

ELECTRIC   
VARIABLE SPEED SYSTEMS



# *Electric Systems for Land and Sea - VS335*



Brownie's Variable Speed Dive System provides unprecedented performance, versatility, and efficiency from a patent-pending electric drive system. The novel variable-speed technology instantly adjusts the compressor speed to match diver air demand. Considerable energy savings and huge performance advantages place the VS in a class by itself.



# Features of the VS Series



## Drop Weight Cumberbelt™ with Active Control Ballast

Multiple US and Foreign Patents have been awarded on this ballast management and hookah tow device. The DWC optionally carries a Mini-Scuba kit. The Depth Compensating and Expandable Waist feature accommodate divers ranging from 24 to 56 inch waist measurements. The Active Control Ballast removable contoured weight pockets allow use of traditional block, lead, soft weight bags or any custom or naturally occurring ballast. Both the removable weight pockets and the belt receiver pockets have "keyed" molded plates to prevent shifting of the ballast on the diver; the DWC with ACB is easily the most sophisticated and comfortable ballast system in the world; the DWC also includes a hose tow attachment point for use with most Hookah system and Kayak Diving Hose Kits as well. The more adventurous diver can instantly add our 6 or 13 cubic foot Mini-Scuba kit; another unique and patented invention from Brownie's; see following pages for more detail.



## Boat Shaped Tube

Years of design and testing results in this unique shape; the interior is rectangular and the exterior is an oval. The shape stores better on most boat decks and tows nicely in the water. Constructed from very robust woven fabrics, every seam is overlapped by nylon webbing and double stitched. A solid "Delrin" YKK zipper is overlapped on the inside diameter to provide for increased pressure holding ability, easy service access. The higher pressure holding ability of the Brownie Tube insures a sag-free flotation device with over 300-lbs of surface support and absolute minimum drag. The RIB-type boat inflation/deflation valve makes setup/break-down considerably quicker and more reliable than off the shelf beach-toy or tractor tire tube valves. The molded handles, 2-inch side release attachment buckles and 1-1/2" hose holder straps are features that further demonstrate Brownie's unique attention to detail.



## Travel Cover and Gear Bag

The light weight, super strong storage cover lid is half the weight of others due to intelligent structural design by high-density plastics engineering and advanced production methods. The Brownie base pan and travel cover are shorter in length, narrower in width and have a significantly lower center of gravity when mounted in our world class Brownie tube than other systems.



## Breathing Air Compressor

Brownie's proprietary compressor design is the result of years of development based on a goal of perfecting a diving compressor for the marine environment. The totally oil-free design is accomplished by using sealed bearings with oxygen/breathing air compatible grease and a FDA compliant super-high temperature and oxygen compatible piston seal ring. All compressor housing, cylinder, head, connecting rod, fan cover, fasteners, valves and valve plates are constructed from marine grade stainless steel or hard coat anodized aluminum; ask and compare; no other product has these valuable features.



## Peleton™ Hose System

Borrowing from another great sport (cycling), the Peleton Hose configuration streamlines the the setup and maximizes the use of the swimming energy invested by each dive. In a system with independent hoses from the surface; each diver is essentially in a in-direct tug-o-war with each other; not to mention adding excessive hose surface area to the overall equation. The Peleton's single main hose is 60 feet long and each diver has their own 20-foot hose; enabling adequate separation of up to 40-feet. Attached to the DWC, this configuration provides surprising easy "team towing" even in moderate current conditions. Back on the surface and in the boat, Peleton also provides the added benefit of considerably less hose to manage, store and carry. The quick-release-swivel (QRS) hose connectors allow instant, tool-free connection and true swivel under pressure to facilitate set-up and ensure a better dive experience.

# Variable Speed Diving System

## Brownie's goes GREEN

Since 1969, Brownie's has forged the path of the recreational surface supplied diving industry. For more than a decade now; attempts to convert from a gasoline power source to battery alternatives have fallen short of the customers' expectation. Discipline, inspired inventing, and perseverance have once again come together at Brownie's to produce a legendary leap forward in diving technology; the Diver Demand-Variable Speed operating system.

