

# Cool Machines Inc.

Fiber Machines - Cutting Edge Cool

www.coolmachines.com



## Insulation Removal Vacuums



Models Left to Right: 11hp Gas, 16hp Gas, 23hp Gas, 37hp Gas, 25hp Diesel, 5hp Electric, 10hp Electric

## The Next Generation of Vacuums

Our full line of rugged, powerful vacuums offer a choice for any application with any budget.

**Our new & improved vacuums are more durable and maintenance free than ever.**

**An industry first:** Our AR-500 steel fan blades offer 3x's the wear life compared to the competition. Combined with our proprietary 'Vacuum Saver' design (optional), objects are removed from the fiber 'before' causing catastrophic damage to the impeller fan, chamber, and engine.

Our vacuums are portable, versatile, and high production to reduce labor time and increase profitability. These multi-purpose vacuums can be used for attic insulation and batt removal, wall spray recycle recovery, foam-vac processing, and more

**Grow your business and increase profits by offering more services.**

- Insulation removal & air sealing package can offer the homeowner as much as 30% to 40% energy savings.
- Older attic insulation (due to moisture, pest control issues and odors), needs to be removed and replaced.
- Wall spray fiber intended for recycling can be conveyed directly to your spray machine for reuse.

The industry's highest rated, heavy duty, wet/dry Vacuums with **Cutting Edge Cool** design features.

### NEW: 8" Inlet Covers available for All Vacuums:

Take your vacuum to the next level and start vacuuming batts\* with our optional 8" (20.32cm) Inlet Chamber Covers!



(\*Based on tests of 24" [60.96cm] wide x 30" [70.62cm] long batts)

## 5 h.p. E-Vac

(Entry Level, Intermittent use)

**Performance Data:**  
Vac Strength: 19 "WC (0.047 bar)  
Airflow: 2500 CFM (4248 m<sup>3</sup>/h)

- **Weights:** 140 lbs. (63.5 kg)
- **Dimensions (LxWxH):** 30" x 28" x 38" (76.2cm x 71.1cm x 96.5cm)
- **Motor:** 5 h.p. electric
- **Power Requirements:**  
**US:** 240 volt, 1 phase, 20 amp grid power or 10kw generator  
**Export:** 230 volt, 1 phase, 20 amp grid power or 10kw generator
- **Fan Housing:**  
¼" (0.64cm) AR-500 steel fan x ¼" (0.64cm) AR-400 steel chamber
- **Blade Diameter:**  
3" x Ø18" (7.62cm x Ø45.7cm) - comparable to 11 h.p. gas vacuum
- Adjustable fan speed for control of various applications
- 6" (15.25cm) dia. Inlet and Exhaust
- 10" (25.4cm) dia. Run-Flat Wheels



## 10 h.p. E-Vac

(Medium ft<sup>2</sup> jobs, Frequent use)

**Performance Data:**  
Vac Strength: 25 "WC (0.062 bar)  
Airflow: 3200 CFM (5437 m<sup>3</sup>/h)

- **Weight:** 205 lbs. (93 kg)
- **Dimensions (LxWxH):** 30" x 28" x 38" (76.2cm x 71.1cm x 96.5cm)
- **Motor:** 10 h.p. electric
- **Power Requirements:**  
**US:** 480 volt, 3 phase, 15 amp grid power or 18kw 3-Phase generator  
**Export:** 380 volt, 3 phase, 20 amp grid power or 18kw 3-Phase generator
- **Fan Housing:**  
¼" (0.64cm) AR-500 steel fan x ¼" (0.64cm) AR-400 steel chamber
- **Blade Diameter:**  
4" x Ø20" (10.16cm x 50.8cm) - comparable to 23 h.p. gas vacuum
- Adjustable fan speed for control of various applications
- 6" (15.25cm) dia. Inlet and Exhaust
- 10" (25.4cm) dia. Run-Flat Wheels



