



*Radiators, Intercoolers, Oil Coolers  
and Accessories*



## ABOUT PWR PERFORMANCE PRODUCTS

For three decades the Weel family have been deeply involved in manufacturing products to serve the automotive cooling industry. The PWR brand had its start in modest surroundings back in 1987 with Kees Weel manufacturing automotive radiators in a small factory on Queensland's Gold Coast in Australia. In 1996, Kees with his son Paul Weel saw an opportunity to invest in a new segment of the automotive cooling market. The demand for high quality, light weight, performance aluminium cooling products was growing and Paul Weel Radiators, better known today as PWR Performance Products, was created to fulfil this need.

The market was ready for a product that was measured by its performance, and backed up by a flexible manufacturing facility capable of designing and adapting configurations of coolers to custom specifications.

PWR is now recognised as the largest, most comprehensive high performance motorsport cooling company in the world and has become the technical partners of choice for leading race teams globally. As a specialist manufacturer of competition Radiators, Intercoolers and Oil Coolers for high end race and performance automotive applications, the PWR brand has become a prominent name in top tier Motorsport including Formula 1, NASCAR, WRC, Dakar, Australian V8 Supercar, etc.

In March 2015, PWR acquired US based C&R Racing to strategically expand its footprint and gain further traction in the US. In November 2015, PWR listed on the Australian Stock Exchange (ASX) under the code PWH.

## PWR CAPABILITY

PWR Performance Products is headquartered in South East Queensland Australia and exports around the world. The state of the art manufacturing plant with a controlled atmosphere braze furnace, large CNC machine shop, R&D and design department, large fabrication capabilities and an in-house wind tunnel allows PWR to be the market leader in cooling research and development with a dedicated focus on competition cooling solutions

Every aspect of the manufacturing process is controlled completely within its own facility, which enables PWR to offer its global customers quick turn around and the unique opportunity to customise products to suit customer's specific vehicle needs. PWR can assist individual race teams or vehicle manufacturers in the design process and selection of the most suitable core design to enhance the desired characteristics by referencing variable configuration data obtained from in-house testing.

PWR does not just sell customers a product but partners with them to develop cooling solutions where the customer can use PWR's engineering department and manufacturing facilities to purpose build the right solution. It does not matter if you are buying a standard fit product or a highly customised cooling solution, the full resources of PWR technology are behind it.



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**PWR Performance Products Pty Ltd**  
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## WIND TUNNEL

Our wind tunnel testing facility enables us to maintain leading edge development. The wind tunnel is nearly 30 metres long and more than 2 metres wide at the widest point and can test coolers up to 1 meter square in face area. It can test virtually all cooling systems including water radiators, engine oil coolers, transmission oil coolers, intercoolers and more.

PWR designed and built the complete facility with the help of leading race teams from around the world. The wind tunnel test facility allows different core configurations to be tested, giving PWR a distinct competitive advantage in product development. The facility also allows for rapid prototyping to be tested and provides the adaptability required to promptly serve our customers.

PWR's engineers are able to fine-tune the performance characteristics of each product for its exact purpose. The wind tunnel facility is used to vary air velocity and pressure, air, water and oil temperatures and coolant flow rate. The wind tunnel allows real world conditions of heat transfer, coolant pressure drop and airside pressure drop to be simulated and monitored, ensuring nothing is left to chance in achieving the optimal result for the required circumstances.

Data includes Heat Rejection, Dissipation Coefficients and Air and Liquid side pressure drops for a wide range of data points from each sample test. Mass flows of all fluids are accurately adjusted and monitored to provide test conditions for each desired data point, while ambient conditions of temperature, pressure and relative humidity are all logged.

More importantly, the wind tunnel also allows for 'in series' testing of multiple cooling components (e.g. the testing of an oil cooler in front of a radiator) in order to best replicate real world scenarios. A number of race teams from around the world have already used our wind tunnel to test their existing cores. They use our technology to build and test better cores in their quest for the winning edge. Continual improvement of PWR products benefits our technical partners and customers alike. Performance and reliability are critical to the success of any race team at the highest level.

# TERMINOLOGY

## HEAT EXCHANGER

Transfers heat into another liquid or into air. A radiator, oil cooler, oil to water cooler, liquid to liquid cooler, intercooler, charge air cooler, etc. are all heat exchangers.

## IN-MANIFOLD INTERCOOLER

An in-manifold cooler that uses coolant circulated from a pump through a dedicated low temperature radiator (LTR) to cool the charge air from a supercharger or, in some cases, a turbocharger.

## LOW TEMPERATURE RADIATOR (LTR)

A water radiator used to cool the in-manifold intercooler. Low temperature radiators typically use an electric pump to circulate the coolant through the LTR and intercooler.

## INTERCOOLER / CHARGE AIR COOLER (CAC)

An air-to-air or water-to-air heat exchanger used to cool the compressed air from a turbocharger or supercharger.



# EXTRUDED TUBE CORE TECHNOLOGY

Newly introduced by PWR is an all new extruded tube aluminum radiator which features a reinforced race fin design. PWR takes what we learn at the track and applies it to street applications, providing high performance, track-proven technology that you can bolt into your street driven muscle car.

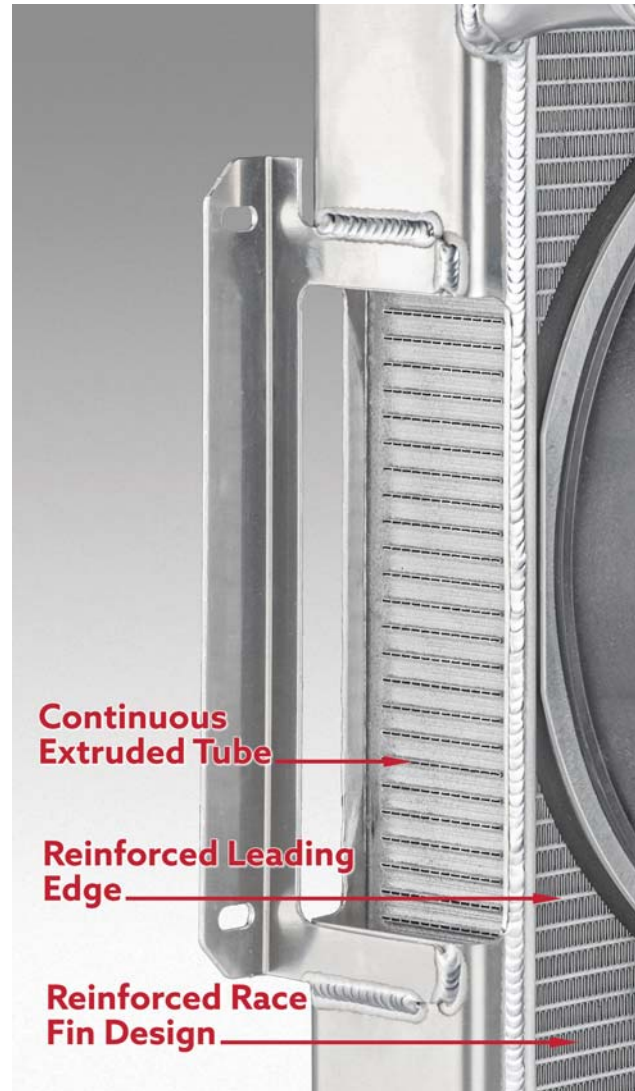
The reinforced race fin design, exclusive to PWR, is cross-braced for durability and strength, and has a unique shape and hemmed forward edge for added cooling and durability.

