



BIO-ENERGY
"Powered by Nature"

Yarroch Oils
www.bebioenergy.com



Two tank Straight Vegetable Oil conversion catalogue



BIO-ENERGY
"Powered by Nature."

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Please note all prices are GST exclusive except where indicated. Prices correct as time of publishing but subject to change. Freight not included.

PRICES EFFECTIVE JAN 2012

In line electric heating

VEG-Therm Standard© and VEG-Therm MEGA© in line electric heaters

Instant heat to approx. 70°C! Electric in line heaters for all applications!

These heaters are designed specifically for heating vegetable oil, are self-regulating and require no external thermostat. The heater elements are manufactured from temperature sensing materials and automatically vary the amperage draw as needed. The MEGA heater draws a maximum of approx. 32 amps, while the Standard heater draws approx. 16 amps. In normal operation, typical amp draw is 10-20 amps. Complete with auto-resetting, sealed weatherproof circuit breaker, relay, wiring block, "P" clamps and installation instructions.

Features include;



- Instant heat, approx 70°C
- Great for providing additional heat for coolant based systems
- Ideal for heating biodiesel ahead of the fuel filter in cooler months
- Standard heater draws only half the power of the MEGA, making it ideal for "split" heating applications.

Use two in series or parallel (split) flow for larger engines, and/or combine with a VEGmax or TurboFyner coolant heated filter.

Electrical system must be adequate for the additional system load. Alternator, battery, starter, belts, glow plugs, cables and connections must be in top condition and adequate capacity. If in doubt about the capacity of your system, consult your mechanic.

- VEG-Therm MEGA \$280.00
- VEG-Therm \$240.00

Pre heat, filtration, water separator units

VEGmax 2 pre heating & filtration unit

Designed to be connected into the heater hose circuit to pre-filter, pre-heat and separate water from vegetable oil. Features include;



- Two pairs of threaded ports to allow versatile mounting
- Compact size. Will mount in a small area (10x10x25cm)
- Only 40mm height clearance required to change filter element
- Top mounted filter element, makes filter changes a breeze!
- Racor Aqua block 5 micron water-absorbing element
- Two spare coolant ports, to allow additional connections or sensors.
- Includes 1/8" NPT port to install a thermo-switch.
- Spare threaded ports to mount 3-port valves onto the filter block.
- large drain valve
- Oil resistant, "Filter Cozy" insulation cover for filter element.
- 2 x 3/8" ORB fittings and 2 x 1/2" ORB fittings included

- **VEGmax 2 - \$430.00 each**
- **Racor Aqua block filters - \$38.50 each**

*Water separators and water block type filter elements are not considered to offer full protection against all forms of water in fuel, which can damage injection pumps and injectors. They do offer secondary protection in the event of the inadvertent presence of water in fuel. For best assurance of long term success, de-water vegetable oil prior to use.

Fuel selector valves

Pollack 6 port fuel selector valve, 12V



The Pollack 6 port fuel valve is a low cost, reliable fuel selector for SVO/diesel tank selection. Only draws power momentarily while switching from one position to the other.

As small amounts of fuel/oil are sent to the opposite tank at each switching, you might consider using two 3-port solenoid valves, and a NADA controller (prevents all SVO from entering the diesel tank). However, this option is more expensive and complicated to install.

All customers have had excellent results using a single 6-port motor drive valve, and it represents excellent value for money, doing the job of two 3-port valves.

The Pollack six port valve cannot be used with the NADA Controller if you want to have the delayed-purge feature. The delayed purge feature requires two electric 3-port solenoid valves. Maximum fuel Inlet pressure is 60 PSI.

- **Pollack 6-Port Valve complete with wiring loom - \$250.00**

Illuminated 3 port valve, 12V or 24V



Good value 3 port valve with 1/2" ports. Valve body is made of aluminium and has a red internal LED that lights up when activated.

