

## ELECTRIC BOOSTER PUMP (EBP®) INSTALLATION INSTRUCTIONS EBP23, EBP25, EBP40

Congratulations on your purchase of the Davies, Craig Electric Booster Pump (EBP®). The EBP® is a compact, versatile, and suitable for a large range of applications. The EBP® is designed for use alongside an EWP® (Electric Water Pump) or a conventional mechanical water pump to enhance cooling performance. These high-performance brushless, magnetically driven EBP® are state-of-the-art technology offering low-current draw, high flow capacity and long life, ideal for:

- ⊕ Booster for car heater and LPG systems
- ⊕ Turbo/Supercharger water to air intercooler
- ⊕ Solar and marine
- ⊕ Caravans and motor homes
- ⊕ Water-cooled motorcycle
- ⊕ Household irrigation/fishponds & tanks

PLEASE READ ALL THESE INSTRUCTIONS THOROUGHLY BEFORE YOU START WORK.  
DON'T RUSH - ENSURE YOU HAVE FULL UNDERSTANDING OF THE WORK AHEAD BEFORE YOU COMMENCE. ENSURE YOU HAVE ALL TOOLS AND COMPONENTS REQUIRED.

### Kit Components:

#### #9050: EBP®23 Electric Booster Pump 12V Kit

- ⊕ 1 x EBP®23 Pump
- ⊕ 2 X EBP® Stepped Adapter (12mm – 19mm) #19020
- ⊕ 2 x EBP® Hose (19mm ID) #19510
- ⊕ 4 x Hose Clamps #19511
- ⊕ 1 x EBP® Wiring harness #19518

#### #9051: EBP®23 - Electric Booster Pump 12V (Pump Only)

- ⊕ 1 x EBP®23 Pump
- ⊕ 1 x EBP® Wiring Harness #19518

#### #9025: EBP®25 – Electric Booster Pump 12V

- ⊕ 1 x EBP®25 pump
- ⊕ 1 x EBP® Wiring Loom #19518

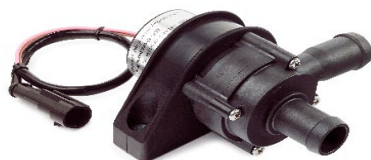
#### #9040: EBP®40 - Electric Booster Pump 12V