Typical compressor systems operate at a fixed speed regardless of diver activity. Fixed speed devices release un-used compressed air thru a pop-off type valve; a considerable waste of raw energy. To date, fixed speed devices have proven to be fairly inefficient.

Diver air consumption is highly variable and intermittent; breathing pattern and depth playing the major roles. The challenge was to develop a compressor system that would respond to the divers demand, regardless of breathing rate or depth.

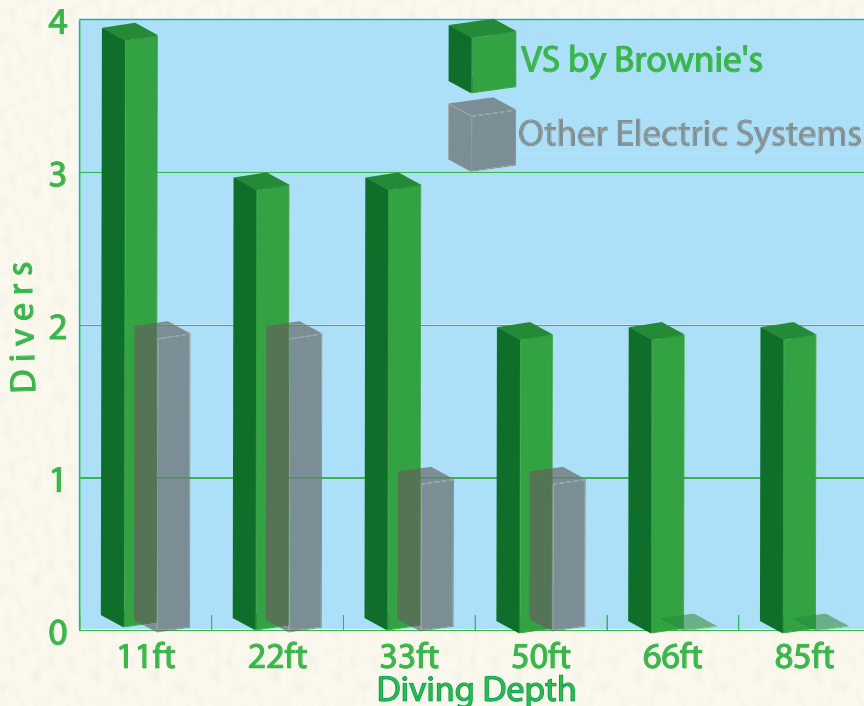
Brownies Marine Group is now proud to announce a revolutionary solution to this problem. The patent-pending VS system accelerates upon system pressure drops, slows with rise and stops upon total cessation. The programmed controller responds in a very natural and intuitive pattern to the diver's steady state or fluctuating demands; allowing Brownie's to finally Go Green.

Once again, Brownie's is raising the bar and setting the standard in the Dive Industry.



# Why Brownie's Variable Speed Diving System?

"KEYED TO DIVER DEMAND"

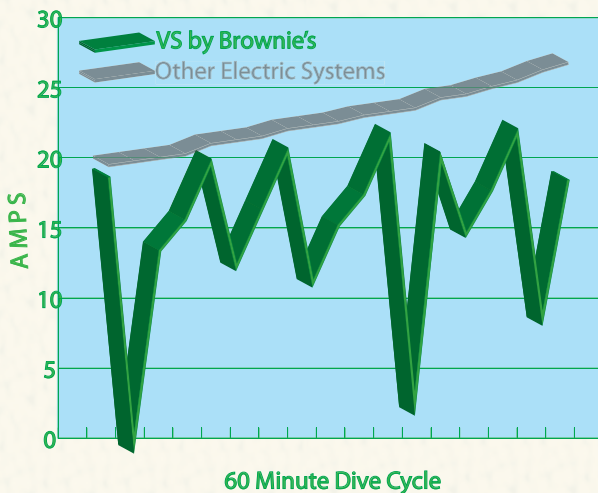


For decades Brownie's tested every viable compressor option available in an attempt to provide a floating battery powered alternative that would meet the Hooka market performance, logistics and ergonomic demands. Literally dozens of compressor/motor/battery combinations were tested. The result was generally the same; either tremendous inefficiency leading to enormous battery packs or disappointing performance.