These valves can be used with the NADA controller kit to allow automatic switching to SVO, with the delayed purge feature.

These valves can be mounted in any position and are compatible with diesel, PPO, WVO, biodiesel and blends.

- **Illuminated 3 port valve, 12V or 24V - \$85.00**

Please note that only 3 port valves can be used with the NADA Controller to achieve the delayed purge feature.

Switches

Toggle DPDT (Double Pole Double Throw)



DPDT three position switch, on-off-on.
Suitable for the operation of Pollack 6-port fuel switching valves.
Includes wiring instructions and face plate.

Switch to suit 6 port valve \$39.00

ILLUMINATED switch for 3-Port Solenoid Valves - ON-OFF-PURGE



Labeled and illuminated, three position switch. Designed to power and operate one, two or three 3 port valves.

*INCLUDES WIRING DIAGRAM FOR USE WITH 3 PORT SOLENOID VALVES.

- **Three position illuminated switch \$39.00**

Individual components - thermal switches & Timers

Thermo-switch

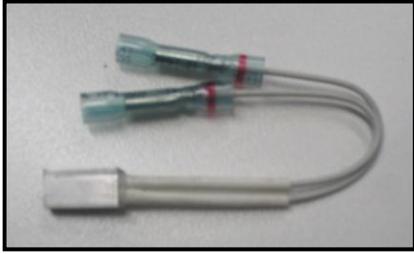


Simply Install in the engine coolant line, or into the port on the VegMax2 filter. Switch to SVO as soon as you get in the car and start the engine and the system will not change to SVO, nor turn on the VEG-Therm (if desired) until the coolant temperature reaches ~ 50 deg. C.

- **Thermo-switch \$54.00**

Only available while stocks last, replaced with UTC

Vegsensor



The Vegsensor is a thermal switch which operates in the temperature range of -65C to -90C. When installed with a VEG-Therm in line electric heater, it will only activate the heater when the temperature range is reached, eliminating the need for a separate toggle switch.

Wiring instructions included.

- Vegsensor \$25.00

Universal Temperature Controller (UTC)



The UTC is an adjustable temperature switch, which can turn devices on OR off. Temperature range is adjustable from 70°C to 115°C.

The UTC can be used as a coolant control switch to automatically change over to vegetable oil or to control the temperature of the VEG-therm in line electric heaters. The UTC requires installation into a 1/2" NPT tee fitting. Replaces Thermo-switch.

- UTC \$112.50

MFT Purge Timer



This is a microprocessor-controlled timer relay which is adjustable from seconds up to one hour. It can be used in a negative earth 12V DC or 24V DC system and will plug into a standard automotive relay base. The MFT purge timer can supply current up to 10 amps, so it can for example, control a Pollack 6 port motor drive valve, as well as controlling 3-port valves.

If controlling loads higher than 10A, use the MFT to control an external relay. "Delayed purge" is the most common application as used in the NADA Controller kit. It can also be used to have a timed function on activation, for example, such as turning on glow plugs, vegetable oil filter pre-heaters, etc for "x" seconds or minutes when the ignition is turned on.

- MFT Purge Timer - \$185.00

Vegetable oil controllers

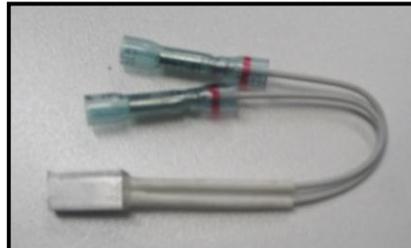
NADA Controller kit

This is a simple and low cost way to get the most important functions of more expensive controllers. The NADA vegetable oil controller automatically switches from diesel to vegetable oil when a coolant temperature of 60°C is reached, and limits the upper temperature of VEG-Therm in line electric heater to 90°C. The NADA Controller also allows for an adjustable delay-purge (time is user-determined) of one of the two 3-port valves (sold separately) to prevent any SVO from entering the diesel tank.