While many current aluminum radiators have a pair of one-inch tubes, the extruded tube design of the new PWR technology has up to a dozen tubes in each row. Ballooning is no longer an issue with this new design.

The fins on a typical radiator are very thin, and even the force of the wind can fold them over. When this happens, the fins can block much of the needed air flow. By folding over the forward edge of the fin we have made it stronger than a typical radiator fin. Combine that with the extruded tube design and overall strength and performance is increased.

The reinforced extruded tube provides another unique feature: it allows PWR's aluminum radiators to have a 100 PSI burst rating, which is about three times the burst pressure of standard performance aluminum radiators. The radiators are fixture welded during assembly to increase torsional rigidity, with added support at all four corners.

With a typical radiator, the tubes are up to an inch wide, and with the higher pressures in today's engines it's possible to get some ballooning of those tubes. As the tubes balloon, the gap between each row of tubes becomes smaller, and with a smaller area between the tubes, air flow is restricted and your temperature begins to rise.



This is one of the reasons why a new radiator will cool more efficiently than an older radiator. As time, heat, and pressures increase, so does the shape of the tubes; and with less air flow through the radiator core you'll begin to see a rise in operating temperatures. This new extruded design from PWR allows the tubes to retain their original shape, and combined with the hemmed forward edge of the fins air flow remains unobstructed.

The fabricated tanks are engineered to replicate the shape of the OE radiator, with mounting tabs to locate the radiators and fans in the factory location. Pricing on this new design is similar to the pricing of a standard performance aluminium radiator.

# RADIATOR GUIDE



## SINGLE PASS RADIATORS

With a single pass core, coolant enters into either tank and makes one pass through the core then exits into the other tank.



## DOUBLE PASS RADIATORS

In a double pass, the inlet and outlet are located in the same tank. There is an internal baffle that separates the two tanks. Hot coolant enters into, and is routed through, 1/2 of the core and then it is routed into the other 1/2 of the core before returning to the other section of the tank. Double passing is used for efficient packaging of the cooling system.



## OPEN SYSTEM

An "open" system means the radiator has a radiator filler neck and cap built into it.

## CLOSED SYSTEM

A "closed" system means the radiator does not have a radiator filler neck and cap on it and likely uses a remote expansion tank for filling. "Closed" systems are typically used when the radiator is not the highest point in the coolant system.



## CROSS FLOW

Coolant enters a cross flow radiator on the side tank and then flows across to the other tank.



## DOWN FLOW

A down flow radiator has upper and lower tanks. The coolant flows into the upper tank and down to the lower tank.

# AFTERMARKET RADIATORS

When it comes to keeping cool in the Australian climate, PWR offer a large range of aftermarket performance replacement radiators to suit the popular makes and models. From Ford to Holden, Nissan to Toyota, PWR supply a high quality cooling package upgrade to suit your vehicle. Call PWR today to find out what upgrades are available for your vehicle.

## NISSAN GU PATROL

The Nissan GU Patrol radiator is a popular upgrade for 4WD enthusiasts. This radiator is manufactured using 2 rows of 26mm dimple tube and allows for the OE shroud to be fitted. Fitment of this unit requires no major modification, utilising all original mounting positions. Available in both manual and automatic versions with the in-tank auto cooler option if required.



**PWR0381**

**Nissan GU Patrol 4.2 Turbo Diesel (wide version)**



**PWR0784**

**Toyota Landcruiser 100 / 105 Series (short version)**

## TOYOTA LANDCRUISER

PWR offer performance cooling upgrades to suit the iconic Toyota Landcruiser. This design is manufactured using 2 rows of 26mm dimple tubing allowing for the heat to be transferred out of the water much more efficiently than the standard unit. This design utilises the OE mounting brackets to be used along with the OE shroud. If it's a trailer or a camper you're towing this radiator is a must-have.

## 2015 & 2016 MUSTANG GT RADIATOR

Looking for the best cooling possible? PWR introduces a high performance replacement radiator for the 2015 and 2016 Mustang GT. PWR offer this design in both 42mm and 55mm versions. CNC machined hardware paired with water jetted brackets allow the factory fan and A/C condenser to bolt in the same as factory, without further modifications to your car.



**PWR62423 55mm core design**

**PWR62089 42mm core design**

**Mustang GT Radiator**



# COOLING PACKAGE OPTIONS



**Built in drain plug**



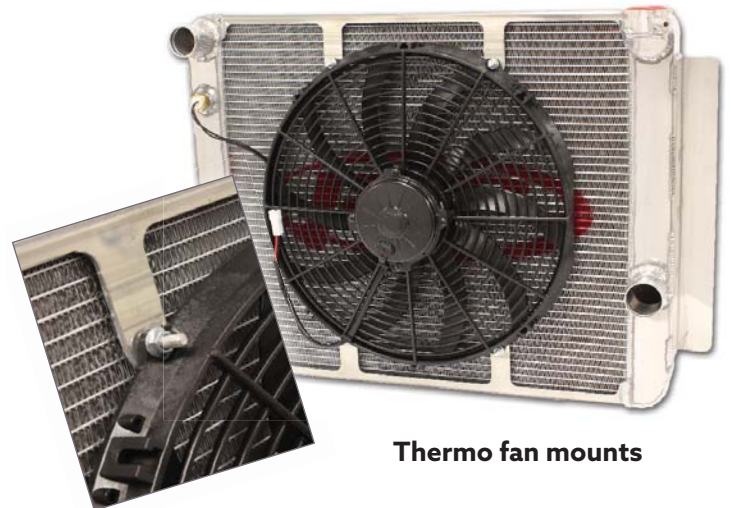
**Built in temperature sender boss**



**Engine oil or Transmission oil coolers can be mounted to the front side of the core**



**Aluminium fan shroud to suit single or dual fan setup**



**Thermo fan mounts**



**Standard finish**

**Smooth finish**

## **Ground Weld Option**

If you want the ultimate smooth finish you can have PWR grind all the welds smooth and polish the tanks to a high quality finish.

# DIRT TRACK COOLING

Drivers like Jamie Veal, Robbie Farr and James McFadden rely on PWR Sprintcar Radiators for quality and performance. The complete aluminium design are the lightest and most efficient sprintcar radiators on the market.

The cores are manufactured in Australia and utilise the latest in core technology. PWR offer a range of core thickness options to suit your engine and heights to suit your chassis panels. Available in aluminum finish or Black Stealth option as shown.



**PWR uses the 42mm single tube core with a height of 460mm, width of 515mm, 4x -10 AN female port inlets and 1-1/2" bottom outlet. The Billet filler neck and hardline overflow tube complete this design.**

Part #	Description	Core Size
PWR004	Sprintcar Radiator, 560mm high x 515mm wide 1-1/2" outlet	26mm
PWR1966	Sprintcar Radiator, 560mm high x 515mm wide 1-1/2" outlet, suit non alloy engine	55mm
PWR2283	Sprintcar Radiator, 560mm high x 515mm wide 1-1/2" outlet	42mm
PWR55436	Sprintcar Radiator, 460mm high x 515mm wide "short style", extruded tube, 1-1/2" outlet with quick fill option and hardline overflow	42mm
PWR57043	Sprintcar Radiator, 460mm high x 515mm wide "short style" 1-1/2" outlet, hardline overflow tube	42mm
PWR5713	Sprintcar Radiator, 360mm high x 515mm wide "crossflow" 1-1/2" outlet, tall filler neck, hardline overflow	42mm
PWR58831	Sprintcar Radiator, 560mm high x 515mm wide as per C&R design #2020225010, hardline overflow	42mm
PWR59123	Sprintcar Radiator, 410mm high x 520mm wide "Crossflow" 1-1/2" outlet as per C&R Design # 2020201750, hardline overflow	42mm
PWR6452	Sprintcar Radiator, 450mm high x 520mm wide "Cross flow" 1-1/2" outlet, hardline overflow suit Maxim Chassis	42mm
PWR6878	Sprintcar Radiator, 560mm high x 515mm wide 40mm bottom outlet, suit V6 Holden Engine	42mm

*All items are available in black at an additional cost*

# CUSTOM COOLING



## FORMULA 1

With the highest demands in worldwide racing, PWR currently supply the cooling package for multiple F1 teams including Red Bull Racing Championship winning team.



