The most common question asked when it comes to vacuum hold-down and nested-based manufacturing is, how much vacuum does my application require? Vacuum systems should be evaluated based on the specific applications. The smaller the part or thinner the material to be held, the greater the volume of air flow needed, thus increasing the size of the vacuum pump. Many people state that you can’t have enough vacuum. This is somewhat a true statement, but it can be a very costly fact. It is always easy to over buy. Purchasing a single 40HP or 50HP pump can cost in excess of $25,000. This cost, however, is only the initial cost. What about the utilities? Depending on where your shop is located, these rates can vary considerably. Keep in mind, operating cost (utility) rarely goes down, so this cost will increase year to year.

There are other avenues which can be considered. Purchasing a number of smaller pumps can help reduce the price of the pump as well as reduce the overhead to run these pumps. If you are processing sheets of materials that have large parts, then a single pump can be utilized. If the nest has numerous smaller parts, then it is best to run all the pumps for maximum air flow. There are other devices which can be purchased to aid the vacuum hold-down system such as a spindle pressure foot, or roller hold-down. These devices push down on the material while being routed, thus aiding the vacuum system.

Techno’s vacuum table design is the most flexible and efficient system offered on the market today. Techno understands that fixturing parts can be the most complex part of the manufacturing process, in addition to being time consuming. With Techno’s vacuum table, we allow for both mechanical and vacuum fixturing to be used simultaneously. What does this mean? If you are processing sheets of material such as MDF, Melamine, plastic, foam or any other sheet-like material, vacuum flow-through process is an excellent solution. If you are processing small or irregular shaped products, then you may want to utilize vacuum along with mechanical clamps. With Techno’s universal vacuum table, you can achieve both. With the T-Slots built into the aluminum vacuum table, it is easy to mount gates for banking your material against, lining the material up square to the axis of travel. In addition, Techno’s vacuum tables are zoned. If you are processing small parts, then you do not require the entire machine’s vacuum table to be wide open, rather, just a small section. Techno’s vacuum tables are also easily customizable. Techno’s vacuum tables are channeled, which allow gasketing material to be routed around the vacuum table. The channels cut into the table are placed on a 1.0" grid; therefore, the gasketing can be formed to any pattern to fixture small parts. In areas along the open zone where vacuum is not required, simply utilizing the rubber plugs will close off the other vacuum ports in the zone. This flexibility makes the job easier and setup minimal.

Techno offers a number of clamps and accessories for the vacuum table. See below.

- Rubber Plugs
  - H91X30-PL006-001
  - (50 pc/bag)

- M6 T-Nuts
  - HL6100M209119
  - (10 pc/bag)

- Foam Gasketing
  - HX4892-W0002
  - (40 ft/bag)

- Vacuum Pod
  - HX4892-4X4POD

- Cam Clamp
  - HL5400M290002

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