

This instruction manual provides general instructions for the RT19 series of resin traps and degassing vessels. Since the RT19 is a modular system there are number of assembly options and these instructions may not cover every configuration.

General information	
Outer vessel	Pressed steel 19 litre (5 US gallons)
Resin catchpot (Standard)	12 litres (3.1 US gallons) heat resistant to 220 °C (430 °F)
Degas bucket (Optional)	11 litres (2.9 US gallons) polyethylene bucket, for resin mixing and degassing only. This is not suitable for catching exothermic resins
Trap lids (2 options)	<p>Pressed steel lid without viewport Maximum of 4 tubing connections. Lid held in place with screw clamps.</p> <p>Machined aluminium lid with glass viewport. Maximum of 8 tubing connections. Lid held in place with ¼ turn handles.</p>
Trap lid tubing connections	Tubing connections are available in 4 optional sizes to suit the following outside diameter extruded tubes: 3/8" to 10 mm, 1/2" to 13 mm, 5/8" to 16 mm, or 19 mm to 3/4". Adaptors available to suit ½" ID and ¾" ID tubing
Vacuum pump connections (3 options)	Various vacuum pump and control options available. Please refer to RT19 product information.
Dimensions	Applies to model in lower photo: Length 350 mm (13.8") Width 290 mm (11.4") Height 630 mm (24.8")
Weight	From approximately 9 kg (20 lbs) to 14.5 kg (32 lbs)

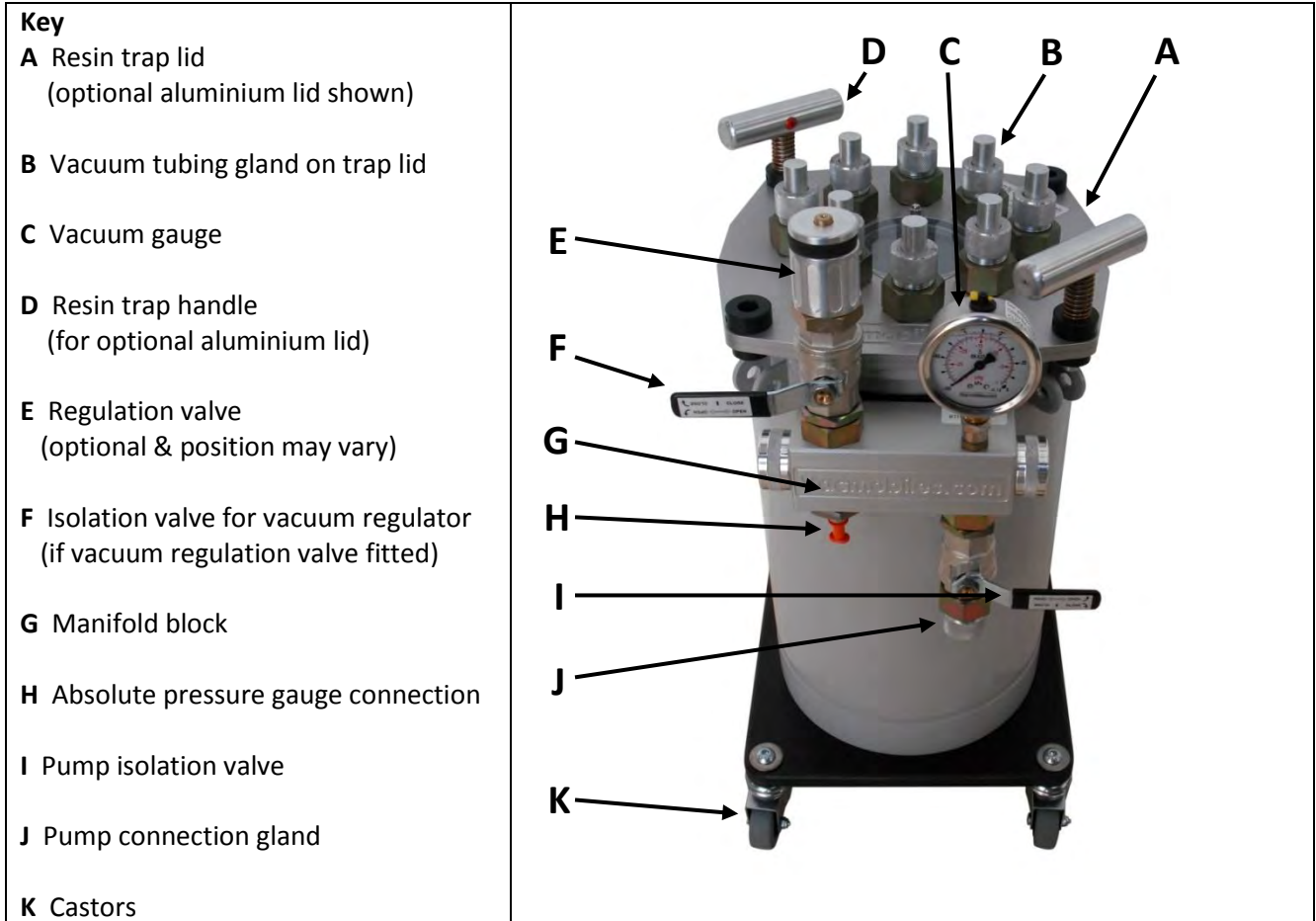
Basic RT19 with pressed steel lid & un-valved pump connection