The VS invention overcomes these historical obstacles. The compressor speed instantly responds to diver demand accelerating from 0-2700 rpm's in a matter of seconds. The VS quickly mirrors most any breathing pattern comes to a full stop during diver exhalation or time on the surface and then re-accelerates to full performance upon demand.

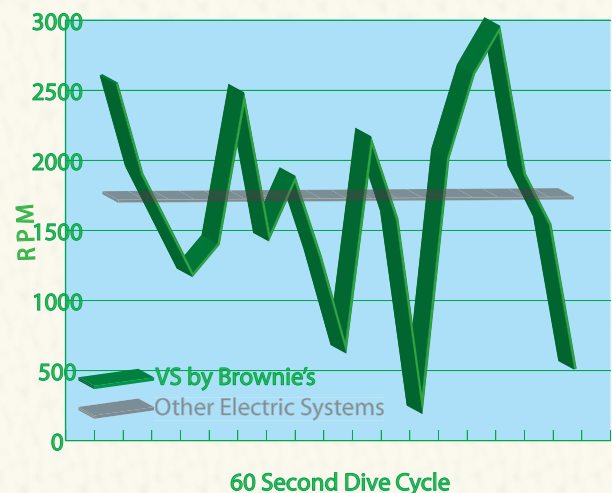
The diver performance chart speaks volumes; the data the VS is compared to is from the top competitive devices in the world.

"UNEQUALED PERFORMANCE"



The diver performance chart speaks volumes; the VS dominates the competition providing dramatically more air on demand when compared to every other system. Regardless of the depth or number of divers, the VS is clearly the NEW industry leader.

"SMART POWER USE"



Power consumption from fixed speed devices is fairly constant with a few minor exceptions.

The VS frugally manages the limited energy supply converting battery energy into compressed air at the precise rate/pressure the diver demands. The VS works only when needed maximizing battery efficiency and output.

# Hassel-free Quick Change Batteries!

*No Tools Required!*



In the early phase of development of Brownie's VS, consideration to accommodate a wide range of battery brands also spurred the analysis of a "batteries not included" business model. While simpler and potentially advantageous in the beginning, the analysis clearly demonstrated the value of maintaining control of product quality by providing the batteries.

Our research led us directly to the premier military spec battery company; Odyssey "The Extreme Battery". Odyssey batteries provide predictable values, reliable quality and a broad range of other unique features, including a 100% life-span warranty making their selection an easy decision. They can even ship their batteries by air to our dealers around the world, fully charged and ready to go...

Our second great invention incorporated into the VS is a novel Quick Change Battery system. The design focus was driven by weight feasibility, ergonomics and run-time dynamics. Since most divers prefer dives longer than 30 or 45-minutes we created a system that provides dive times over one hour and a quick and easy method for exchanging batteries for those who desire multiple dives per day. The Quick Change Battery system has even eliminated cable connectors.

The VS Quick-Change Battery system makes swapping to a fresh set of batteries, literally instantaneous; simply open the battery door lid by means of a one-finger latch pull; snatch the batteries from the fitted tray and re-insert a fresh set; shut the lid and the VS is running again. The large brass spring-loaded contacts are ingeniously hidden in the base of the lid. A marine breaker/switch is connected inline to the VS with a time-delay program keeping the system completely ignition free. No tools or connectors are required to swap the VS/QC batteries.

When back at the dock, poolside or on a vessel with 110 or 220-240 volt AC power, the optional AC Power Supply fits directly in place of the batteries and will continuously supply power to the VS.

