

SETUP & DAILY USE INSTRUCTIONS v3.0

NEVER SWITCH OFF YOUR PUMP WITHOUT FIRST CLOSING THE VALVE TO THE CHAMBER

26L Vacuum Degassing Chamber

DC-26

26L Starter Vacuum Degassing System

DS-26S

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1. Introduction

Thank you for choosing to buy a *26L Vacuum Degassing Chamber* or *26L Starter Vacuum Degassing System* from Easy Composites. Please read the following instructions *before use* to familiarise yourself with the setup and daily operation of the equipment.

The DC-26 degassing chamber is a high quality vacuum chamber suitable for use degassing materials including polyurethane resin, epoxy resin and all types of RTV silicone rubber.

Important: Use with Acrylic Resins, Solvented Resins and Solvents

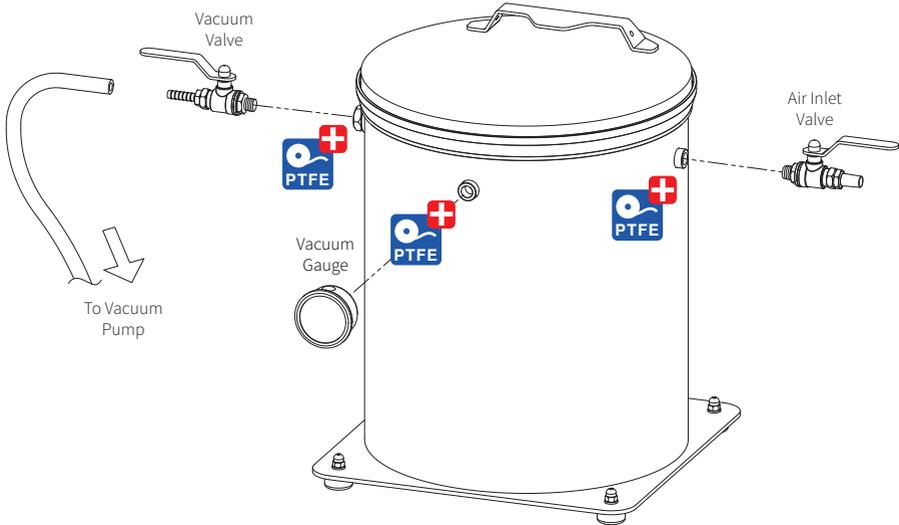
Whilst clear acrylic provides the best combination of clarity, durability and practicality for the vast majority of applications, it is susceptible to attack from solvents such as acetone and styrene, and acrylic compounds such as methacrylate ester. This is true for all potential clear lid materials (such as Plexiglass, Perspex and polycarbonate).

For this reason, the chamber must NOT be used for the degassing of acrylic resins (such as 'Cactus Juice' methacrylate) or styrene-borne resins such as polyesters and vinylesters. Use of the chamber to degas such materials will weaken the integrity of the lid and ultimately result in failure.

It is also essential to never use solvents such as acetone, alcohol or MEK to clean the lid.

2. First Time Use - Assembly Instructions

Whether you have purchased our *26L Vacuum Degassing Chamber* or *26L Starter Vacuum Degassing System*, please follow these simple steps to assemble the chamber and prepare it for first use.



PTFE Tape

To ensure an airtight seal, all fittings are supplied with PTFE tape already applied. Before assembling the chamber please check that the tape is present and intact and replace if necessary. If you need to remove and replace any fittings in the future, always replace the PTFE tape to ensure an airtight seal.

Assembly

Screw the vacuum gauge into the threaded hole on the front of the degassing chamber. Tighten firmly with a spanner, finishing with the gauge in the upright position.

Screw the valve assemblies into their correct positions on either side of the chamber. Tighten firmly with a spanner, finishing with the valve handles in the horizontal position.

Glycerine Filled Gauge

To prevent leakage, the glycerine filled gauge is supplied sealed for transport. Once in position, remove and replace the rubber bung to balance the gauge to current atmospheric pressure or use a sharp object to permanently break the seal in the rubber bung.

Vacuum Pump Connection

Connect the vacuum hose to your vacuum pump using an appropriate fitting such as an 8mm hose-tail barb. Ensure that you have prepared and use your vacuum pump in accordance with the manufacturer's instructions. If your pump has a valve on its vacuum port (such as the VP425), leave the valve open and use the valve on the chamber instead.