RT19 with aluminium lid, full control manifold & castors



Main parts – viewed from manifold side
(Typical parts shown, not necessarily fitted to all models)



SAFETY

Depending on the vacuum pump the RT19 is used with, a high level of vacuum may be accessible at the vessel connections. **Hoses from the machine should not be applied to any part of the body, especially sensitive tissue such as the eyes or ears.**

High temperatures, toxic fumes or even fire may result when collecting large amounts of exothermic resin. If the collection of large amounts of resin is a possibility, please refer to our detailed note "Avoiding resin trap overflows when infusing". This may be downloaded from the Vacman's Notes section of www.vacmobiles.com.

LIMITATIONS & CAUTIONS

The RT19 must not be operated without a resin catchpot in the resin trap.

The RT19 must be operated with its base panel horizontal.

Do not lift the RT19 by its pipe work, or attempt to re-tighten any internal joints. Lift from the trap lid handles, the flange around the top of the main body, or the base of the vessel.

PREPARING FOR USE

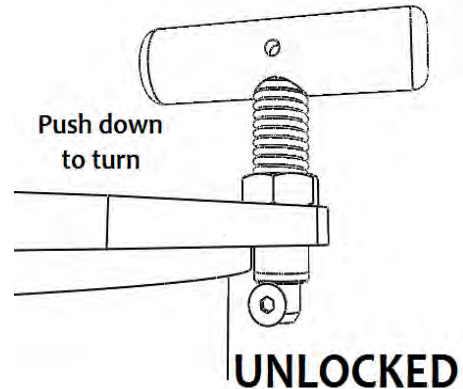
Remove the resin trap lid (if necessary to confirm an empty catchpot is in place)

For the pressed steel lid, undo the screw clamps and swing the clamps outwards.

To remove the aluminium resin trap lid, push down on the handles and rotate them until the cap screw below the handle disengages from the trap body. With both cap screws disengaged, the lid may be lifted off.

If the lid gasket is stuck, “bump” the lid with the palm of your hand.

For the aluminium trap lid:



CHECK THERE IS A CATCHPOT IN THE TRAP!

The trap should not be used without a catchpot in the resin trap!

For resin degassing, a polyethylene bucket is available as an option. The polyethylene bucket must not be used for catching large volumes of exothermic resin, as there is a risk the bucket will melt.

IF USING THE COLLAPSIBLE CATCHPOT, REFER TO SPECIAL INSTRUCTIONS ON PAGE 11



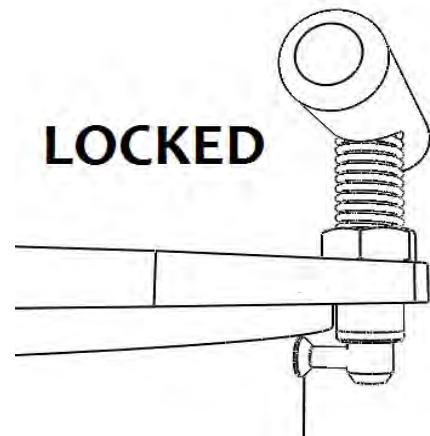
Fitting the resin trap lid

Before fitting the lid, check that the cap screws below the handles face away from the resin trap body.

