

The Hotwatt

1- 5 kwe
2 kw hot water

Power for your life

Turn local wood and other organic waste into usable gas, heat and electricity

The Hotwatt is our most compact & efficient unit. Power a range of gensets for off grid applications. Make hot water and heated air for your home or garage.



Our Product Line



1-5 kwe
2 kw

Hotwatt



5-15 kwe
3 kw

Victory Gasifier

5 kwe AC/DC



Gensets

Victory Gasworks

Hours of operation: M - F 9am-5pm pacific time

tel. 1-360-258-1814
email- contact@VictoryGasworks.com
store- www.VictoryGasifier.com
community- www.VictoryGasworks.com

By appointment only

address- 3411 N.E. 65th St.
Suite 102
Vancouver, Wa. 98661
U.S.A



Overview

The Hotwatt (patent pending) is a versatile machine which serves as an emergency power source or small off-grid power station. Home owners now have the freedom that a micro-grid gives them to cover their heating, electrical and hot water needs using branches from their yard, wood chips, chunked cord wood, corn cobs and other free waste biomass sources. We have removed the utilities, cartels and other 'Gate Keepers' from your life. It's just you and nature now.

The Hotwatt is designed for compact spaces like the typical suburban garage and it's easy to transport to the remote cabin, disaster zone or third world community. This appliance grade energy system has set an industry standard for reliability, versatility and durability. The hopper design offers easy refueling operation and proprietary reactor made from industrial grade stainless steel provides longer service life. The filter provides clean gas to power your motors. The Hotwatt is sturdy, easy starting and quiet running. This legendary machine has earned the reputation as the preferred solid-to-gas biomass energy conversion machine for owners worldwide. Common applications include backup power generation, emergency power insurance, off-grid power, heat and hot water solutions, greenhouse heating, etc.

The technology that drives the system allows us to turn plant matter into hydrocarbons. It's not unlike the way crude oil was created, we just do it alot faster, with near zero net environmental impact.

Features & Benefits

- Make clean heat and power from local sources
- Beat power outages. Never get left in the cold and dark again
- Loosen the strangle hold the petroleum cartels have on your life
- Ruggedized design
- Pre-assembled packages, (no box of plumbing parts)
- Power on your terms
- Superior design and quality construction
- Hands free automation (available as an option)
- Comfort and security in any situation
- 6 jets for a tar free burn
- 300% longer lasting components than competitors
- Technical support

Feedstock

Our energy systems run on dry, uniform, clean biomass. Below is a list of feedstocks that we have tried and tested.

Excellent Performance	Wood chunks	Pistachio shells	Charcoal	Construction scraps	Walnut shells
					
	Corn cobs	Thick wood chips	Coconut shell & husk	Bamboo chips	
					

Shredded wood	Briquettes	Corn
		
Needs custom modifications		

Pellets	Sawdust
	
Do not use	

Bark


Calculating run time

How long your unit will run depends on the weight of the wood and the load being put on the engine. (Load = harvested work, electricity produced)

A kilowatt hour requires an average of 2.5 lbs (approx. 1 kilo) of wood/biomass.

Wood and biomass weights vary. Here are some examples:

Weight	X	Hopper size	=	Total	/2.5 =	KWh
Wood Chips 10 lbs cu. ft.		Hotwatt 1.25 cu. ft.		94 lbs		37.6
Wood Chunks 20 lbs cu. ft.		Victory 4.7 cu. ft.				
Briquettes 30 lbs cu. ft.						
Pellets & Corn 40 lbs cu. ft.						
Divide the kw hours by the load, and then you will have a rough idea of your run time.						
KWh	/Load	=	Run time			
37.6	5kw		7.52 hrs	www.VictoryGasworks.com		

Hotwatt Specs

Model	Hotwatt CHP	
Type	Air blown downdraft gasifier	
Input	Biomass 20% m.c., batch feed, 2.5 lbs per kw hr.	
Output	Syngas, 4-35 cubic meters per hour	
Output with engine	1-5 kwe, 2 kw hot water, 95 deg. forced air	
Gas composition	N2: 50%, H2: 20%, CO 20%, CH4 5%, CO2 5%	
Particulates	Less than 15 ppm	
Operating temperature	1050 - 1250 C	
Gas outlet size	1.5" threaded nipple	
Filtration	Dry, organic media, re-usable filters	
Automation	PLC, grate, feed agitator, ignitor, timer, blower	
Materials	304 & 316 Stainless, low carbon steel	
Length	in. (mm)	27 (685.8)
Width	in. (mm)	27 (685.8)
Height	in. (mm)	65 (1651)
Weight	lbs (kg)	340 (154)
Shipped weight	lbs (kg)	420 (190)