3. Vacuum Pump Setup & Operation

26L Vacuum Degassing Chamber Customers

If you have purchased the chamber on its own please follow the instructions for your make and model of pump to ensure it is ready for use with the *26L Vacuum Degassing Chamber* before following the degassing operation guidelines in this manual.

26L Starter Vacuum Degassing System Customers

If you have purchased a *26L Starter Vacuum Degassing System*, follow the steps in the *VP425 Composites Vacuum Pump* user manual included with your pump to prepare it for first use before following the degassing operation guidelines in this manual.

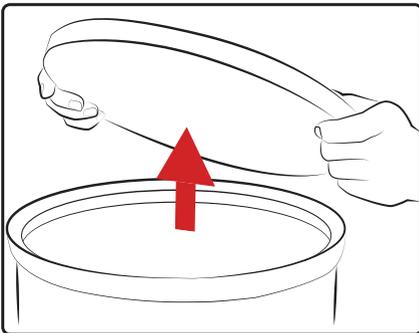
Vacuum Pump Oil Vapour (Mist) Whilst Degassing

It is perfectly normal for rotary vane vacuum pumps to emit oil vapour (a faint blue/grey smoke) from the exhaust fitting during operation. The emission of oil vapour is greatest when the pump is working hardest and will become almost negligible as the chamber becomes fully evacuated.

If oil vapour is unacceptable in your working environment, it may be possible to fit a hose to the exhaust fitting on your vacuum pump in order to vent the oil vapour outside. Alternatively, an oil mist separator can be fitted inline with the exhaust to separate the oil from the exhaust air.

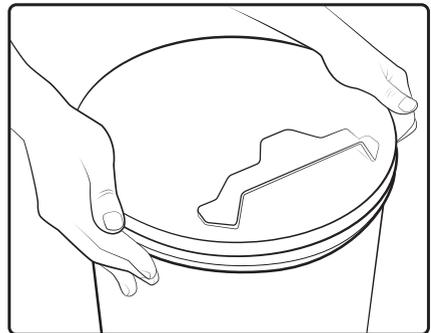
4. Daily Operation

1. Load material



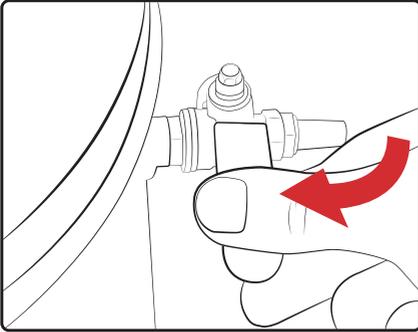
Start by removing the acrylic lid and loading your material (casting resin, RTV silicone rubber etc.) into the degassing chamber.

2. Press-down lid firmly



Press down firmly on the lid to make sure it is well seated into the seal.

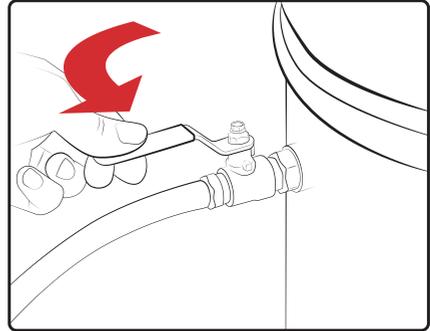
3. Check inlet is closed



Make sure the inlet valve (which has the brass filter fitted) is in the closed position, especially if you have just run a degassing operation.

The valve is closed when this lever is at 90° degrees to the chamber.

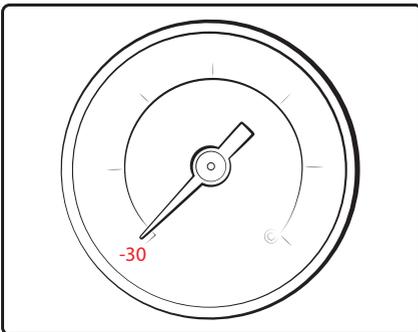
4. Open vacuum valve



Open the vacuum valve on the chamber which connects it to the vacuum pump by turning it to the inline position.

Switch on your vacuum pump.

5. Wait for degassing



Wait whilst the pressure drops inside the vacuum chamber. The time will vary depending on the type of pump you are using.

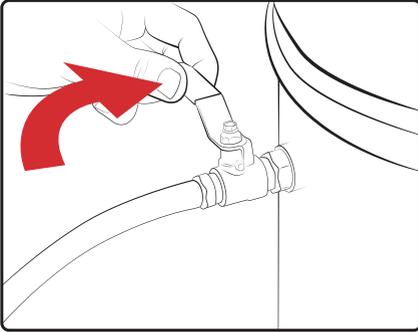
Degassing Times

As the pressure in the chamber, shown on the vacuum gauge, approaches -1 bar (30in Hg), any air trapped in the material will expand and start to bubble out of it.