*The NADA Controller kit includes a Vegsensor, *Thermo-switch, programmable timer relay, Bosch type relay socket and instructions.*

NOTE: Cannot be used with a single 6-port valve if you want the delayed-purge feature. The delayed purge feature requires the use of 2 or 3 - 3-port valves. One valve is for supply, one for return, and the (optional) 3rd valve unloops the fuel supply when purging is selected.

- NADA controller kit \$260.00
- *Only while stock lasts...with UTC \$318.00



Hose, hose clamps and stainless steel fittings

Hose

Powerflex hose, 10mm (3/8")	\$7.00 per meter
Powerflex hose, 12.5mm (1/2")	\$9.50 per meter

Hose clamps, Stainless Steel

11mm to 20mm hose clamps	\$2.50 ea
22mm to 40mm hose clamps	\$2.50 ea

BSP 1/2" Hose fittings 316 Stainless steel

Hose barb, 1/2 BSP male x 1/2 hose tail, straight	\$ 6.75 ea
Hose barb, 1/2 BSP male x 3/8 hose tail, includes bush	\$ 8.10 ea
Tee, 1/2" BSP F	\$ 8.10 ea
Bush, 1/2" x 3/8" BSP M & F	\$ 4.80 ea
Nipple, 1/2" x 1/2" BSP M	\$ 4.80 ea
ORB fittings, 1/2" hose tail	\$12.00 ea

Other fittings

Brass reducing hose tail, 1/2" to 3/8"	\$12.90 ea
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Vegetable oil tanks

Universal Tanks

Universal tanks can be used to store and cart any type of liquid and are ideal for the caravan, camper and boat. Manufactured from tank grade polyethylene, makes these tanks suitable for drinking water. Also available in diesel grade.

Features include;

Quality one piece construction
Food grade polyethylene
UV resistant material
Suitable for water, waste or chemical
Standard inlet & outlet threads

Options:

Brass tank fitting from 15mm to 50mm
4" & 6" Inspection ports
Natural opaque colouring for use with some chemicals. A thread can also be tapped anywhere in the tank as required.



Breathable fuel filler cap with strainer



Chrome plated, breathable filler cap.

Comes complete with gaskets, plastic strainer and screws.

- Filler cap \$45.00

Universal Tank Chart

Tank Size / Capacity	Length	Width	Height	RRP inc GST
Uni 9 hand wash tank	170mm	140mm	450mm	\$88.00
Uni 25	545mm	365mm	150mm	\$130.90
Uni 30	600mm	300mm	200mm	\$135.30
Uni35 SL	890mm	595mm	95mm	\$154.00
Uni 50	600mm	500mm	200mm	\$181.50
Uni 50 L	1005mm	320mm	205mm	\$181.50
Uni 60 SL	890mm	595mm	145mm	\$187.00
Uni 75	800mm	500mm	220mm	\$198.00
Uni75SL	1195mm	795mm	95mm	\$198.00
Uni 80	475mm	470mm	455mm	\$198.00
Uni85 SL	890mm	595mm	195mm	\$206.80
Uni 95	595mm	495mm	375mm	\$207.90
Uni 100	720mm	510mm	290mm	\$209.00
Uni 100 L	1005mm	375mm	310mm	\$209.00
Uni 100 XL	1710mm	350mm	200mm	\$209.00
Uni 105	795mm	595mm	245mm	\$220.00
Uni 110	595mm	595mm	375mm	\$242.00
Uni 120	795 mm	595 mm	290 mm	\$264.00
Uni 125	920mm	600mm	250mm	\$286.00
Uni 135	690mm	595mm	375mm	\$297.00
Uni 150	920mm	600mm	300mm	\$308.00
Uni 160 SL	1195mm	795mm	195 mm	\$319.00
Uni 165	795mm	595mm	395mm	\$330.00
Uni180SL	1440mm	590mm	250mm	\$345.40
Uni 200 SL	1195mm	795mm	245 mm	\$352.00
Uni 200 XL	1710mm	440mm	300mm	\$352.00
Uni 210	795mm	595mm	495mm	\$374.00
Uni 250	795mm	595mm	595mm	\$440.00
Uni 295	795mm	595mm	700mm	\$495.00
Uni 340	795mm	595mm	800mm	\$550.00