## CURVED RADIATOR

Depending on the application, we will design a cooling package with the optimum tube size, tube style, tube spacing, pressure rating and fin-density to get the most cooling for the available water and air flow.

# CUSTOM ENGINEERED COOLING SOLUTIONS

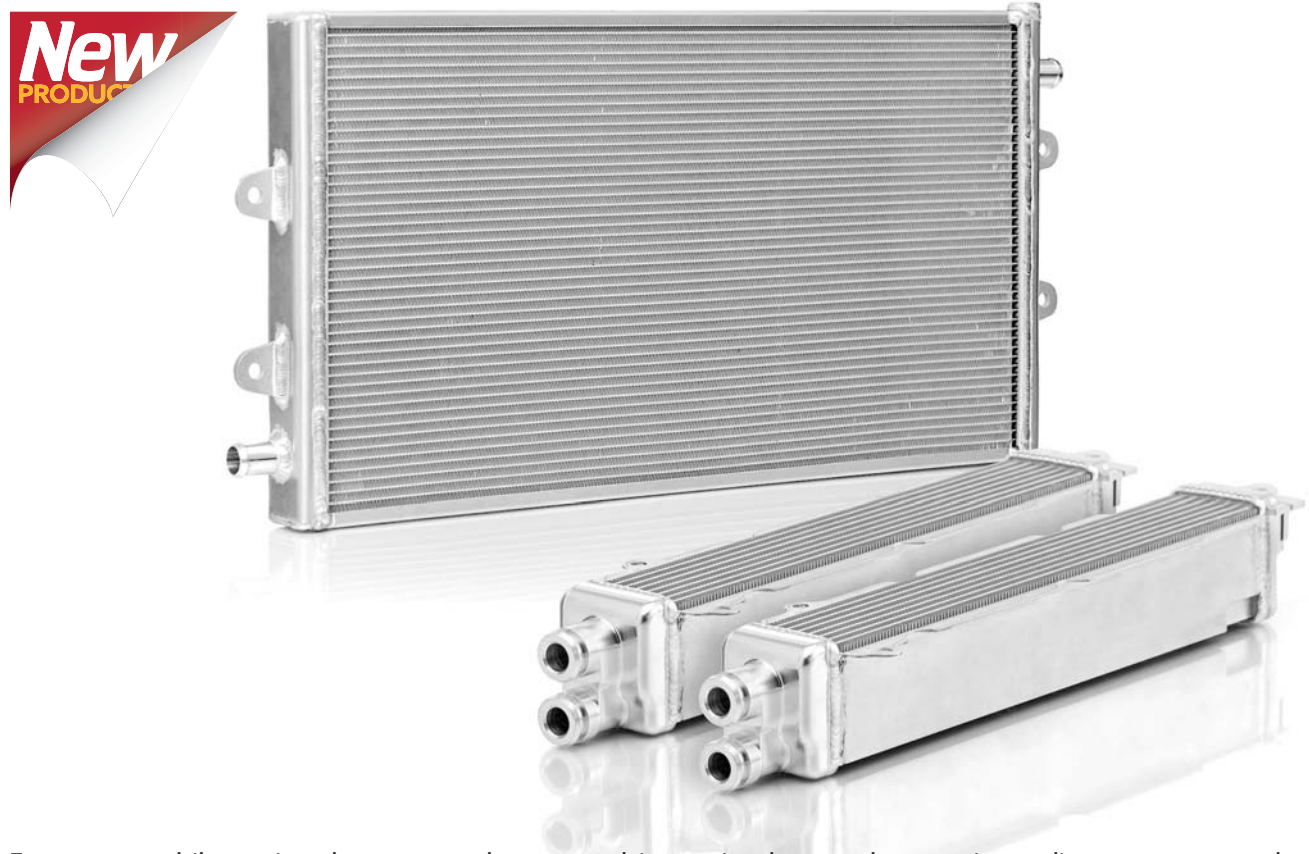


We start with a drawing that takes into account your specific needs for your custom-built part whether it is a radiator, a radiator module or another part of the cooling system. After your approval of the drawing we will build your part according to those specifications, test the part and ship it to you in “state of the art” packaging to ensure damage-free transportation. We use our “World Class” experience to guarantee your performance.

PWR have an easy to fill out PDF form on our website <http://www.pwr.com.au/wp-content/uploads/PWR-Drawing-Details-Form.pdf>

Once you have completed this form you can upload the PDF in the area provided at the bottom of the web page and we will call you to complete your custom needs.

# COOLING THE INTAKE AIR IN A SUPERCHARGED OR TURBOCHARGED ENGINE



Every automobile engine that uses coolant to cool its engine has used an engine radiator to manage the temperature of its engine coolant since Wilhelm Maybach invented the very first radiator in 1902. With the advent of the supercharged and turbocharged engines from the OEM auto manufacturers has come the need for a second cooling system.

The second cooling system is designed to cool the intake air temperature as it enters the engine from the supercharger. Cooler air is denser air which means that more oxygen can be contained in a specific volume of air which, when mixed with fuel, leads to a denser air/fuel mixture that can be ignited and thus more power output.

In a typical system, incoming air passes through a charge air cooler, also known as a “brick,” before entering the intake manifold. The Charge Air Cooler cools the passing air by means of coolant passing through its tubes while the air destined for the intake manifold is flowing over the tubes. All of this is done to achieve the coolest intake air possible which results in the maximum horsepower output possible for that engine.

The coolant that runs through the Charge Air Cooler is run through a low temperature radiator, more commonly known as a heat exchanger. The most common system uses two cooling devices and a continuous water loop that is driven by an electric water pump. This cooling loop is separate from the water loop that circulates the engine’s coolant.

PWR Performance is proud to offer the latest in heat exchanger technology no matter whether it is an off-the-shelf model or a one-of-a kind custom build to fit your exact needs.

# INTERCOOLERS



**PWR64898BK**

**Mitsubishi Triton Intercooler and Pipe Kit  
Black Coated option shown**

## INTERCOOLER

PWR intercoolers are manufactured using an extruded square face tube which have an integrated internal fin design which improves heat transfer and results in less pressure drop across the core. This allows for high flow and reduced lag time. PWR intercoolers are individually hand manufactured in Australia and can be custom designed to suit your requirements or if it's a replacement cooler you're after, one of our aftermarket upgrade designs are available.

### **PWR Air to Air Features:**

- Low restriction internal turbulator
- Core thickness configurations up to 159mm thick
- Flexibility of custom designs
- World class Tig welding
- Controlled atmosphere brazing process
- Race and street proven performance
- Pressure tested and guaranteed

## AERO 2 INTERCOOLERS

The Aero intercooler range uses the high flow core with a high grade polished cast tank. The coolers are fitted with M8 mounting bosses top and bottom for easy installation. The manufactured universal style intercooler is available in a range of sizes as listed below.