- ⊕ 1 x EBP®40 12V Pump
- ⊕ 1 x EBP® Wiring Harness #19518

#### #9041: EBP®40 - Electric Booster Pump 24V

- ⊕ 1 x EBP®40 24V Pump
- ⊕ 1 x EBP® Wiring Harness #19518

**EBP23 Kit #9050**

**EBP23**

**EBP25**

**EBP40**

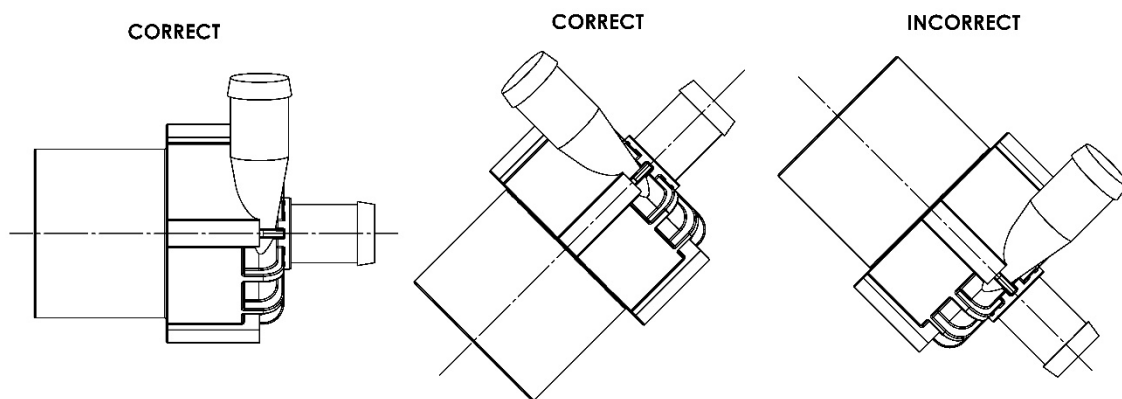

## EBP® Hose Sizing Guide

- ⊕ The inlet and outlet of the EBP® suits 19mm (3/4") internal diameter hose.
- ⊕ For Hoses with an internal diameter smaller than 19mm (3/4"), the 12mm to 19mm plastic Stepped Adapter (#19020) and Adapter hose (#19510), may be used to configure a diameter that best suits your hose.
  - **NOTE: Parts #19020 & #19510 supplied with #9050 only, otherwise can be purchased separately.**
- ⊕ For Hoses with an internal diameter larger than 19mm (3/4"), an appropriate reducer fitting may be required.

## EBP Orientation

**NOTE:** The EBP has built in Dry run protection When activated, the pump will run slowly until the pump is completely free of air.

- ⊕ When installing the EBP ensure the inlet of the EBP is positioned horizontally, vertically up or on an upward angle.
  - **NOTE:** When the Inlet is pointed down this can lead to air locks within the pump.
  - For the best results, position the outlet at the highest point to aid in bleeding the pump.



## Universal EBP® Installation

- ⊕ Select a suitable installation location for the EBP®.
  - For the best results, the EBP® should be located low in the system and close to the outlet of the radiator, intercooler, or tank.
- ⊕ Cut the hose and place hose clamps (Provided with #9050) over the hose ends.
- ⊕ Identify the coolant circulation direction and install the EBP® such that **coolant circulation direction remains unchanged.**
- ⊕ Tighten the Hose Clamps, fill the system with coolant and bleed all air from the system.

## Auxiliary Pump for Water Cooled Engines

- ⊕ Leaving the mechanical water pump in place, install the EBP® into the bottom radiator hose.
- ⊕ If applicable, remove the thermostat and drill two approx. 3mm (1/8") holes in the thermostat plate to allow some coolant circulation. Re-install ensuring that the thermostat housing is clean, and a new gasket is used if required.
- ⊕ For the best results wire the EBP® to be controlled by a Thematic® Switch
  - Davies, Craig offers a full range of Thematic® Switches available in both Mechanical (#0401, #0404 & #0400) and Digital Thematic® Switches (#0444, #0445 & #0500).

## Primary Pump for Water Cooled Engines

- ⊕ Remove the mechanical water pump and remove the impeller from the mechanical pump shaft. Retain the mechanical water pump pulley and use it as an idler to avoid re-routing the drive belt.
- ⊕ Re-install the disengaged water pump ensuring that all gasket surfaces are clean, and the new gaskets are properly fitted to prevent leaks.
- ⊕ Remove the Thermostat and block or re-route any bypass passages.
  - For small or low power engines typically found in motorcycles, go karts and small machinery it is best to re-route the Thermostat bypass to the EBP inlet. In this case you will need to retain the factory Thermostat.
- ⊕ Install the EBP® into the bottom radiator hose.
  - If running the pump continuously and the bypass has not been re-routed remove the thermostat and drill two approx. 3mm (1/8") holes in the thermostat plate to allow some coolant circulation. Re-install ensuring that the thermostat housing is clean, and a new gasket is used if required.