## 11 h.p. Gas-Vac

(Entry Level, Intermittent use)

**Performance Data:**  
Vac Strength: 19 "WC (0.047 bar)  
Airflow: 2500 CFM (4248 m<sup>3</sup>/h)

- **Weight:** Manual Start: 204 lbs. (92.5kg)  
Electric Start: 227 lbs. (103kg)
- **Dimensions (LxWxH):** 30" x 28" x 38" (76.2cm x 71.1cm x 96.5cm)
- **Engine:** Briggs OHV Dura-lube™, 1650 Series I/C cast iron sleeve, 1.725 gallon tank, low level oil shutdown [manual pull start or electric]
- **Fan Housing:**  
¼" (0.64cm) AR-500 steel fan x ¼" (0.64cm) AR-400 steel chamber.
- **Blade Diameter:** 3" x Ø18" (7.62cm x Ø45.7cm) Diameter
- r.p.m. / hour meter
- **Engine Warranty:** 1 year commercial
- 6" (15.25cm) dia. Inlet and Exhaust
- 10" (25.4cm) dia. Run-Flat Wheels



# Questions? Call us at 419-232-4871

# 16 h.p. Gas-Vac

(Medium ft<sup>2</sup> jobs, Frequent use)

**Performance Data:**  
Vac Strength: 25 "WC (0.062 bar)  
Airflow: 3200 CFM (5437 m<sup>3</sup>/h)



- **Weight:** 250 lbs. (113.4 kg)
- **Dimensions (LxWxH):** 33" x 28" x 38" (76.2cm x 71.1cm x 96.5cm)
- **Engine:** Briggs "Vanguard" V-twin OHV, 2.25 gallon tank, positive pressure lubrication, low level oil shutdown, oil pressure shutdown switch. [electric start]
- **Fan Housing:**  
¼" (0.64cm) AR-500 steel fan x ¼" (0.64cm) AR-400 steel chamber
- **Blade Diameter:** 3" x Ø20" (7.62cm x 50.8cm) Diameter
- r.p.m. / hour meter
- **Engine Warranty:** 3 year commercial
- 6" (15.25cm) dia. Inlet and Exhaust
- 10" (25.4cm) dia. Run-Flat Wheels
- Electric start with included 12 volt battery
- Integrated engine block cooling air filter.

**Optional:  
Foam-Vac  
Attachment**



## 'Our' Vacuums are Different:

AR-500 abrasion resistant ¼" (0.64cm) thick impeller blades and turbo-sonic 'FC' designed blade, creates tip turbulence eliminating wet fiber accumulation on blade and chamber. Solid robotic welds and precision dynamic balancing provide a smooth running blade with minimal wear to engine bearings insuring extended life and safety for the operator. Reinforcing blade structure on our large diameter fans for increased strength and durability.

Our chambers feature heavy-duty ¼" (0.64cm) AR-400 abrasion resistant armor plate which triples the life of the chamber.



**Recoil Air Filter is standard on 16 h.p. and 23 h.p. models**  
'Oversized Surface Area' allows generous cooling air and reduces fiber build-up around engine.

# 23 h.p. Gas-Vac

(Large ft<sup>2</sup> jobs/high production, Frequent use)

**Performance Data:**  
Vac Strength: 27 "WC (0.067 bar)  
Airflow: 3600 CFM (6116 m<sup>3</sup>/h)

- **Weight:** 298 lbs. (135.2 kg)
- **Dimensions (LxWxH):** 42" x 28" x 37" (106cm x 71.1cm x 94cm)
- **Engine:** Briggs "Vanguard" V-twin OHV, 8 gallon (30.3L) tank, positive pressure lubrication, low level oil shutdown, oil pressure shutdown switch. [electric start]
- **Optional:** 22 h.p. Honda Engine
- **Fan Housing:**  
¼" (0.64cm) AR-500 steel fan x ¼" (0.64cm) AR-400 steel chamber.
- **Blade Diameter:** 4" x Ø20" (10.16cm x 50.8cm) Diameter
- r.p.m. / hour meter
- **Engine Warranty:** 3 year commercial
- 6" (15.25cm) dia. Inlet and Exhaust
- 10" (25.4cm) dia. Run-Flat Wheels
- Electric start with included 12 volt battery
- Integrated engine block cooling air filter.