**PWI5579**

**Aero 2 Intercooler, core size  
500 x 300 x 68mm 3" outlets**

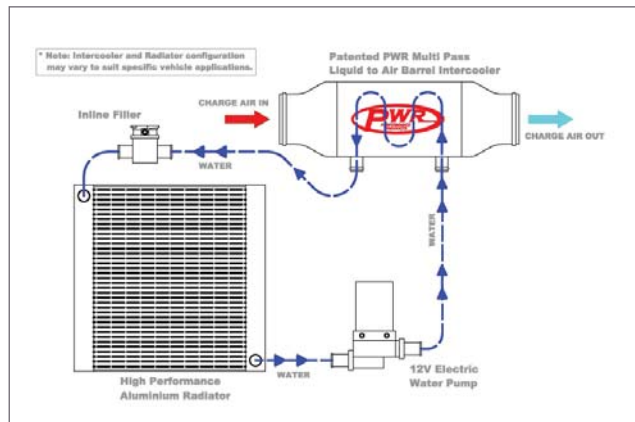
Part #	Description	Core Size
PWI5426	Aero2 Intercooler, core size 300 x 196 x 68mm 2.5" outlets	68mm
PWI5760	Aero2 Intercooler, core size 300 x 196 x 68mm 2.5" centre outlets	68mm
PWI5577	Aero2 Intercooler, core size 300 x 300 x 68mm 2.5" outlets	68mm
PWI5653	Aero2 Intercooler, core size 300 x 300 x 68mm 2.5" bottom outlets	68mm
PWI5581	Aero2 Intercooler, core size 300 x 300 x 68mm 3" outlets	68mm
PWI5772	Aero2 Intercooler, core size 400 x 196 x 68mm 2.5" centre outlets	68mm
PWI5819	Aero2 Intercooler, core size 400 x 196 x 68mm 2.5" bottom outlets	68mm
PWI5427	Aero2 Intercooler, core size 400 x 198 x 68mm 2.5" outlets	68mm
PWI5576	Aero2 Intercooler, core size 400 x 300 x 68mm 2.5" outlets	68mm
PWI5654	Aero2 Intercooler, core size 400 x 300 x 68mm 2.5" bottom outlets	68mm
PWI5580	Aero2 Intercooler, core size 400 x 300 x 68mm 3" outlets	68mm
PWI5428	Aero2 Intercooler, core size 500 x 196 x 68mm 2.5" outlets	68mm
PWI5828	Aero2 Intercooler, core size 500 x 196 x 68mm 2.5" centre outlets	68mm
PWI5575	Aero2 Intercooler, core size 500 x 300 x 68mm 2.5" outlets	68mm
PWI5575-1	Aero2 Intercooler, core size 500 x 300 x 68mm 2.5" outlets, incl mounts to suit dual 10" Spal fans	68mm
PWI5655	Aero2 Intercooler, core size 500 x 300 x 68mm 2.5" bottom outlets	68mm
PWI5579	Aero2 Intercooler, core size 500 x 300 x 68mm 3" outlets	68mm
PWI5429	Aero2 Intercooler, core size 600 x 196 x 68mm 2.5" outlets	68mm
PWI5429UD	Aero2 Intercooler, core size 600 x 196 x 68mm 2.5" bottom outlets	68mm
PWI5893	Aero2 Intercooler, core size 600 x 196 x 68mm 2.5" centre outlets	68mm
PWI5574	Aero2 Intercooler, core size 600 x 300 x 68mm 2.5" outlets	68mm
PWI5578	Aero2 Intercooler, core size 600 x 300 x 68mm 2.5" outlets	68mm
PWI5656	Aero2 Intercooler, core size 600 x 300 x 68mm 2.5" bottom outlets	68mm
PWI5578-10	Aero2 Intercooler, core size 600 x 300 x 68mm 3" outlets, incl mounts to suit dual 11" Spal fans	68mm
PWI5813	Aero2 Intercooler, core size 600 x 300 x 81mm 3" outlets, sheet tanks	81mm

# WATER TO AIR INTERCOOLER KITS

## BARREL INTERCOOLER KITS

Our Liquid-to-Air Barrel Intercooler is a world's first exclusive in its design. The radical cylindrical shape was designed for race, drag and street applications. It provides maximum cooling, airflow and performance efficiencies. A 12-volt electric pump circulates water throughout the barrel providing a stable outlet temperature while the unique internal baffle system and cooling fins ensure an even amount of cooling is provided within the barrel itself. The Barrel Intercooler requires no ambient (external) airflow and is used in conjunction with a supporting high performance radiator and thermo fan assembly. This enables the Intercooler unit to be mounted as close to the manifold as possible, reducing turbo lag and providing maximum performance.

All barrel sizes are available individually if a kit is not required.



**PWR5216**

**4" x 6" Barrel 2.25" outlets, 19mm water outlets**

### KIT INCLUDES

- 1x Barrel Cooler
- 1x Heat Exchanger
- 1x Thermo Fan
- 1x Inline Filler
- 1x Small Cap - Lever Style
- 1x 12v Inline Pump

Part #	Description	Outlet Size
PWR5216	Barrel Kit 4"x 6" Intercooler System	2.25"
PWR5217	Barrel Kit 4"x 8" Intercooler System	2.25"
PWR5218	Barrel Kit 4"x 10" Intercooler System	2.25"
PWR5904	Barrel Kit 5"x 6" Intercooler System	2.5"
PWR5905	Barrel Kit 5"x 8" Intercooler System	2.5"
PWR5906	Barrel Kit 5"x 10" Intercooler System	2.5"
PWR5911	Barrel Kit 6"x 6" Intercooler System	3.0"
PWR5219	Barrel Kit 6"x 8" Intercooler System	3.0"
PWR5220	Barrel Kit 6"x 10" Intercooler System	3.0"
PWR5221	Barrel Kit 8"x 8" Intercooler System	4.0"
PWR5222	Barrel Kit 8"x 10" Intercooler System	4.0"





**PWI5556**

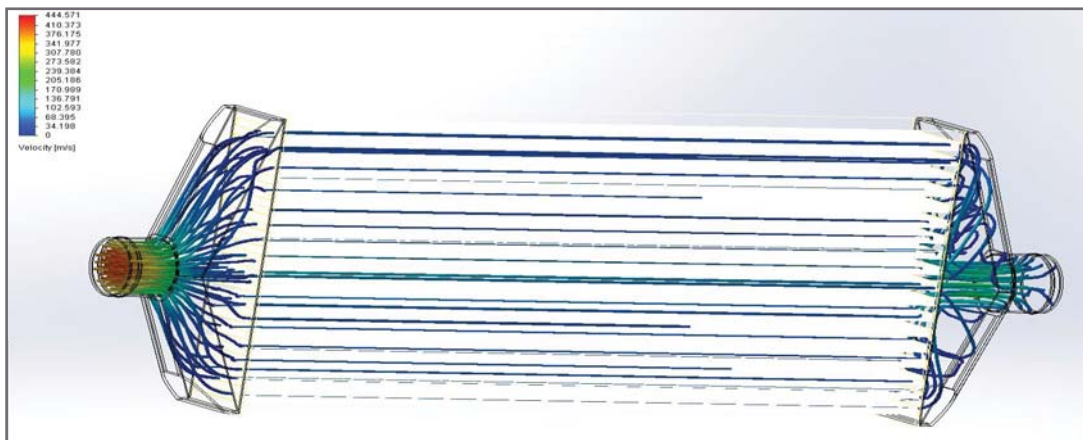
**Drag Ice Barrel 8" x 12" x 4" outlets**

## **ICE BARREL INTERCOOLER DRAG APPLICATIONS**

Our new Ice Barrel Intercooler uses PWR's revolutionary, seamless folded leading edge tube design with an internal fin which incorporates a straight through design, improving heat transfer for less pressure drop. It utilizes a unique, straight through tube arrangement like the "Liquid-to-Air" Barrel design. However, the "Ice Barrel" is designed to specifically run dry ice. It incorporates a wide tube pitch, a finless ice compartment, sealed access lid and CO2 breather fitting and drain plug to give this unit a unique design.