Position the lid on the trap and push down, then rotate the two handles until the two cap screws lock underneath the lip on the trap body.

When fitting the lid, position it in approximately the same position every time. This is because the gasket tends to deform if left under vacuum for a long time and it may not seal as well if shifted to a new position on the trap body.

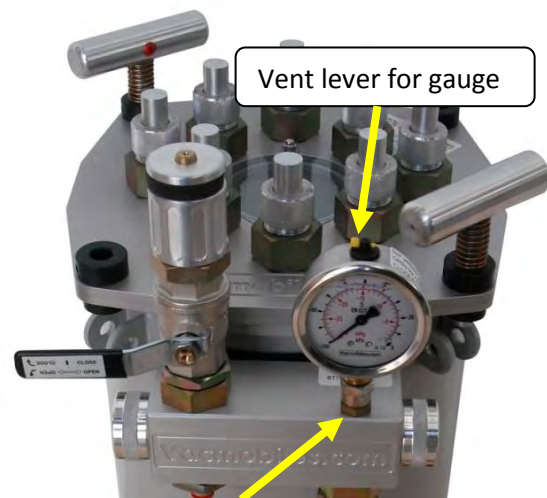
For the aluminium trap lid:



Fit the vacuum gauge and open the gauge vent

1. The vacuum gauge will have been packed in protective padding for transport. Unpack it and insert the gauge stem into the orange coloured socket on top of the control manifold.
2. When ready to use the machine, flip the yellow lever on top of the gauge to the OPEN position. This allows the gauge to vent to atmosphere.

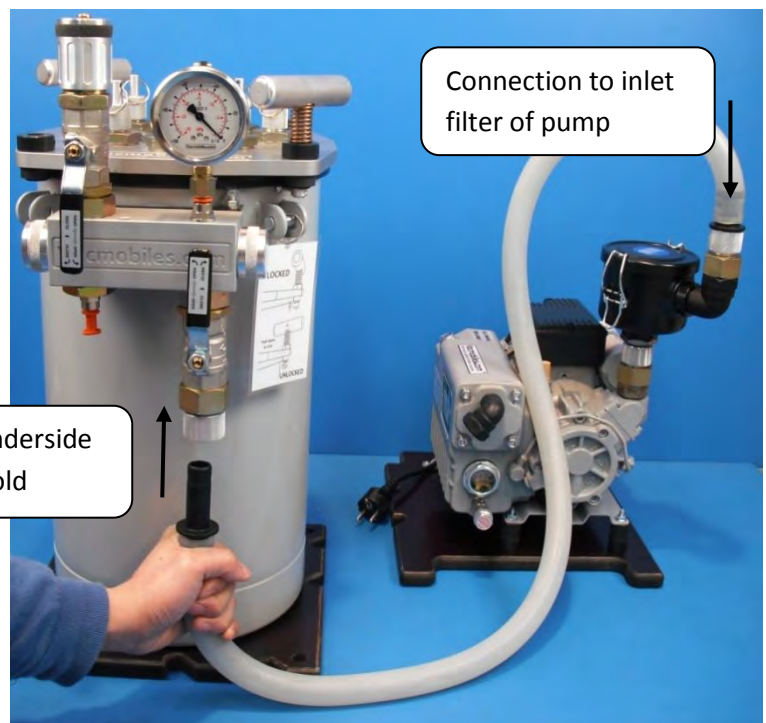
Note: To remove the gauge for safe transport, push down on the orange socket to release the lock. Close the gauge vent to avoid loss of fluid.



Insert stem of gauge into socket with orange plastic ring on top. Push down on gauge until it "locks"

Connect the resin trap to a vacuum pump

1. Check that the hollow aluminium nut is slightly loose on the connection gland below the resin trap control manifold
2. If using the silicone hose connection kit, insert the black plastic end of the silicone rubber hose into the connection as shown.
3. Tighten the aluminium gland nut hand tight only. Excessive torque will not be required.



