Advantage

Woodworking and Router Table

VACUUM HOLD-DOWN PUMPS and SYSTEMS

by

BECKER

VACUUM PUMPS and SYSTEMS for CNC ROUTER TABLES

WHY BECKER?

Becker has more experience in providing pumps for vacuum hold down applications for CNC router tables than any other manufacturer in the world.

The reason that more OEM's rely on Becker pumps for their vacuum needs is that we understand what your needs are, and we respond with appropriate product.

That product includes a full range of 100% oil-less, dry vacuum pumps that minimize maintenance requirements, and unique offerings like our Advnatge-W systems, and our oil-free Variair Direct Screw.

If you are an OEM, then you have the advantage of knowing that a staff of experienced applications engineers is available to work with you during the design stage to ensure that your equipment is optimized for the most efficient vacuum use.

VTLF250SK:
The World's Most Popular Vacuum Pump
for Router Table Applications:

Advantage-W Systems:
DS400W and DS250W

Typical Central System
using VADS 1500 Vairair Direct Screws

Becker Advantage-W Dry Central Vacuum Systems for Woodworking/Routers

A Becker Exclusive!

Advantage-W systems have been *specifically* designed for the changing needs of those in the woodworking field.

Becker oil-less, dry vacuum pumps have long been the most popular brand and type of pump used in product hold down for vacuum tables. With *no oil or water use*, any risk of product contamination is eliminated, and operational and maintenance costs are reduced to a minimum; in fact, these are the most maintenance-free systems available.

Becker has designed a full line of central vacuum systems, called the Advantage-W, that are *specifically* designed to meet the changing needs of those in the woodworking field. These systems are designed for spoil board applications, faster cutting speeds, and shorter changeover due to its flexibility.

Advantage-W systems employ our well respected VTLF series of pumps with individual capacities of 130, 173, 280, and 353 CFM each (total capacities ranging from 260 to 706 CFM) and continuous operating vacuum levels as high as 25"Hg, which provides plenty of hold-down force—over 12 pounds of force per square inch of surface area. That's a total force of nearly a ton for a 12" x 12" piece!

The new Advantage-W systems can be operated incrementally to match your production demand. This means that you run only the necessary pumps, thus saving precious energy and reducing operating costs.

Advantage-W systems are available in 4 Duplex and 2 Triplex models in a space-saving vertical arrangement, which also gives easy access to any part of the pump. Each pump in the system includes its own built-in inlet filter, and each pump is connected to an integral manifold that eliminates unsightly piping arrangements and minimizes losses due to piping leaks. In addition, Becker includes, as standard equipment, a central inlet filter for primary filtration.

As an additional benefit to our customers, an optional dust trap is offered that separates and removes the bulk of any product particles that may enter the vacuum system. This dust trap has a fine screen to remove larger particles that can clog standard inlet filters, and a transparent housing to permit visual observation of the amount of debris that is collected so that workers can easily tell when the separator needs cleaning.

Since any product eventually needs servicing, you will appreciate the fact that no other pump is so easy to service. Becker pumps can be serviced by nearly anyone using standard tools. Filters are conveniently located at the side of the pump; and should vanes need replacing, it can be done in a few minutes by removing a few bolts at the end of the pump. As an aid, Becker provides a liquid filled vacuum gauge at the inlet of each pump in the system. By closing the standard isolation valve, the pump operating vacuum can be easily determined.

To make installation easy, a single inlet connection point is provided. Each pump can be isolated from the manifold for service without affecting the operation of the other pump(s).

Becker offers a variety of electrical control options, ranging from manually operated motor starters mounted on the motors, to custom designed controls for automatic start/stop operation.

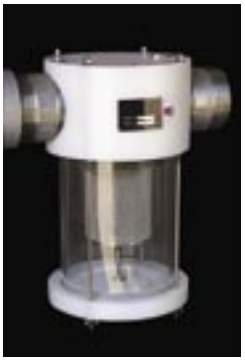
Advantage DS400W and DS250SKW

Advantage-W Dry Vacuum Systems

MODEL	SCFM (Total System Capacity*) 0"Hg	18"Hg	22"Hg	Horsepower*	Overall Dimensions Length (in.)	Width (in.)	Height (in.)
Stack Mounted Duplex Systems							
DS200W	260	92.4	55.4	15	35.5	50.8	58.8
DS250SKW	346	123.2	73.6	20	35.5	50.8	58.8
DS400W	560	199.4	119.2	36	42.5	60.5	72.5
DS500SKW	706	251.4	150.4	48	42.5	60.5	72.5
Stack Mounted Triplex Systems							
TS200W	390	138.6	83.1	22.5	35.5	50.8	87
TS250SKW	519	184.8	110.4	30	35.5	50.8	87

* Total of all pumps in the system.