## **LIGHT WEIGHT INTERCOOLERS**

PWR has your weight reduction covered with its light weight intercooler option used in a wide range of race applications worldwide. This unique style of core design can see weight savings of up to 50% or more. The light weight intercoolers are designed to ensure strength and efficiency are not sacrificed when a custom race cooler is required.



# 4WD INTERCOOLER KITS FORD RANGER



**PWI53860K**

Part #	Description	Finish
PWA62593	PWR Intercooler Pipe Kit, Ford Ranger PX and Mazda BT50 3.2L Diesel, suits 2012 onwards 68mm core	Polish
PWA62593B	PWR Intercooler Pipe Kit, Ford Ranger PX and Mazda BT50 3.2L Diesel, suits 2012 onwards 68mm core	Black
PWI53860	PWR Intercooler only, Ford Ranger PX and Mazda BT50 2.2L / 3.2L Diesel, suits 2012 onwards 68mm core	Polish
PWI53860B	PWR Intercooler only, Ford Ranger PX and Mazda BT50 2.2L / 3.2L Diesel, suits 2012 onwards 68mm core	Black
PWI53860BK	PWR Intercooler & Pipe Kit, Ford Ranger PX and Mazda BT50 3.2L Diesel, suits 2012 onwards 68mm core	Black
PWI53860K	PWR Intercooler & Pipe Kit, Ford Ranger PX and Mazda BT50 3.2L Diesel, suits 2012 onwards 68mm core	Polish

# HOLDEN COLORADO



Part #	Description	Finish
PWA64553	PWR Intercooler Pipe Kit, Holden Colorado RG 2.8L Diesel, suits 2012-2013 models	Polish
PWA64553B	PWR Intercooler Pipe Kit, Holden Colorado RG 2.8L Diesel, suits 2012-2013 models	Black
PWA65085	PWR Intercooler Pipe Kit, Holden Colorado RG 2.8L Diesel, suits 2014-2016 models	Polish
PWA65085B	PWR Intercooler Pipe Kit, Holden Colorado RG 2.8L Diesel, suits 2014-2016 models	Black
PWI64552	PWR Intercooler Only, Holden Colorado RG 2.8L Diesel, suits 2012-2016 models, 55mm core	Polish
PWI64552B	PWR Intercooler Only, Holden Colorado RG 2.8L Diesel, suits 2012-2016 models, 55mm core	Black
PWI64552BK	PWR Intercooler & Pipe Kit, Holden Colorado RG 2.8L Diesel, suits 2014-2016 models, 55mm core	Black
PWI64452K	PWR Intercooler & Pipe Kit, Holden Colorado RG 2.8 Diesel, suits 2014-2016 models, 55mm core	Polish
PWI66175BK	PWR Intercooler & Pipe Kit, Holden Colorado RG 2.8 Diesel, suits 2012-2013 models, 55mm core	Black
PWI66175K	PWR Intercooler & Pipe Kit, Holden Colorado RG 2.8L Diesel, suits 2012-2013 models, 55mm core	Polish

# NISSAN NAVARA

**NISSAN NAVARA**  
**HI-PERFORMANCE INTERCOOLER KIT**

Imagine where extra power could take you. Boost your Nissan Navara with PWR's race-winning expertise and intercooler kit. A simple 3 hour installation followed by a tune will increase engine torque and fuel economy.

This complete intercooler relocation kit features improved air flow over the factory standard intercooler for improved engine performance. Its raised position prevents the core from damage during off-road use.

To prevent the expansion of the hoses under boost, PWR's kit features mandrel bent, aluminum piping, matched with PWR's signature CNC-machined ribbed outlets and high quality 5 ply silicone hoses.

Designed and manufactured in Australia by PWR. Order yours today!

**MADE IN AUSTRALIA**

**NAVARA INTERCOOLER KIT**  
**477 Nm** **119kW**  
WHEN COMBINED WITH  
CHIP/TUNING AT REAR WHEEL.

PWR - USED BY THE WORLD'S WINNING TEAMS  
Formula 1 - NASCAR - V8 Supercar



RIBBED BILLET OUTLET  
PREVENTS HOSE BLOW-OFF.

**PWI65094K**

Part #	Description	Finish
PWA65095	PWR Intercooler Pipe Kit only, Nissan Navara D23 NP300	Polish
PWA65095B	PWR Intercooler Pipe Kit only, Nissan Navara D23 NP300	Black
PWI65094	PWR Intercooler only, Nissan Navara D23 NP300, 68mm core	Polish
PWI65094B	PWR Intercooler only, Nissan Navara D23 NP300, 68mm core	Black
PWI65094BK	PWR Intercooler & Pipe Kit, Nissan Navara D23 NP300, 68mm core	Black
PWI65094K	PWR Intercooler & Pipe Kit, Nissan Navara D23 NP300, 68mm core	Polish

# MITSUBISHI TRITON



**PWI64898K**

Part #	Description	Finish
PWA64899	PWR Intercooler Pipe Kit only, Mitsubishi Triton MQ, suit 2016 model	Polish
PWA64899B	PWR Intercooler Pipe Kit only, Mitsubishi Triton MQ, suit 2016 model	Black
PWI64898	PWR Intercooler only, Mitsubishi Triton MQ, suit 2015 onwards, 55mm core	Polish
PWI64898B	PWR Intercooler only, Mitsubishi Triton MQ, suit 2015 onwards, 55mm core	Black
PWI64898BK	PWR Intercooler & Pipe Kit, Mitsubishi Triton MQ, suit 2015 onwards, 55mm core	Black
PWI64898K	PWR Intercooler & Pipe Kit, Mitsubishi Triton MQ, suit 2015 onwards, 55mm core	Polish

# VW AMAROK



**PWI63123K**

RIBBED BILLET OUTLET  
PREVENTS HOSE BLOW-OFF.

Part #	Description	Finish
PWA64398	PWR Intercooler Pipe Kit, VW Amarok 2.0L, suit 2012-2017 models	Polish
PWA64398B	PWR Intercooler Pipe Kit, VW Amarok 2.0L, suit 2012-2017 models	Black
PWI63123	PWR Intercooler only, VW Amarok 2.0L, suit 2012-2017 models, 42mm core	Polish
PWI63123B	PWR Intercooler & Pipe Kit, VW Amarok 2.0L, suit 2012-2017 models, 42mm core	Black
PWI63123BK	PWR Intercooler & Pipe Kit, VW Amarok 2.0L, suit 2012-2017 models, 42mm core	Black
PWI63123K	PWR Intercooler & Pipe Kit, VW Amarok 2.0L, suit 2012-2017 models, 42mm core	Polish

# TOYOTA HILUX



**PWI66777K**

Part #	Description	Finish
PWA66253	PWR Intercooler Pipe Kit only, Toyota Hilux 2.8L Diesel, suit 2015 onwards	Polish
PWA66253B	PWR Intercooler Pipe Kit only, Toyota Hilux 2.8L Diesel, suit 2015 onwards	Black
PWA166777	PWR Intercooler only, Toyota Hilux 2.8L Diesel, suit 2015 onwards, 55mm/42mm stepped core	Polish
PWI66777B	PWR Intercooler only, Toyota Hilux 2.8L Diesel, suit 2015 onwards, 55mm/42mm stepped core	Black
PWI66777BK	PWR Intercooler & Pipe Kit, Toyota Hilux 2.8L Diesel, suit 2015 onwards, 55mm/42mm stepped core	Black
PWI66777K	PWR Intercooler & Pipe Kit, Toyota Hilux 2.8L Diesel, suit 2015 onwards, 55mm/42mm stepped core	Polish

# RADIATOR CAPS

PWR offers a variety of Stant radiator caps. High-pressure caps allow hot coolant protection without the loss of water which results in less overheating problems. High-pressure caps are recommended for all high performance applications and are available in several PSI ranges.