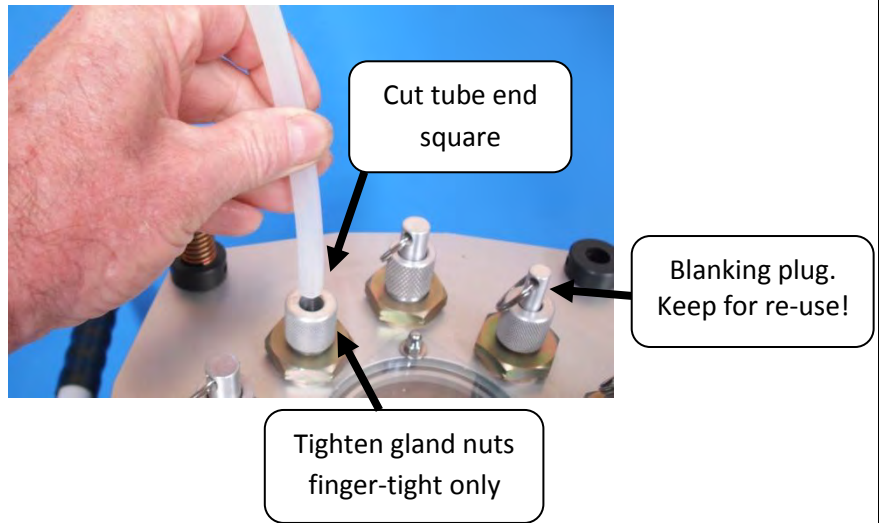
Connection to underside of control manifold

Connection to inlet filter of pump

Blanking plugs and vacuum tubing connections

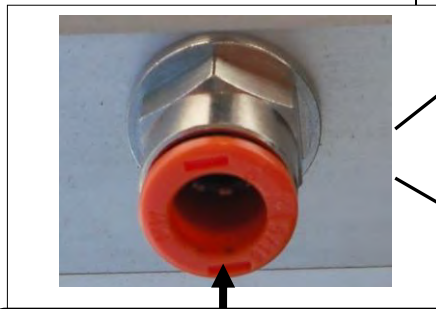
The RT19 lid vacuum tubing connections are designed for smooth walled extruded vacuum tubing, usually translucent polyethylene. To fit a tube:

1. Unscrew the knurled aluminium nut approx half a turn.
2. Pull out the blanking plug and store safely for re-use.
3. Cut tube end square with a tubing cutter and push through the hollow gland nut until it comes to a firm stop.
4. Tighten the gland nut finger tight only.



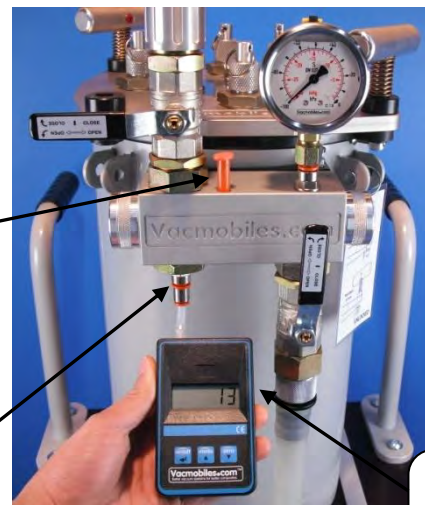
Fitting of absolute pressure gauge (optional accessory)

An absolute gauge is useful for precision vacuum measurement, faster detection of vacuum leaks and the detection of water vapour. Plug the gauge into accessory socket provided underneath or beside the aluminium manifold block.



To release accessory from socket, push orange ring upwards

Store plug from absolute gauge socket here



Absolute pressure gauge

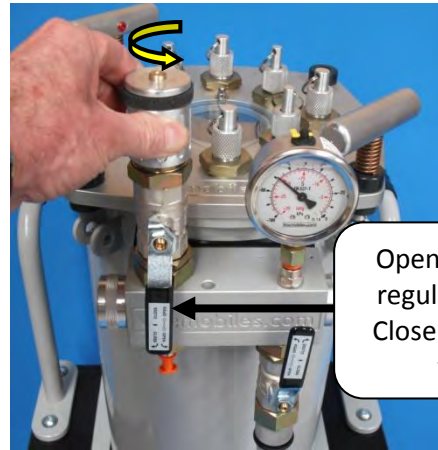
OPERATION AS A RESIN TRAP

Adjusting the vacuum level (if vacuum regulator is fitted)

For a regulated level of vacuum, open the valve below the vacuum regulation valve. Adjust the vacuum level by rotating the aluminium cap on the vacuum regulation valve.