## Optimal Performance with 'ALL' Fibers





## BIGGER, BADDER *BLADE* + MORE HORSEPOWER = *SPEED!*

Lower your labor costs and get out of the attic quicker with the increased performance of our new **high powered vacuums (Shown Below)**.

- **Powerful suction** capable of doubling your current production. Recommend two (2)  $\varnothing 4"$  ( $\varnothing 10.16\text{cm}$ ) hoses in attic connecting to a 4" x 4" to 6" (10.16cm x 10.16cm x 15.25cm) wye tube, for highest production.
- **Gusset Reinforced fan blade**, AR-500 (abrasion resistant)  $\frac{1}{4}"$  (0.64cm) hard steel, provides durability and 3x's wear longevity.
- **Oversized 4" x  $\varnothing 24"$  (10.16cm x  $\varnothing 60.96\text{cm}$ ) fan blade @ 3600 R.P.M.** = high "**Tip Speed**" = more pulling power.
- **Double Banded Fan chamber** offers ultra-heavy duty  $\frac{1}{2}"$  (1.27cm) thick AR-400 abrasion resistant **armor plate** which triples life of chamber.
- **Oversized 1.5" (3.81cm) Jack-Shaft** with two (2) high speed pillow block bearings, driven by quad power-band belt & sheave system, extends engine life.
- **Large fuel tanks** provide half day running time without re-fueling.

## 37 h.p. Gas-Vac

(Large ft<sup>2</sup> jobs/high production, Frequent use)

### Performance Data:

Vac Strength: 47 "WC (0.117 bar)  
Airflow: 6400 CFM (10874 m<sup>3</sup>/h)



- **Weight:** 630 lbs. (286 kg)
- **Dimensions (LxWxH):** 51" x 31" x 50" (130cm x 79cm x 127cm)
- **Engine:** Briggs "Vanguard" V-twin OHV, 8 gallon tank (30.3L), positive pressure lubrication, low level oil shutdown, oil pressure shutdown switch, electric start, Electronic Fuel Injected (EFI).
- **Fan Housing:**  
 $\frac{1}{4}"$  (0.64cm) AR-500 steel fan x  $\frac{1}{2}"$  (1.27 cm) AR-400 steel chamber
- **Blade Diameter:** 4" x  $\varnothing 24"$  (10.16cm x  $\varnothing 60.96\text{cm}$ )
- r.p.m. / hour meter
- **Engine Warranty:** 3 year commercial
- $\varnothing 6"$  (15.25cm) Inlet and  $\varnothing 8"$  (20.32cm) Outlet
- $\varnothing 10"$  (25.4cm) Run-Flat Wheels
- Electric start with included 12 volt battery
- Integrated engine block cooling air filter.
- Belt Driven Fan Blade.

## 25 h.p. Diesel-Vac

(Large ft<sup>2</sup> jobs/high production, Frequent use)

### Performance Data:

Vac Strength: 47 "WC (0.117 bar)  
Airflow: 6400 CFM (10874 m<sup>3</sup>/h)