**PWR Large Filler Cap Cover**  
Available to suit small or large cap



**PWA75120**  
**Billet Aluminium Cap**



**10330**  
**Radiator Cap**  
**Large 16 PSI**

## Large Cap

Part #	Description
10230	Radiator Cap Large 16 PSI No Lever
10330	Radiator Cap Large 16 PSI Closed Valve with Lever
10382	Radiator Cap Large 22 PSI Closed Valve with Lever
10391	Radiator Cap Large 18-22 PSI No Lever
10392	Radiator Cap Large 21-25 PSI No Lever
10393	Radiator Cap Large 28-32 PSI No Lever
PWA17271	PWR Large billet cap cover - Red
PWA75120	Billet Alum Radiator Cap 16 PSI Polished smooth finish
PWA75120B	Billet Alum Radiator Cap 16 PSI Black anodised finish

## Small Cap

Part #	Description
10233	Radiator Cap Small 16 PSI No Lever
10333	Radiator Cap Small 16 PSI Closed Valve with Lever
10361	Radiator Cap Small 19-21 PSI No Lever
10362	Radiator Cap Small 22-24 PSI No Lever
10363	Radiator Cap Small 28-32 PSI No Lever
PWA17274	PWR Small billet cap cover - Red

# BILLET FILLER NECKS

Part #	Description
PWASMLBILLET	Billet Filler Neck Small
PWALGEBILLET	Billet Filler Neck Large





# AIR TO OIL COOLERS

## EXTRUDED TUBE CORE

PWR Air to Oil Coolers are for racing and high performance street applications. If you are at the track racing your street car and need more cooling, PWR can tailor a cooler to your application. We use furnace-brazed, extruded tube cores for cooling efficiency and elevated operating pressures.



**PWO1061**

**Mazda Rotary Oil Cooler  
shown with -10AN outlets**

## INTERNAL TURB CORE

For maximum oil cooling PWR offer the internal turbulator core design for race and high performance applications. This unique design can be custom made to suit your specific requirements. The internal fin design ensures heat is distributed evenly across each tube providing maximum efficiency.



**PWO53809**

**Universal Oil Cooler**

# IN-LINE ENGINE OIL COOLER RACE SERIES

If you're looking for the ultimate cooling efficiency, this is the latest in water to oil cooling technology to maximise your results. The thermal efficiency has been proven in race conditions worldwide along with high performance street applications when plumbed in to the cooler side water outlet of the radiator system.

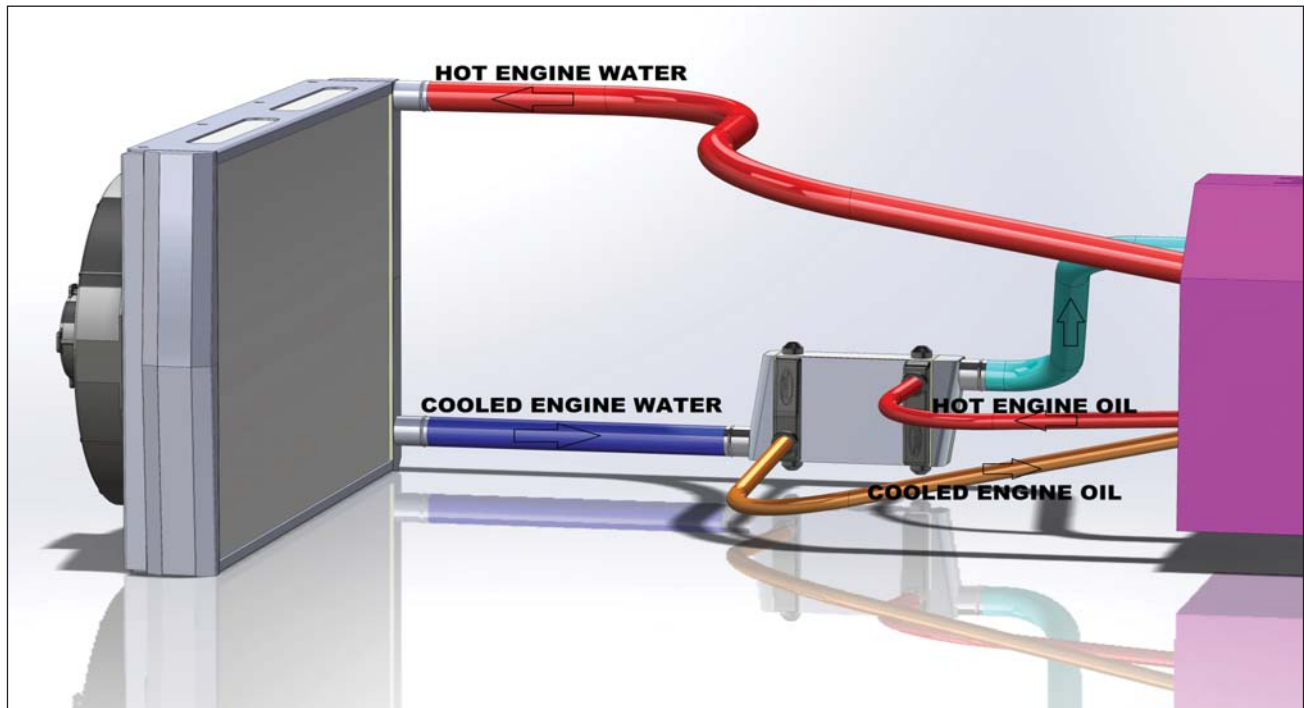
This innovative design provides maximum liquid to surface area contact on both water and oil sides but yet proves to be a high flowing unit to ensure minimal pressure drop in each of the fluid systems.



**PWH55126**

**In-Line Race Series Oil to Water  
Heat Exchanger 68mm core**

Part #	Description
PWH55124	In-Line Race series Oil to Water Heat Exchanger 42mm core
PWH55125	In-Line Race series Oil to Water Heat Exchanger 55mm core
PWH55126	In-Line Race series Oil to Water Heat Exchanger 68mm core



**Preferred plumbing diagram**

# IN-LINE ENGINE OIL COOLER HIGH PERFORMANCE



**PWO5944**

**In-Line Engine Oil Cooler 3" x 8"**

**PWO5961**

**In-Line Engine Oil Cooler 3" x 6"**

This style of water to oil cooler is manufactured using our heavy duty wall extruded oil tube. This unit is suitable for all high performance street applications relying on the cold water side of the radiator system to provide the efficiency in the oil temperature. Available is the set sizes shown below, outlet can be changed to suit specific plumbing sizes if required.