Some resin systems such as polyester and vinyl ester may require a reduced level of vacuum to avoid resin "boil-off". Check with your resin supplier, or set the vacuum to -75 kPa (22.5" Hg).

For maximum vacuum, close the valve below the vacuum regulator.

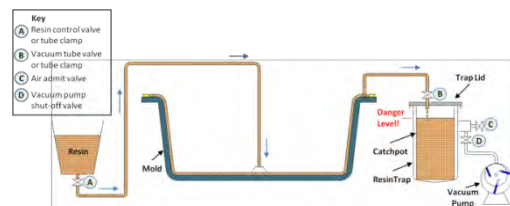


Open this valve for regulated vacuum. Close for maximum vacuum.

Emptying a catchpot during the course of an infusion (if necessary)

If using the RT19 with the glass viewport in the trap lid, periodically check the resin level in the catchpot. If an overflow or an excessive resin exotherm appears likely, it is possible to empty or replace the catchpot without excessively interrupting the infusion process. To do this, refer to our detailed note, "**Avoiding resin trap overflows when infusing**". This may be downloaded from the Vacman's Notes section of www.vacmobiles.com.

Excerpt from "Avoiding resin trap overflows when infusing"



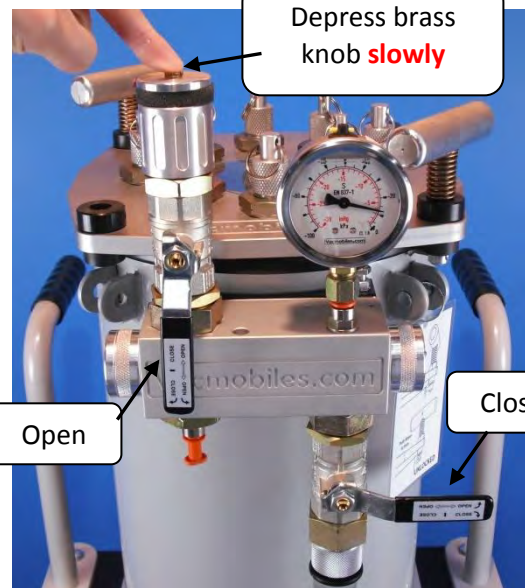
Vacuum release

CAUTION

If liquid resin is present in the trap, vacuum should be released slowly to avoid disturbing the resin!

If a vacuum regulation valve is fitted:

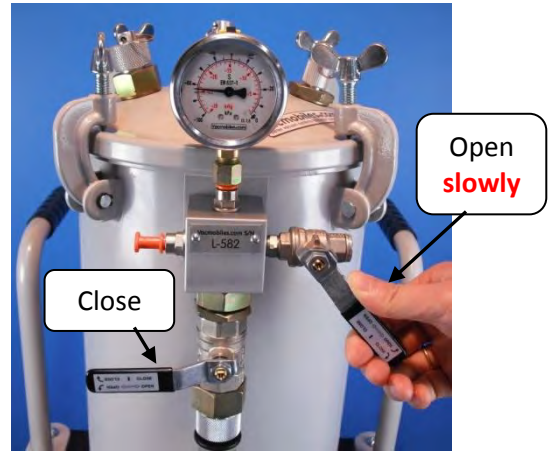
1. Close the valve above the pump.
2. Open the valve below the vacuum regulation valve.
3. Slowly depress the brass knob on the vacuum regulation valve to admit air and release vacuum.