Please note:

- These tanks must be supported or strapped adequately
- The measurements stated can be + or - 1%, please contact us to check if an exact measurement is needed
 - Black is for drinking water or waste, grey is for diesel
- These tanks are not suited for petrol or dangerous goods
 - Rota Moulding do not provide straps or fit the tanks.

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IMPORTANT INFORMATION and DISCLAIMER - PLEASE READ

With regards to using Straight Vegetable Oil (SVO), it is important to realise that not all fuel injection systems are compatible.

Diesel engines fitted with in line fuel injection pumps as compared to rotary fuel injection pumps, have shown the best performance on Straight Vegetable Oil as an alternative fuel.

Experience has shown that Bosch rotary fuel injection pumps will operate quite reliably on SVO, while Lucas/CAV rotary fuel injection pumps are far less tolerant of the increased viscosity of vegetable oil. The use of SVO in these fuel pumps may significantly shorten their operational life.

It is possible to overcome this problem by blending 5-20% diesel or biodiesel with the vegetable oil. However, by blending any products with vegetable oil that are defined within the excise legislation, the entire volume becomes excisable, and you will need to register with the ATO as a fuel manufacturer. To apply for a license or for more information, please call the ATO 1300 137 292

It is also important to note, that by blending a flammable or petroleum based fuel/s with vegetable oil, you are also modifying the flash point of the vegetable oil. Even though the flash point of vegetable oil is very high, blending other fuels with it may make the vegetable oil flammable.

When installing any of these components, it is important to remember they are designed to be used with straight vegetable oil, not blended edible oils containing tallow, palm, coconut, hydrogenated oils, etc. If the oil is not clear, yellow and liquid at room temperature, do not use the oil in this system without the installation of an in tank heater (to prevent the vegetable oil solidifying).

When using Waste Vegetable Oil (WVO) in a SVO system, please ensure that the oil has been settled, de-watered and filtered. It is important to remember that suspended water and poorly filtered oil will effect engine performance and/or shorten engine/fuel pump life. Alternatively, purchase used cooking oil (vegetable oil ONLY) that has been refined by a waste oil recycler. The use of a VEGmax pre heating and filtration unit, will shorten the time required for filtration, but remember if there are a lot of contaminants in the oil these will shorten the life of the 'spin on' water/fuel separator filter, which is a serviceable part of the VEGmax filter.

Also, be aware that using SVO / PPO as an alternative fuel, making any modifications or alterations to your vehicle, MAY VOID any manufacturers warranty, and/or effect your vehicle insurance policy. Please check before proceeding.

Most importantly when installing a second tank for a two tank system ensure that diesel remains in the original manufacturer's tank installed in the vehicle.

An Installation guide is included with all purchases of an in line electric heater, fuel valve and Pre heat, filtration, water separator units. Otherwise, installation manuals can be purchased separately for \$60 + GST

Payment can be made by cheque, money order or direct debit.

Prices are accurate at the time of publication, but are subject to change.

DISCLAIMER

All components are provided "fit for purpose", but if goods are found to be faulty or broken, please return them within 14 days for a full refund or exchange. This does not cover damage caused to components willfully or by neglect or by reasonable wear and tear or by poor workmanship.

No warranty is express or implied in relation to the quality of vegetable oil or fuel that may be used in conjunction with these components, nor is there any liability for any damage that may result from using these components with such vegetable oil or fuel. These components are sold to the purchaser at their own risk. This in no way effects statutory rights in relation to refunds or credit for faulty or broken goods.