- **Weight:** 1150 lbs. (522 kg)
- **Dimensions (LxWxH):** 60" x 31" x 50" (152.4cm x 79cm x 127cm)
- **Engine:** Kubota D1105E1, 12 gallon tank (45.4L), water cooled, low level oil shutdown, oil pressure shutdown switch. [electric start]
- **Fan Housing:**  
 $\frac{1}{4}"$  (0.64cm) AR-500 steel fan x  $\frac{1}{2}"$  (1.27cm) AR-400 steel chamber
- **Blade Diameter:** 4" x  $\varnothing 24"$  (10.16cm x  $\varnothing 60.96\text{cm}$ )
- r.p.m. / hour meter
- **Engine Warranty:** 2 year commercial
- $\varnothing 6"$  (15.25cm) Inlet and  $\varnothing 8"$  (20.32cm) Outlet
- $\varnothing 10"$  (25.4cm) Run-Flat Wheels
- Electric start with included 12 volt battery
- Belt Driven Fan Blade.



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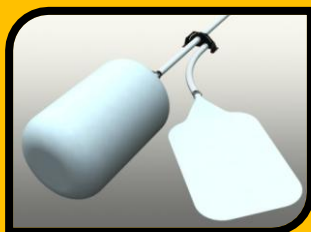
# Cool Vacuum Accessories

## Cool Diverter Valves

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### Non-Stop Vacuuming!

Divert fiber stream to an empty bag while the operator changes the full bag. Available in 6" (15.25cm) and 8" (20.32cm).



## Hose Reels for Hose Protection and Storage!

Protect, manage, and store your hose during transport!

Available capacity sizes:

- Ø60" (Ø152.4cm) x 27" (68.6cm) wide
  - 150' of 6" hose (45.7m of 15.2cm hose)
- Ø90" (Ø228.6cm) x 17" (43.2cm) wide
  - 125' of 6" hose (38m of 15.2cm hose)



Available in wall or floor mount!  
See Hose Reel Literature for more info!

## Hose, Clamps, Connectors, Swivels, and Bags...Oh My!

We offer special **smooth-bore** vacuum hoses to increase speed, along with **EVERYTHING** you need to get your system off and running at its Coolest!



## Cool Vacuum Wands

### Save your back when you can!

If you don't have to crawl to vacuum, then don't!

Our vacuum wands make it easy to suck up that old fiber with the comfort of standing. Available in 4" (10.16cm) and 6" (15.25cm).



**Our Cool Vacuum Savers, the industry's first**, are the answer to vacuum blade and collection bag damage. Attic insulation contains objects impossible to avoid, causing catastrophic damage to the fan, chamber, engine and filter collection bag. The Vacuum Saver is an in-line device catching the damaging objects before they reach your vacuum.

Simply connect the unit in suction line, in front of vacuum, and continue with your job. Unlike most similar devices in the market, our large capacity units trap most of the objects you will encounter on an average job-site **without frequent interruptions** to shut down and empty. [IMPORTANT: Vacuum Saver 'required' for warranty consideration]



### Saver Cover:

Mounted to chamber with easy access clean-out, viewing window for monitoring capacity, balanced for easy handling, and safety hose switches.

#### Dimensions (LxWxH):

27" x 11" x 27"  
(68.6cm x 28cm x 68.6cm)

- **Weight:** 70 lbs. (31.75kg)
- For use with 16hp & 23hp Cool Vacuums - Ø6" (15.25cm) inlet
- Large access door allows the unit to be cleared of collected debris.
- Process shutdown required for emptying.



### VS-XL6:

- **Dimensions (LxWxH):** 37" x 13" x 28" (94cm x 33cm x 71cm)
- **Weight:** 98 lbs. (44.5 kg)
- For use with large, double in-line vacuum systems with Ø6" (15.25cm) inlets
- Large access door allows the unit to be cleared of collected debris.
- Wheel package making this unit even more mobile.
- Process shutdown required for emptying.
- Includes standard wheel package

### VS-XL8:

- **Dimensions (LxWxH):** 37" x 15" x 28" (94cm x 38cm x 71cm)
- **Weight:** 109 lbs. (49.4 kg)
- For use with large vacuum systems with Ø8" (20.32cm) inlets.
- Large access door allows the unit to be cleared of collected debris.
- Wheel package making this unit even more mobile.
- Process shutdown required for emptying.
- Includes standard wheel package

# Optimal Performance with 'ALL' Fibers



## Why Briggs & Stratton Engines?

Briggs & Stratton engines are the largest gas engine manufacturer in the world (over 12,000 authorized dealers in North America). With 24 hr. parts availability and multiple service locations within a 30 mile radius throughout the country, you have the best support system available to keep your engines running.