**Brownie's Battery Gear Bags** are great to carry multiple batteries.



# Variable Speed AC Power Supply



## Quick change from battery to AC Power!



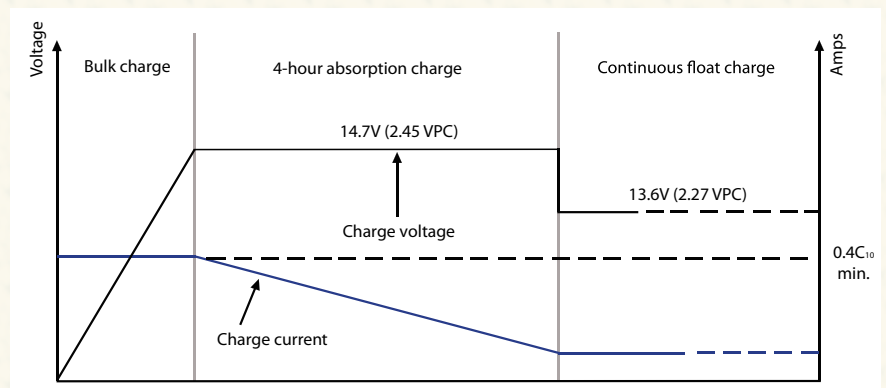
When back at the dock, poolside or on a vessel with 110 or 220-240 volt power, the optional AC Power Supply fits directly into the battery tray and will continuously operate the system as a AC powered device.



## ODYSSEY® Ultimizer™ Charger

The ODYSSEY ULTIMIZER charging system is included with each Brownie VS. The 12-amp ULTIMIZER is designed to perfectly recharge the ODYSSEY battery set at the most efficient rate. The smart charger also provides a full range of battery condition and charging information during the charge cycle and is also a constant maintenance charger.

It is designed to be left in the on position permanently without damaging the batteries or charger.



Brownie's optional "DC to DC Charging Station" is available for on-board charging directly from a boat's onboard battery bank. The Charging Station will securely store and charge a set of VS batteries from a 12 or 24-volt dc system. A voltage sensitive relay and ignition protected disconnect device are installed in the "DC-CS" making the process automatic and within marine electrical safety guidelines.

This is a great option for most center console type boats wanting to continue diving throughout the day without the need to return to a power supply. Simply keep a set of Odysseys in the charging station and keep diving. Odyssey batteries are uniquely suited to handle rapid re-charge demands.

# Egressor Mini-Scuba Systems

Included in the EX System Package

## Integrated into a compact single system!

New for 2010; our patented waist mounted Mini-Scuba system is now even more compact, affordable and streamlined. The all new and patented/integrated 3000-psi tank, on/off valve, regulator and large dial gauge design reduces failure points, parts, cost and profile.

The 6-cubic foot size is perfect for most bailout situations while the 13-cubic foot units provides ample down-time for short duration activity around the boat independent of a hookah system. Both can be re-charged from a tank fill compressor system or another SCUBA tank (with optional fill adaptor).

Center-Bottom-Mount Backup Regulator is always ready and easy to find with the included "necklace".

When purchased with a Brownie VS system (XE package), the price of each Egressor Mini-Scuba kit is greatly reduced and includes a single fill adaptor per VS-XE package at no additional charge (specify SCUBA or tank fill compressor adaptor).



## VS Diving Systems Pricing and Specifications

| Model   | Air Delivery |         | Average Dive Time Per Battery Set | DWC™, Hose, Regulator, Y-Divider and Online Training Certificates | Dry Intake/Flag and Staff, Boat Shaped Float, 60-foot main hose, Travel Cover and Gear Bag | Egressor™ Mini-Scuba Kit* | Price   |
|---------|--------------|---------|-----------------------------------|---|--|---------------------------|---------|
|         | Free-Flow    | 50-Psi  |                                   |   |  |                           |         |
| VS265XE | 6 Cfm        | 3.5 Cfm | 60-90 Minutes                     | 2   | 1  | 2                         | \$4,000 |
| VS265X  |              |         |                                   |   |  | —                         | \$3,600 |
| VS335XE |              |         |                                   | 3   |  | \$4,850                   |         |
| VS335X  |              |         |                                   | —   |  | \$3,950                   |         |

\*SCUBA certification may be required to have mini tank refilled at professional dive stores/facilities.