Part #	Description	Outlets
PWO5961	In-Line Engine Oil Cooler 3" x 6"	38mm
PWO5962	In-Line Engine Oil Cooler 3" x 6"	44.5mm
PWO5944	In-Line Engine Oil Cooler 3" x 8"	38mm
PWO5963	In-Line Engine Oil Cooler 3" x 8"	44.5mm
PWO5996	In-Line Engine Oil Cooler 2" x 3" x 12"	38mm
PWO5997	In-Line Engine Oil Cooler 2" x 3" x 12"	44mm
PWO6196	In-Line Engine Oil Cooler 3" x 3" x 12"	38mm
PWO6197	In-Line Engine Oil Cooler 3" x 3" x 12"	44mm

# ENGINE OIL COOLER KITS

Modern engines run higher oil temperatures and rely on engine oil to assist the water system in cooling the engine. PWR Plate Fin Engine Oil Coolers feature internal turbulated fins built into the plates on the oil side and louvered fins on the air side of the cooler. Combined they provide unequalled heat rejection while offering very low-pressure drop.



PWR's 37mm core size allows for a lightweight but strong oil cooler. Easy to mount, they are perfect for power steering fluid, engine oil, transmission oil or differential oil. Powder coated for superior corrosion resistance. **(2x -10AN, 2x -12AN Fittings Included in each kit).**

Part #	Description	Rows
PWO5927K	Engine Oil Cooler - Plate & Fin 280 x 69 x 37mm	7 Row
PWO5929K	Engine Oil Cooler - Plate & Fin 280 x 127 x 37mm	14 Row
PWO5931K	Engine Oil Cooler - Plate & Fin 280 x 189 x 37mm	21 Row
PWO5933K	Engine Oil Cooler - Plate & Fin 280 x 189 x 37mm	28 Row
PWO5931SP	Engine Oil Cooler - Plate & Fin 280 x 189 x 37mm with 9" SPAL fan mounts	21 Row
PWO5933-6	Engine Oil Cooler - Plate & Fin 280 x 256 x 37mm with 9" SPAL fan mounts & Tridon Temp Boss	28 Row
PWO5933SP	Engine Oil Cooler - Plate & Fin 280 x 256 x 37mm with 9" SPAL fan mounts	28 Row
PWO6340SP	Engine Oil Cooler - Plate & Fin 280 x 419 x 37mm with mounts for dual 8" SPAL fans	48 Row
PWO6586	Engine Oil Cooler - Plate & Fin 280 x 419 x 37mm	48 Row
PWO66022	Engine Oil Cooler - Plate & Fin 280 x 419 x 37mm with mounts for dual 8" Maradyne Fans	48 Row

# TRANSMISSION OIL COOLERS & KITS



PWR's patented dimpled plate and fin transmission oil coolers are made from 100% aluminum to make them strong, lightweight and compact. They offer high heat transfer and easy mounting. The dimpled plates re-direct oil flow and their unique louvered fin design provides high heat transfer and low pressure drop. Manufactured with a 19mm core, these coolers are perfect for automatic transmissions, differentials or power steering. Offered with 5/16", 3/8" push-on or -6 AN Male hose fittings. 5/16", 3/8" push-on cooler kits include hose, clamps, adaptors and mounting hardware. Our transmission oil coolers are capable of handling vehicles up to a 10 tonne gross vehicle weight and tow ratings up to 4.5 tonne.

## Universal Kit

Part #	Description	Outlet Size
PWO5628	Transmission Oil Cooler kit, 280 x 110 x 19mm	5/16"
PWO5629	Transmission Oil Cooler kit, 280 x 150 x 19mm	5/16"
PWO5630	Transmission Oil Cooler kit, 280 x 200 x 19mm	5/16"
PWO5631	Transmission Oil Cooler kit, 280 x 255 x 19mm	5/16"
PWO5386	Transmission Oil Cooler kit, 280 x 110 x 19mm	3/8"
PWO5387	Transmission Oil Cooler kit, 280 x 150 x 19mm	3/8"
PWO5388	Transmission Oil Cooler kit, 280 x 200 x 19mm	3/8"
PWO5389	Transmission Oil Cooler kit, 280 x 150 x 19mm	3/8"

## Specific Vehicle Kits

Part #	Description	Outlet Size
PWO52048	Transmission Oil Cooler kit, Ford Falcon BF / FG / Territory 280 x 255 x 19mm	3/8"
PWO6115	Transmission Oil Cooler kit, Ford Falcon BA 280 x 255 x 19mm	3/8"
PWO6680	Transmission Oil Cooler kit, Holden Commodore VY V6 & V8 280 x 255 x 19mm	3/8"
PWO6687	Transmission Oil Cooler kit, Holden Commodore VT S2 - VX V6 & V8 280 x 255 x 19mm	3/8"
PWO6690	Transmission Oil Cooler kit, Holden Commodore VZ V6 & V8 280 x 255 x 19mm	3/8"
PWO7267	Transmission Oil Cooler kit, Holden Commodore VE V6 & V8 ('06 - Aug '11)	3/8"

# TRANSMISSION OIL COOLER



## Transmission Cooler with Fan

Part #	Description	Outlet Size
PWO1227SP	Transmission Oil Cooler Only, 280 x 255 x 19mm incl mounts to suit 11" Spal fan	5/16"
PWO0528SP	Transmission Oil Cooler Only, 280 x 255 x 19mm incl mounts to suit 11" Spal fan	3/8"
PWO5705SP	Transmission Oil Cooler Only, 280 x 255 x 19mm with Temp Sensor Boss, incl mounts to suit 11" Spal fan	3/8"
PWO6635-10	Transmission Oil Cooler Only, 280 x 200 x 19mm with Temp Sensor Boss, incl mounts to suit 9" Spal fan	1/2"
PWO6634-10	Transmission Oil Cooler Only, 280 x 255 x 19mm with Temp Sensor Boss, incl mounts to suit 11" Spal fan	1/2"
PWO0530SP	Transmission Oil Cooler Only, 280 x 200 x 19mm incl mounts to suit 9" Spal fan	-6AN
PWO5706SP	Transmission Oil Cooler Only, 280 x 255 x 19mm with Temp Sensor Boss, incl mounts to suit 11" Spal fan	-6AN

### Transmission Cooler Only -6AN Outlets

Part #	Description	Outlet Size
PWO1129	Transmission Oil Cooler Only, 280 x 80 x 19mm also suitable for differential	-6AN
PWO1222	Transmission Oil Cooler Only, 280 x 110 x 19mm	-6AN
PWO0529	Transmission Oil Cooler Only, 280 x 150 x 19mm	-6AN
PWO0530	Transmission Oil Cooler Only, 280 x 200 x 19mm	-6AN
PWO1223	Transmission Oil Cooler Only, 280 x 255 x 19mm	-6AN

### Transmission Cooler Only 1/2" Outlets

Part #	Description	Outlet Size
PWO6634	Transmission Oil Cooler - 280 x 255 x 19mm (1/2" BARB)	1/2"
PWO6635	Transmission Oil Cooler - 280 x 200 x 19mm (1/2" BARB)	1/2"
PWO6636	Transmission Oil Cooler - 280 x 150 x 19mm (1/2" BARB)	1/2"

## HEAT EXCHANGER TRANSMISSION KITS

The PWR transmission Heat Exchanger kit is an easy to fit DIY kit designed to be mounted beneath the passenger side transmission crossmember and replaces the factory OEM heat exchanger and associated lines to the transmission. The kit requires no modification to the car and includes additional heater hoses, high flow 1/2" oil hoses, billet transmission adapters and various fittings with full fitting instructions.