The premium grade 'Vanguard' engine is a high quality engine (with 3 year commercial warranty) manufactured in Japan and is widely considered the 'best' in the industry.



## Production Rate Myths: Real or Hype?

Beware of Vacuum manufacturer's claiming ridiculous production rates. There are many variables to fool the unsuspecting customer. Some production tests are performed with short length hose in more than favorable conditions, not realistic. There are many factors affecting your bottom-line production speeds.

### Exhaust air back-pressure:

1. Blowing into dumpster vs. vacuum bags: A covered dumpster has the ability to breathe and allow the exhaust air to escape with less back-pressure. This allows faster conveying speeds.
2. Type of vacuum collection bag: Some heavier vacuum collection bags (4 oz. fabric), do not breath or exhaust excess air as easily as lighter fabrics. This creates back pressure, (especially when the bag is more than half full). This condition slows down production speed.

### Internal friction of hose:

1. **Reduce internal friction by:** using **smooth -bore** hose. Hoses w/rough surface, adds internal friction of conveying fiber. It's great for conditioning fiber blowing in attic, but **not** preferred for vacuuming.
2. **Reduce internal friction by:** using larger diameter hose (6" [15.25cm]) from vacuum-to-attic, and use smaller diameter hose (4" [10.16cm]) **in** attic for ease of handling and maneuverability.
3. **Reduce internal friction by:** using shortest length hose possible. As you move closer to vacuum and need less hose; remove extra lengths to increase speed.

## Vacuum power: ... A matter of Physics...

### Terminology:

- **Airflow** measured C.F.M.(cubic feet per minute) = Volume/quantity of air moved in one minute.
- **Vacuum Strength** or 'pulling' power measured Inches of water column ("WC), H<sub>2</sub>O.
  - Generally speaking: surface area and diameter of blade + tip speed (ft./sec.) = Vacuum Power
  - Production rate increases with higher tip speed (ft/sec) and surface area of blade.

Cool Machines has engineered an innovative impeller blade with specific geometric features to increase pulling power (WC), and create 'tip turbulence' to eliminate wet fiber build-up inside fan chamber.

\*Test data (CFM & WC) provided upon request.



## Vacuuming for Beginners

### Principles for vacuuming:

- Dense granular materials have less surface area for vacuum air-stream to carry. This will result in the materials falling out of air stream, collecting in bottom of hose with gradual clogging. The solution is to increase air speed (velocity), using a smaller diameter, smooth-bore hose. (i.e. sawdust, \*vermiculite, Styrofoam beads, etc.)
- **\*Note: Vermiculite products can contain hazardous asbestos in granules and must be handled with special HEPA filtration systems. Be sure to test the material before disturbing material.**
- Not all hoses are equal: A smooth-bore, non-contracting (*slinky action*) hose, helps reduce damage to job-site surfaces.
- Increase suction and vacuum speed on long hose runs, by networking two (2) vacuums in-line.
- Increase production speed with large vacuums (37 HP gas and 25HP Diesel) by splitting from single suction hose operator, using one (1) 6" [15.25cm] dia. hose, to dual suction operators using two (2) 4" [10.16cm] dia. hoses in attic.
- Use vacuum bag diverter device to allow for non-stop vacuuming to filter collection bags.
- Locate vacuum units outside vehicle or on slider/ ventilated compartments, (similar to generators). This safeguards operator from carbon monoxide fumes and reduces fiber contamination of engine for extended life.

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