Optional Dust Trap



Advantage-W

Becker VARIAIR DIRECT SCREW

Dry Variable Speed Rotary Screw Vacuum Pump

For manufacturers of leading edge wood and synthetic products…nothing less than leading edge manufacturing equipment will do; and no vacuum pump on the market is as leading edge as Becker's…VADS, or Variair Direct Screw.

Intelligent air. Tailored air. Digital air. Revolutionary. Leading edge. All have been used to describe Becker's new patented Variair systems.

For manufacturers of leading edge wood and synthetic products that must be machined or routed on CNC tables, nothing less than leading edge manufacturing equipment will do; and no vacuum pump on the market is as leading edge as Becker's new digitally controlled, variable speed, air-cooled, oil-free, rotary screw vacuum pump: the VADS, or VariAir Direct Screw.

No longer do you have to tolerate oily discharge air from a rotary screw pump. No longer do you have to suffer with an inefficient means of controlling the flow or pressure produced by the pump. No longer do you need to have multiple pumps for large machines with high flow requirements. No longer do you need to keep your high horsepower pumps operating at full power around the clock when demand drops to a minimum.

Our VADS unit is available in two sizes that cover a wide range of capacities, from 160 CFM to 840 CFM. Becker's patented method of controlling the rotational speed of the pump to maintain a constant pressure with varying demand means that you use only the actual power required for the task.

Traditional rotary screw pumps use throttling valves at the pump inlet to control flow. While this can maintain a steady pressure, it does so with only a slight reduction in the power requirements, since the pump continues to run at full speed. Throttling requires the pump to produce a higher vacuum level because the valve needs to restrict the flow to the process to meet the lower flow demand. It's like putting an orifice at the inlet of the pump; the process side of the orifice sees lower vacuum, the pump side sees higher vacuum. Most rotary screws need a little less power when running at higher vacuum levels, thus your energy savings is only about 10 to 15% at best.

With the VADS, when the process demand drops off, the pump slows down to meet the demand. Since the pump is producing only a small amount of flow, the power needed is dramatically reduced—by as much as 60%!

Not only do you save energy by reducing the speed, but you reduce the heat generated by the pump, and also the noise level.

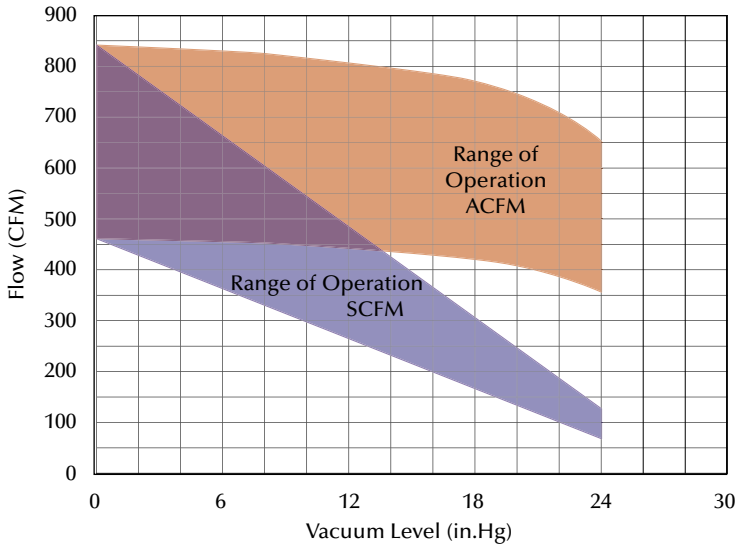
For applications involving CNC controlled router tables there is an added benefit. When cutting through product to the spoil board, leakage to the vacuum system is increased. This results in lower vacuum levels because of the increased demand to the pump. Often, this can reach a point where your product begins to move on the spoil board, resulting in ruined pieces. Your scrap rate increases, and profits are affected.

VADS 1500

The VADS continually monitors the vacuum level in the process, and as leakage increases, the Variair unit increases the speed of the pump, which increases the flow it produces. This results in maintaining a *constant holding pressure* on the product.

No more slippage.
No more ruined product.
Higher quality product.
Higher production rates.
Higher profit.

You can call it intelligent air, tailored air, or digital air if you like, but we think you will come up with some superlatives of your own.



VARIAIR DIRECT SCREW

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