Genset Specs

Model	Kubota dg-972	
Type	Natural Gas, 3 cylinder, water cooled	
Input	Syngas	
Output	5 kwe DC, 12 or 24 volt, AC inverter (optional)	
Length	in. (mm)	32 (812.8)
Width	in. (mm)	24 (609.6)
Height	in. (mm)	27 (685.8)
Weight	lbs (kg)	255 (115)
Shipped weight	lbs (kg)	338 (153)

Layout & Flow Diagram

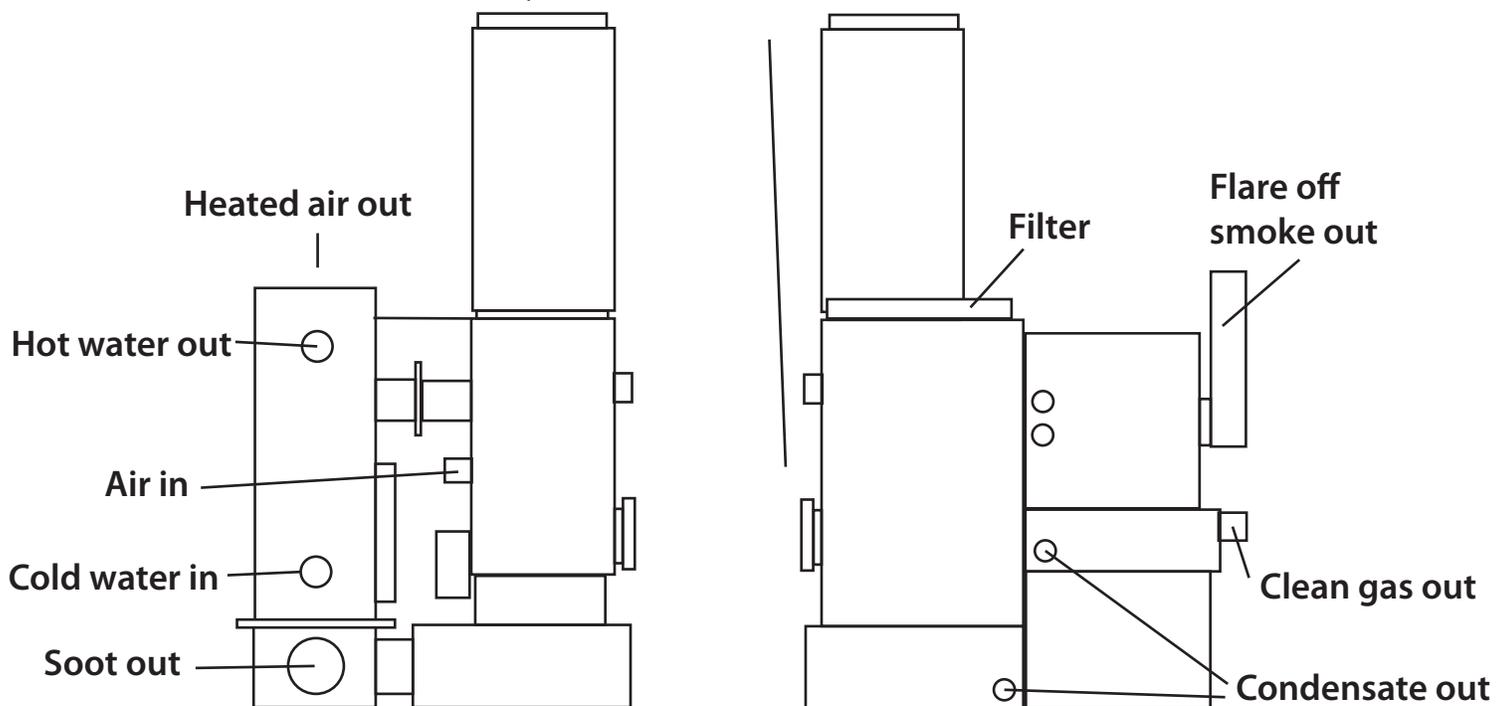
Hotwatt Layout

1-5 kw



Biomass in

Ash out



FAQ

These are some of our most common questions. More FAQ is available at:
<http://victorygasifier.com/faq/>

1. *What is inside biomass that makes it capable of becoming a fuel?*

Answer- When biomass is heated in a low oxygen environment the plant matter releases oils, gases, charcoal, ash and water vapor. We use the heat of the charcoal to refine the gases, oils and water vapor into a hydrogen rich fuel gas, similar to natural gas. It is hot enough inside to split water vapor.