RTV silicones in particular will expand considerably whilst this happens. With silicones, there will come a point where the material collapses down again. This is a good indication that the degassing process is complete.

Once no air bubbles or only very occasional air bubbles are rising out of the material proceed with the following close and re-pressurise steps.

6. Close vacuum valve

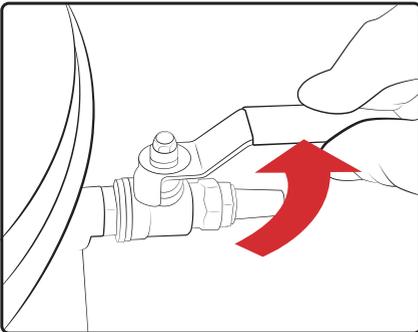


Unless you know that your vacuum pump has a built-in one-way 'check valve', always close the vacuum valve that connects the chamber to the vacuum pump before switching the pump off.

Failure to close the vacuum valve before switching off the vacuum pump will cause air and oil to be sucked back through the pump causing damage to the pump and contamination of the degassed material.

Switch off your vacuum pump.

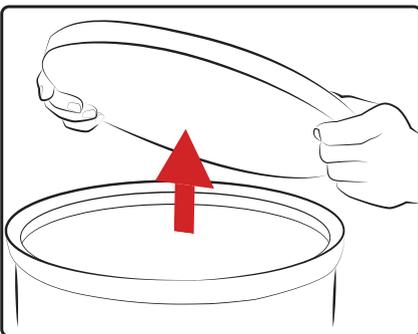
7. Open inlet valve



To let air back into the chamber, turn the re-pressuring (inlet) valve on the degassing chamber counter-clockwise into the open (inline) position.

The inlet port is fitted with a filter to restrict the rate at which air re-enters the chamber, helping to avoid disturbing materials inside or contaminating them with dust and other particles.

8. Remove lid



Once air can no longer be heard passing through the filter the chamber will be back to normal atmospheric pressure.

Once this has happened, lift the lid off the chamber to remove your degassed material.

The handle on the lid is designed to hook over the rubber seal, allowing the lid to be safely hung off the back of the chamber.

5. Operating Conditions & Maintenance

Your *26L Starter Vacuum Degassing System* or *26L Vacuum Degassing Chamber* are designed to provide years of reliable service however it is very important to ensure that you're using your equipment in an appropriate environment and maintaining it properly; failure to do so will shorten the life of the system and invalidate the warranty.

Please read and follow these important points on operating conditions and maintenance, as well as following the usage and maintenance instructions for your make and model of pump:

Do...

- **Use your vacuum pump in accordance with the manufacturer's instructions.**
- Top-up oil and replace contaminated oil in accordance with vacuum pump manufacturer's instructions.
- Use the system in a clean, dry environment and in an elevated position such as on a workbench or counter-top.
- Keep the system clean using a damp cloth and soapy water.
- Make sure all fittings are properly sealed. Use PTFE to seal and fittings you need to adjust or re-fit.

Don't...

- **Never use the chamber to degas resins containing solvents like styrene (such as polyester or vinylester resin)**
- **Never use the chamber to degas acrylic resins such as methacrylate ester.**
- **Never clean the lid with solvents**
- Never switch off your vacuum pump without closing the valve between the pump and the chamber.
- Without appropriate filters, never operate the pump in dusty conditions.
- Unless you know your vacuum pump to be suitable for the purpose, don't use the system as a vacuum *dryer*. Moisture extracted from damp materials such as wood or plaster will emulsify the oil.

6. Warranty

Easy Composites Ltd warrants that the *DC-26 26L Vacuum Degassing Chamber* will be free from defects in materials and workmanship for a period of 12 months from the date of purchase. Should a failure occur within this period, Easy Composites Ltd will repair or replace any defective part of the system on a return-to-base, like-for-like basis.

This limited warranty does not cover damage to the system caused by misuse, improper maintenance or use not in accordance with these instructions.

Easy Composites Ltd is not liable for, and does not cover under warranty, any damages or losses of any kind whatsoever resulting from failure of this product. In the event of a claim, Easy Composites Ltd's sole obligation shall be to issue a refund or replacement of the product itself.

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