Vacuum release

On models with an air admit valve and orifice (but without the vacuum regulation valve):

1. Close the valve above the pump
2. Open the valve beside the manifold.



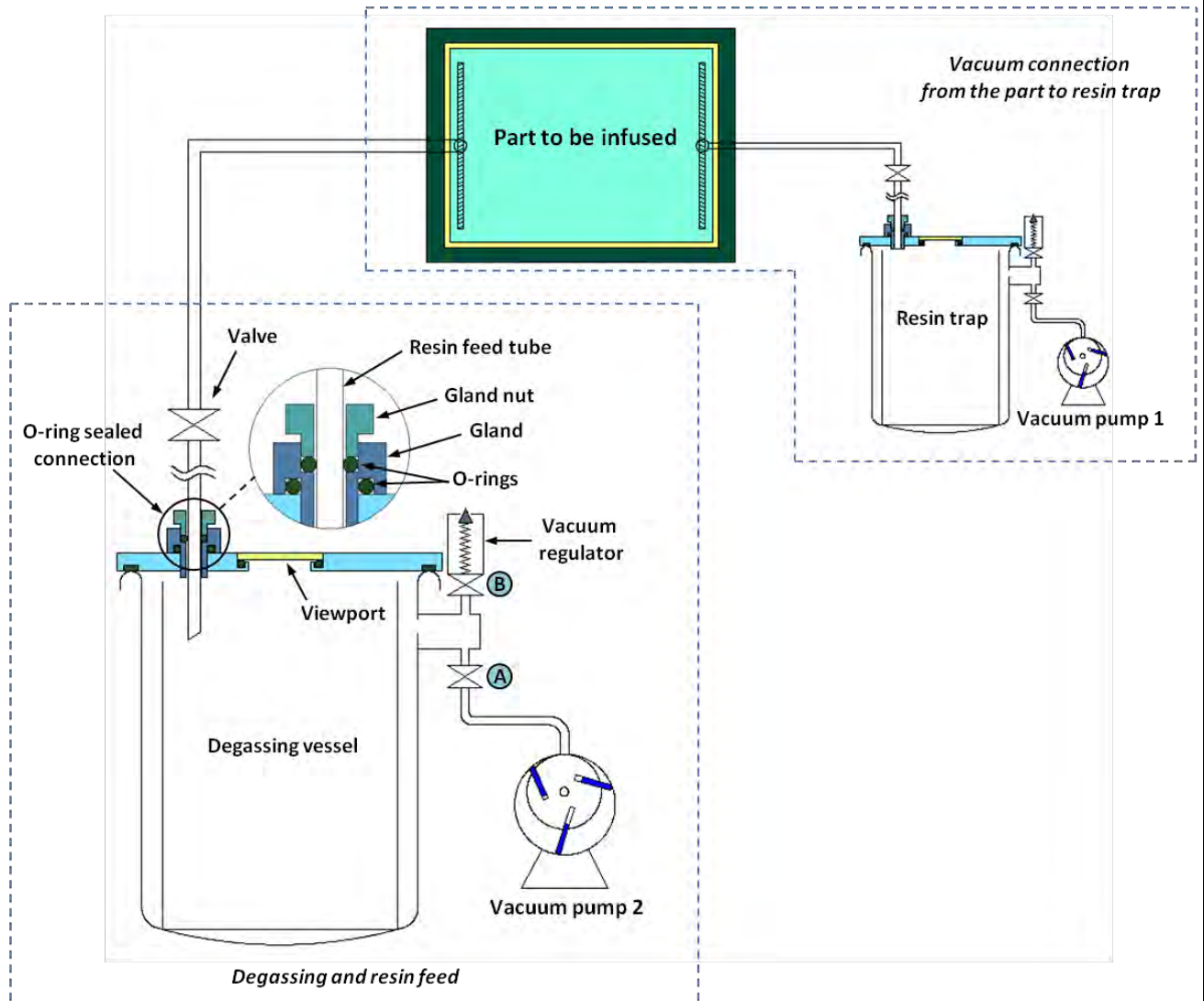
Use of torch illumination kit accessory

If a torch kit has been provided to improve visibility inside the vessel, simply stand the torch kit over the small glass viewport.