2. *Can I store the gas?*

Answer- Technically yes, it has been done. A biogas storage membrane is the best option, but storing large volumes of gas can be both dangerous and unnecessary. Using batteries and hot water storage is safer and more convenient.

3. *Can I pump the gas into my house?*

Answer- No, but you can cook with it outside. Indoor gases are required to have an odor added to them for safety. Part of the gas contains carbon monoxide which burns very cleanly, but can kill you quickly in an enclosed space.

4. *How long will it run?*

Answer- The Hotwatt will run unattended for 2-3 hours on a fill. The density of the feedstock and the engine load determine true rate of use. A morning batch and an evening batch is a very efficient way to get all of the heat and power an average home will need in a day while using a tiny bit of wood.

5. *Can I power a diesel?*

Answer- You can run up to 80% wood gas and operate an un-modified diesel. To run 100% woodgas you must add spark ignition.

6. *What is the difference between clean gas and dirty gas?*

Answer- Clean gas has been broken down to a molecular level. It's just hydrogen and burnable carbon gases. Dirty gas has residual burned oils that didn't get fully broken down. Virtually every competing gasifier you are likely to see will suffer from this problem. You can burn the oily gas, but the burned oils, called tar, will stick on valves and cause them to stop functioning when used in engines. It is very important that you understand this. Our machines produce no tar when used as directed. This gives your engine long life and you piece of mind. There are many people on the internet making wild claims about their machines and really they are tar machines. Hope you don't have to find out the hard way.

7. *What is the maintenance process?*

Answer- Empty the ash bin twice a week. Empty the water condensate after 8 hours use. Change the dry filter system after 8 hours use. Total maintenance time is less than 4 minutes per day.

About us

Victory Gasworks was founded to help solve the most obvious and difficult challenge in energy today. "How do we replace petroleum fuels in our lives with local resources?"

We feel that both our energy and our money supplies are in peril. Rather than sit back and wait for someone else to solve the problem we decided to take action. Since 2007 we have been designing and building cutting-edge energy systems that empower people to leave the grid and enjoy energy independence.

Our products are proudly made in America at our world-class facility in Vancouver, Washington. Quality is at the heart of everything that we do.



Awards & recognition

Our work has been recognized by the prestigious Clean Tech Open, the nation's leading competition for clean technology companies.

Popular Mechanics bestowed us with a less prestigious (yet very cool) Backyard Genius Award in 2009 and Treehugger covered our work during the fuel crisis in 2008.



Popular Mechanics
Backyard Genius Award Winner 2009



Join the Independent Grid

Energy is the cornerstone of modern life.

With our affordable energy products you can live anywhere you like, grid or no grid. Decentralized power is the future of personal energy. People just like you are creating security and personal freedom by choosing to be apart of an independent grid.

www.VictoryGasworks.com

Shipping

We have great rates on both domestic and international shipping. We have safely delivered units to every populated continent in the world.

Where would you like yours sent?

We try to get the best shipping rate for you but due to changing fuel prices, we can only give you an exact shipping cost when your order is ready to ship.

We will contact you with your shipping rate at that time and have it ready to go. It's as simple as that. No worry shipping all done by us.



The environment

Biomass is part of an active carbon cycle, much like a rain cycle. It transitions from solid plant matter to CO₂, methane and other gases. In nature it just goes to the atmosphere as "pollution" but with our energy systems we are able to harness usable energy from the transition and leave fewer greenhouse gases in the atmosphere.

Our machines offer a clean alternative to dirty fossil fuels. Once up to operating temperature the wood is converted completely into fuel gas. The emissions from the engine are reduced and the byproducts of the system are ash, biochar, and condensate. Treated wood is not recommended due to the possibility of dioxin emissions.

Does it really make sense to ship dirty energy halfway around the world when we can use local waste resources from our own backyard?

www.VictoryGasworks.com

How to order

- 1) Please select the system that meets your needs
- 2) Write down your final questions
- 3) Request an invoice.

We accept checks and wire transfers. Credit cards and paypal add 3%. Shipping is paid separately at the time of delivery. We ship international.

1. Choose your package

- | | |
|---|---|
| <input type="checkbox"/> <i>Hotwatt: Turn-key gas</i> | <input type="checkbox"/> <i>Victory XL: Turn-key gas</i> |
| <input type="checkbox"/> <i>Hotwatt: Turn-key gas & Kubota 5kw genset</i> | <input type="checkbox"/> <i>Victory: Turn-key gas</i> |
| | <input type="checkbox"/> <i>Victory: Turn-key gas & Kubota 5kw genset</i> |

2. Questions

3. Contact us for current pricing

Rising commodity prices including metal and oil are driving prices higher. For the best price purchase immediately.

Victory Gasworks

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