



“YOU SUPPLY THE TALENT... WE’LL SUPPLY THE REST!” THE COMPLEAT SCULPTOR

Why use a De-aeration Process?

De-aeration is recommended for all silicone mold making rubbers with only a few exceptions. Air becomes entrained as the base silicone and catalyst are combined during the mixing process and must be eliminated to ensure a quality mold product. The design of the Rotokinetics Vacuum Chamber enables the user to quickly de-aerate the product.

Vacuum Chamber Setup

Verify that a filtered (25 micron or better) stable air supply is connected to the chamber at a line pressure of approximately 80 PSI to obtain the desired results. The compressed air supply is the power source for the solid state vacuum pump that is an integral part of the chamber. Inlet pressure must be maintained over the complete cycle to pull the maximum vacuum rating of the chamber and achieve the desired product quality. The required air flow will be 4.9 SCFM for our “SS” series chambers and 8.6 SCFM for our “HP” series chambers.

Mixing of the material

Mix the silicone rubber and catalyst per the manufacturer's directions. Please note that it is important to use a container that is 2 to 3 times larger than the mixed volume of product. This equates to approximate 3 ½ lbs of material per gallon of container capacity. Different viscosities of compound may exhibit different characteristics of expansion during the de-aeration process, with higher viscosities typically exhibiting more expansion.

Using the Vacuum Chamber

1. Insert container with proper amount of mixed compound into the chamber and inspect and install the lid on the chamber. The inspection process requires verifying the lid seal is clean and free of particles as well as the container mating surface is smooth and free of particles. Failure to observe this procedure may result in a damaged seal surface and inability to reach the desired vacuum levels.
2. Verify that inlet pressure is at the recommended level of 80PSI, if not adjust supply pressure regulator to achieve the proper setting. Turn ball valve to full open position to supply air to the vacuum pump. Closely watch the mixed compound through the glass window in the chamber cover as it begins the de-aeration process. Product will initially expand rapidly. Properly mixed material in the correct amounts will expand without overflowing container and then settle back to the original volume during the process. If it appears that it is going to expand beyond the container capacity, quickly shut the ball valve, watching until the material settles back into the container, then reopen the ball valve to continue the process. Material will expand a second time, however typically at much lower volume and not overflow the container.
3. Continue the process, closely watching both gauges on the pump. The vacuum gauge will indicate the chamber vacuum and the pressure gauge will indicate the air supply to the 3/16/2007 Page 1 of 2
4035 Danielsville Road, Athens, GA 30601 PH 706.534.1133 FAX 709.534.9933 otokinetics, LLC pump. Maintain the desired maximum vacuum level(26-29 in hg) for 1 to 2 minutes to complete the process.
4. Turn off ball valve, when chamber is fully exhausted (vacuum gauge at 0 in hg.), remove lid and container from the chamber.
5. It is recommended to let the material stabilize in the container for at least 1 minute before use.

Basic Trouble Shooting/Care of chamber

1. Will not build proper vacuum levels

- Verify supply pressure is at minimum of 80 PSI during the process. If not, adjust supply volume, and or pressure to maintain required settings.
- Inspect lid seal surface and container mating surface for damage or particles of contamination. If lid seal is damaged, unit may be returned to Rotokinetics for seal replacement.

2. What actions are required for maximum product live

- Always use a clean, dry, filtered compressed air supply with a minimum filtration level of 25 micron.
- Always protect the seal surface at all times from contamination and particles as well as the container mating surface.