatwave, there could be damage to the O ring seal in the push fit assembly units. These can easily be replaced if necessary.

6. There's nothing coming through the teat.

Check for blockages caused by straw, flies, lumpy milk. Check non return valves.

Check the blue heat exchange pipes aren't blocked.

Blocked Heatwave Exchange pipes

The first milk (colostrum) will clog the lines. Do not feed colostrum through the Heatwave. Blocked pipes can result from hygiene problems, caused by cleaning issues or milk quality.

All pipes should be cleaned daily using the dairy chemical solution used at the recommended rate. Water or Hypochlorite alone is not sufficient to remove the fat deposits that come from milk. Dairy Circulation cleaner is available through any agricultural supply company or email for replacement powder from your Heatwave supplier. Use the hand pump provided to pump water first, then chemical, then water again through each line. Pump from the inlet end connecting the pump to the straight inline connectors. Pull the pipes from the back of the teats and run to waste. You can then use the pump to prime the system with fresh milk, which will also remove the air in the tubes.

If the blue pipes are almost blocked, pump warm cleaning solution and leave it in the pipes overnight. Rattle the blue heat exchange coil before flushing with water. If pipes are completely blocked they will need replacing with new. Please email for new pipes and instructions for changing them. Air lines have sometimes been successfully used to blow congealed milk through the line followed by soaking in warm cleaning solution overnight.

Occasionally it is the milk quality that is causing a problem, especially if there is a small number of animals on the Heatwave and they favour one outlet leaving the other line to block. Where this occurs, use only one line and possibly only one teat so the milk is not left in the line too long.

Where whole milk is used, it should be cooled first, either through a plate cooler or from a bulk tank. Warm milk with high cell count will go stale very quickly, especially in warm weather. A milk preservative should also be used to prolong the life of the milk, e.g. potassium sorbate. Whole milk should be sieved to remove clots and organic matter before use and **colostrum and transition milk should not be used at all**. Never mix old milk and new milk together. All utensils that come into contact with milk and buckets used to transport milk should be cleaned and sanitised every day.

Changing a coil/Push-Fit Assembly on a Heatwave Milk Warmer

Unplug the Heatwave and empty the water.

Unscrew the black nut of the push-fit assembly on the outlets of the tank and release the blue tube from the nut by pressing the collar inwards on that end of the push fit assembly.

If changing a coil, put your hand inside the tank and snip the cable tie on the inside where the coil is attached to the cross members. Remove the old coil.

Place the new coil in the tank and separate the coils over the cross members, 5 coils at the heater element end and 6 coils at the other end, securing with cable ties. This is best done with a small pair of hands!

Push the coil outwards away from the heating element

Moisten the end of the blue tube before inserting into the push-fit assembly, push the tube until it stops.

Screw up the two black nuts again with the blue tube inserted. (The blue tube will rotate in the push-fit assembly if moistened first)

It is also best to moisten the metal or plastic connectors that fit into the other end of the push fit assembly to ensure a good seal.

Fill with water, and switch on.

7. The machine isn't working at all.

If you are running the machine on an extension cable, check the Kw rating matches the machine 2.2Kw.

Reset the secondary cut out. See below:

Heater not working, but the power light is on

The secondary cut out is an added safety device in case the primary thermostat ever fails. If the Heatwave is dropped, knocked over, or turned on without water in the unit, this secondary cut out will trip out and stop the unit over-heating. It is similar to the cut-out on an immersion heater.

If the secondary cut out has tripped out, the red power light remains on, but the orange heater light will not come on, and the water will not heat up even when the temperature is turned up to maximum.

To reset the secondary cut out

First unplug the Heatwave from the mains electric supply.

There is a small rubber grommet just below the temperature knob on the front metal control panel that can be pulled out and a small screwdriver can be inserted to gently push the switch back in.



8. Milk is going stale too quickly

Always store cool milk, or cool the bulk supply by dropping an ice pack into the reservoir. Freeze 5L quantities of ice in bags or jerry cans so you have them ready.

In very hot weather refill every 12 hours and/or add a preservative like potassium sorbate or Preserver by Pyon to extend the shelf life.

Select a “long life” milk replacer. These have an acidifier added and have a pH around 5.5.

Never mix new milk with old.

How to remove the connectors using the 8mm spanner supplied.

The open ended 8mm spanner can be used to push in the collet on the push fit assembly units to help release the connectors.



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