### PWO52900K

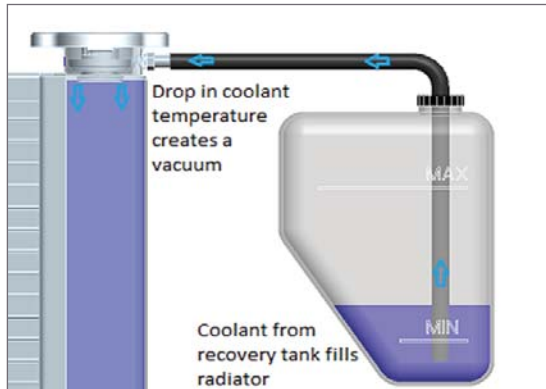
#### Transmission Heat Exchanger Kit, suit ZF 6 Speed Falcon

Part #	Description	Hose
PWO52900K	Transmission Heat Exchanger Kit, suit ZF 6 Speed Falcon	Rubber
PWO52900K-8	Transmission Heat Exchanger Kit, suit ZF 6 Speed Falcon	S/Steel Braided

# OVERFLOW TANKS

## RECOVERY SYSTEMS

Keep the system full is the goal with a recovery system. As temperature increases, the coolant expands and builds pressure. As this pressure exceeds the cap's pressure rating, water is pushed out into the recovery tank. When the fill neck and radiator cap is located on the low pressure side of the radiator (cross flow configuration) and at the highest point, any air in the system will be pushed out first (a positive situation). When the engine is shut off and cools down, the coolant contracts and vacuum is created. Radiator caps incorporate a vacuum valve that opens when the radiator is under a vacuum. This will pull fluid from the recovery tank and keep the system full. Recovery tanks should be kept close to the cap and at a similar height.



## EXPANSION TANKS

Using a surge tank with a closed cooling system is the optimum way to ensure unwanted air is constantly bled. This allows a remote filling location. The radiator and engine will bleed back to the top of the tank. Circulate the system while filling the tank 1/2 to 2/3 full, providing an "air-spring" in the top of the tank. Includes our billet filler neck

A siphon from the bottom of the tank plumbed to the suction side of the pump or lower radiator hose pulls coolant and any trapped air through the bleed lines and captures it in the tank. When the system is over-pressurized the cap will lift and air pressure (not the



**PWA5012**

**BA, BF, FG Falcon Twin Top Outlet**

Part #	Description
PWA6152	Falcon Single Top Outlet
PWA5012	BA, BF, FG Falcon Twin Top Outlet
PWA5069	Subaru WRX '94-'97 Liberty Rs 91-93
PWA5288	Mazda RX7 s6, 7 & 8
PWA5913	Subaru WRX '99



# THERMO FANS

Established in 1959 SPAL is a world leader in the design and manufacture of high quality electric fans for all vehicles types.

## 4" to 8" SPAL Fans



**PWAC04ST**

Part #	Product Description	Push/Pull	CFM
PWAC04ST	4" Fan Straight Blade	Pull	148
PWAC05ST	5" Fan Straight Blade	Pull	342
PWAC06ST	6" Fan Straight Blade	Pull	313
PWAC08STP	8" Fan Straight Blade	Push	407

## 9" SPAL Fans

Part #	Product Description	Push/Pull	CFM
PWAC09ST	9" Fan Straight Blade	Pull	596
PWASC09SK	9" Fan Skew Blade	Pull	602
PWAC09SKP	9" Fan Skew Blade	Push	590
PWAC09PAD	9" Fan Paddle Blade	Pull	755



**PWAC09ST**

## 10" SPAL Fans



**PWAC10SK**

Part #	Product Description	Push/Pull	CFM
PWAC10ST	10" Fan Straight Blade	Pull	643
PWAC10STP	10" Fan Straight Blade	Push	631
PWAC10SK	10" Fan Skew Blade	Pull	708
PWAC10SKP	10" Fan Skew Blade	Push	708
PWAC10SKPX	10" Fan Skew Blade	Push	1033
PWAC10PAD	10" Fan Paddle Blade	Pull	1103

## 11" SPAL Fans

Part #	Product Description	Push/Pull	CFM
PWAC11ST	11" Fan Straight Blade	Pull	755
PWAC11STP	11" Fan Straight Blade	Push	761
PWAC11SK	11" Fan Skew Blade	Pull	779
PWAC11SKP	11" Fan Skew Blade	Push	832
PWAC11PAD	11" Fan Paddle Blade	Pull	1375



**PWAC11SK**



**PWAC12SK**

**12" SPAL Fans**

Part #	Product Description	Push/Pull	CFM
PWAC12ST	12" Fan Straight Blade	Pull	1097
PWAC12STP	12" Fan Straight Blade	Push	1009
PWAC12SK	12" Fan Skew Blade	Pull	909
PWAC12SKP	12" Fan Skew Blade	Push	938
PWAC12SKX	12" Fan Skew Blade	Pull	1328
PWAC12PAD	12" Fan Paddle Blade	Pull	1451

**13" SPAL Fans**

Part #	Product Description	Push/Pull	CFM
PWAC13ST	13" Fan Straight Blade	Pull	962
PWAC13STP	13" Fan Straight Blade	Push	991



**PWAC13ST**



**PWAC14SK**

**14" SPAL Fans**

Part #	Product Description	Push/Pull	CFM
PWAC14ST	14" Fan Straight Blade	Pull	1310
PWAC14STP	14" Fan Straight Blade	Push	1263
PWAC14SK	14" Fan Skew Blade	Pull	1864
PWAC14SKP	14" Fan Skew Blade	Push	1841

**16" SPAL Fans**

Part #	Product Description	Push/Pull	CFM
PWAC16ST	16" Fan Straight Blade	Pull	1469
PWAC16STP	16" Fan Straight Blade	Push	1505
PWAC16SK	16" Fan Skew Blade	Pull	2000
PWAC16SKP	16" Fan Skew Blade	Push	1959
PWAC16PAD	16" Fan Paddle Blade	Pull	1953
PWAC16SK3	16" Fan Skew Blade*	Pull	3000

\*PWA16SK3 requires gasket PWA6528 to be used



**PWAC16SK3**

## BRUSHLESS FANS

SPAL provides the market with a wide range of high performance brushless fans, specially designed to meet new generation cooling systems requirements.



**PWAC16PAD-B**

Part #	Product Description	Push/Pull	CFM
PWAC10PAD-B	10" Fan Brushless Paddle Blade	Pull	1345
PWAC12PAD-B	12" Fan Brushless Paddle Blade	Pull	1802
PWAC14PAD-B	14" Fan Brushless Paddle Blade	Pull	2003
PWAC16PAD-B	16" Fan Brushless Paddle Blade	Pull	2053

## MARADYNE FANS

Part #	Product Description	Push/Pull	CFM
PWAC08SK-M	8" Fan Skew Blade	Pull	421
PWAC12SK-M	12" Fan Skew Blade	Pull	1565
PWAC16SK-M	16" Fan Skew Blade	Pull	2170



**PWAC12SK-M**

## TEMPERATURE SENSOR

The thermo switch is a mechanical switching device designed to respond to changes in coolant temperature allowing the operation of the electric radiator thermo fans.

Each switch is calibrated to specific On/OFF temperature ratings.

Part #	Temperature Rating
TFS132	80-85 Degrees Celsius
TFS133	85-90 Degrees Celsius
TFS232	95-105 Degrees Celsius
TFS156	80-85 Degrees Celsius (2 pin connector)



**TFS156**  
80-85 Degrees Celsius  
M16 x 1.5mm thread

## **HEAD OFFICE**

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