

Vacman's notes



Stuff we've learned over 25 years connecting vacuum with composites

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Vacmobile model selection considerations

When we started developing our new website, we considered including a flow chart that would start with a set of needs and end up with a model recommendation, but it all became a bit complex. We concluded that it would be better if we worked through the selection process on a case by case basis. However, if you would like to consider selecting a Vacmobile for your needs, the following is a guide to our selection process.

- Q. Does the process involve working with a liquid resin, or could this become a possibility in future (e.g., because of the possibility of a future transition to infusion)? If there is a possibility of resin leaving the part, what is the largest amount ever likely to escape the part and are there any existing resin traps available?**
- A. If there is a risk of resin having to be intercepted and existing resin traps are not available:
- Consider either the MICRO or the 20/2 as possible solutions for resin volumes under 2 litres (4.2 pints). Noting, however, that the MICRO is not yet available for 60 Hz power. (Regrettably!)
 - Consider the SVM 2S or SVM 4S for larger resin volumes.
- Q. If a resin infusion application, what is the area of the laminate?**
- A. Assuming that the resin overflow risk has already been considered:
- For areas under about 20 m² (215 ft²), consider the MICRO (in 50 Hz power supply markets only at this time)
 - For areas up to about 100 m² (1,075 ft²) and possibly larger if experienced, consider the 20/2 or SVM 2S
 - For areas larger than 100 m² (1,075 ft²), consider the SVM 4S, or multiples of the 20/2 or SVM 2S.
- Q. How many connections from the part are required?**
- A. Especially with resin infusion, it can be beneficial to segment the perimeter vacuum line into short lengths, with a separate vacuum line to the resin trap from each segment. This allows more control over resin flow patterns and can be especially beneficial with new parts being infused for the first time. The number of resin trap connections varies by Vacmobile model as follows:
- MICRO machine up to 2 connections
 - 20/2 machine up to 2 connections
 - RT19 vessel up to 8 connections
 - SVM 2S machine up to 8 connections
 - SVM 4S machine up to 16 connections
- Q. If a resin infusion application, how experienced is the laminator?**
- A. If inexperienced, select the solution with the largest resin trap.
- Q. Does the value of the part being made influence the solution?**
- A. Yes. While we make Vacmobiles to be as reliable as we possibly can, we cannot guarantee them to be infallible, nor can the possibility of an operator mistake or a power failure be excluded. Regardless of the type of pump (Vacmobile, or any other), if the part value is high in relation to the equipment cost, we always recommend having two vacuum systems and a back-up power generator available.

- Q. Is there lots of variability in the intended use? I.e., a variety of small parts being made much of the time, and large parts occasionally? (As can happen in boat building.)**
- A. Where there is lots of work variability, opt for multiple small machines rather than a single large one. Multiple small machines can always be combined to evacuate a large part and easily moved to other locations for making small parts. Consider multiple MICRO, 20/2 or SVM 2S.
- Q. Is it a teaching/training application?**
- A. In 50 Hz power countries consider the MICRO, as it's very quiet, while providing all the features of the larger machines. Sorry, the MICRO is not yet available for 60 Hz use. In 60 Hz power countries, consider the 20/2 or SVM 2S.
- Q. Are two separately controllable vacuum levels required, e.g., for RTM Light or double bagging?**
- A. Depending on other possible applications for the same machine:
- If the parts being made are smaller than about 4 m² (40 ft²) and high production rates are not required, consider the 20/2 machine with Dual-Vac accessory.
 - If the parts being made are larger than about 4 m² (40 ft²), or high production rates are required and if the machine is required exclusively for dual vacuum operation in the same location, consider the SVM 4S.
 - If the dual vacuum requirement is only occasional in a production, research or training application consider getting a pair of the appropriate single level models. Bring the machines together for the occasional dual vacuum work and use them separately for vacuum bagging or infusion for the remainder of the time.
- Q. Is it necessary to infuse with degassed resin?**
- A. If the amount of resin involved per batch is less than about 4 litres (8.5 US pints) consider using an RT19 as the degassing vessel (either separately or as part of an SVM 2S) and any other model for the infusion part of the process. If a process being used all the time, consider the SVM 4S (which can function as 2 independent systems).

While we hope this note will be helpful, never hesitate to explain your particular requirements to us and let us select the optimum model or combination of models to suit your needs.