Operation as a degassing vessel

The RT19 may be used for degassing small batches of resin, say up to 4 litres (1 US gallon). For instructions, please refer to our detailed note "Feeding degassed resin to infused parts". This may be downloaded from the Vacman's Notes section of www.vacmobiles.com. An excerpt appears below:



RESIN TRAP MAINTENANCE (PERFORM AS REQUIRED)

Removal of hardened resin from connection glands

Remove aluminium gland nuts.
Remove and inspect O-rings.
Inspect internals of gland fitting and clean out accumulated resin. If necessary, drill out resin from **UNDERSIDE** of the fitting using the appropriate drill bit. Twisting the bit by hand will usually suffice.

Tubing gland size	Drill bit size
10 mm (3/8") OD tube	8.5 mm (21/64")
13 mm (1/2") OD tube	10.5 mm (13/32")
16 mm (5/8") OD tube	14 mm (17/32")
19 mm (3/4") OD tube	17.5 mm (11/16")

DO NOT DRILL OUT THE TUBE STOP!

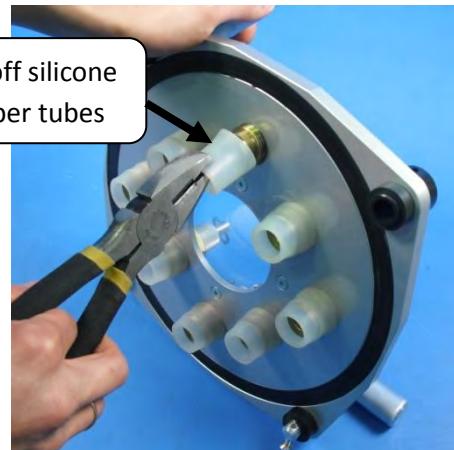


Replacement of spatter shield on the underside of the resin trap lid

If the PVC spatter shield underside of the lid become obscured, replace it as follows:

1. Pull off silicone rubber tubes and break off any adhering resin by deforming the tube a few times
2. Fit a new spatter shield
3. Push the silicone tubes back over the projecting ends of the gland nipples until the shield is in firm contact with the underside of the lid.

Pull off silicone rubber tubes



Spatter shield to be replaced

Apply liquid mould release to connection glands

1. After removing hardened resin, coat all internal surfaces with liquid mould release.
2. Refit O-rings, replacing any damaged ones.
3. Replace aluminium gland nuts, but do not tighten.
4. Fit tube or plugs as required and hand tighten gland nuts.



Apply liquid mould release to resin trap body

Apply liquid mould release to all internal surfaces (and external surfaces if you wish). Apply a minimum of 2 wiped on coats or as recommended by the mould release supplier.



INSTRUCTIONS FOR PREPARING COLLAPSIBLE CATCHPOT FOR USE

While our rigid cardboard catchpot is very effective for catching resin that may reach a high temperature during exotherm, the rigid catchpots are expensive to freight. We are experimenting with a collapsible catchpot which will freight more cost effectively. This seems to work well up to about 200 °C (400 °F) but may weep slightly when subject to higher temperature. To provide security against resin leakage, we are providing a high temperature nylon outer bag for added protection. The collapsible catchpot will need to be discarded when full, but the nylon outer bag should be reusable many times. To prepare the collapsible catchpot for use, proceed as follows:

Extend the collapsible catchpot

Note the position of the 2 holes drilled diametrically opposite each other in the open end.

Closed end
of catchpot



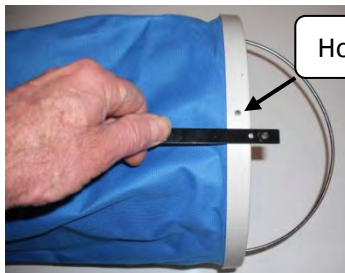
Fit the bottom end of the catchpot extenders

Hook one of the extenders over the bottom ring, opposite one of the drilled holes.

Closed end
of catchpot



Clip the pin end of the extender into the hole in the open end ring



Hole for pin



Pin clipped into hole
in open end ring

Assembled catchpot | Assembled catchpot with nylon outer bag



Positioning the collapsible catchpot inside the RT19 trap

Position one of the extenders so that it touches one side of the hollow vacuum pump connection port. This will prevent the collapsible catchpot material being sucked into the vacuum port.

MAKE SURE THE CATCHPOT EXTENDER DOES NOT OBSCURE THE VACUUM PORT.