## EBP® Wiring

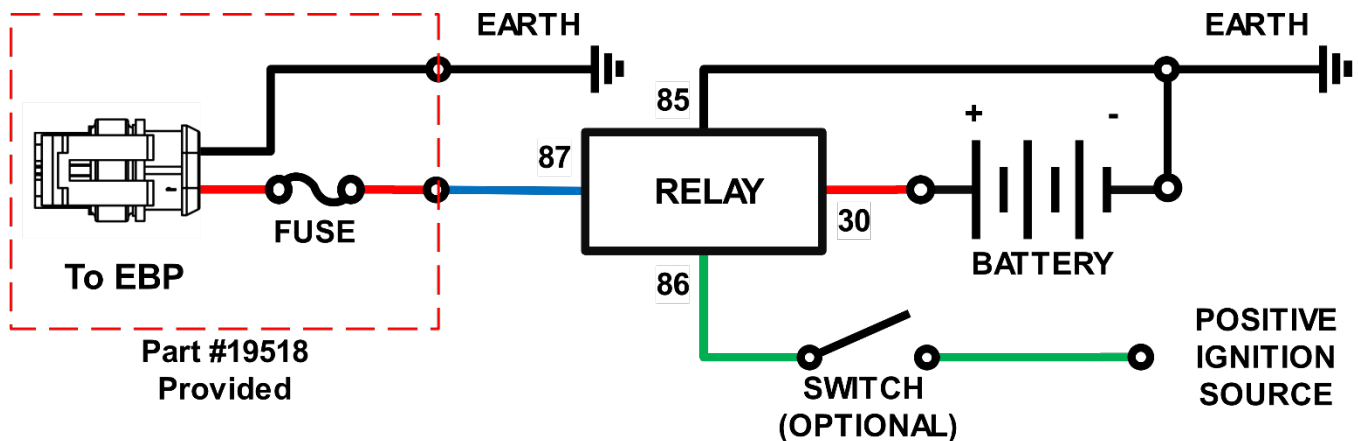
It is recommended that a relay (not supplied) is used to supply power to the EBP®.

Relay Pin	Connection location
<b>85</b>	Earth or Negative Battery Terminal
<b>86</b>	Ignition or Battery Positive
<b>30</b>	Battery Positive
<b>87</b>	Positive EBP® wire

EBP® Wire	Connection location
<b>RED/BLUE Positive</b>	Relay Pin 87
<b>BLACK Negative</b>	Earth or Negative Battery Terminal

You may use a manual or thermal switch on PIN 86 (ignition wire) to allow for added control over your EBP®.



**Wire colours are based on Davies, Craig's standard fan wiring harness.**

### Wiring for Control by Thermatic® switch

Davies, Craig offers a full range of Thermatic® Switches available in both Mechanical (#0401, #0404 & #0400) and Digital Thermatic® Switches (#0444, #0445 & #0500).

- Wire the EBP® as directed by the wiring instructions provided with the Thermatic® Switch.
  - All Davies, Craig Thermatic® Switches are **ON/OFF**.
  - To allow the EBP® to run on after hot engine shutdown, wire the Switch directly to the battery.

### Replacing Existing EBP15 (#9001 or #9002)

- Replace your old EBP15 with your new EBP®.
- If required mount the EBP® using attached bracket.
- To reuse the existing EBP® 15 wiring harness you will require the EBP15 plug Adapter #19513 available separately.

### Replacing Existing EBP25 (PART #9005 OR #9105)

- Replace your old EBP®25 with your new EBP®25 (#9025).
- If required mount the EBP®25 using attached bracket.
- To reuse the existing wiring EBP® 25 wiring harness you will require the EBP® 25 plug Adapter #19520 available separately.

## IN ALL CASES ONCE EBP® INSTALLATION AND WIRING IS COMPLETE

- 🔧 Road test the vehicle and allow the engine to reach normal operating temperature.
- 🔧 Check coolant level again once engine has cooled sufficiently. Top up if required.

## WARNINGS

- 🔧 **Do not operate your EBP® dry as damage may occur, and your warranty will be jeopardised.**
- 🔧 **Avoid mounting your EBP® close to high heat sources like Exhaust manifolds.**
- 🔧 **The EBP® is not recommended for use with waterless coolant.**
- 🔧 **The EBP® is not rated for submersible use.**
- 🔧 **Do not use 'stop leak' or similar leak or crack repair additives as pump damage may occur and your warranty will be jeopardised.**
- 🔧 **The EBP® must always be completely full of coolant to achieve the life and performance expectations of your EBP®.**
- 🔧 **DO NOT ATTEMPT to tamper with the EBP® including loosening or removing any bolts/screws as this will void any warranty. If you suspect there is a fault or defective product please contact Davies, Craig.**

These installation instructions will suit most applications but there are circumstances surrounding some engine designs, environments, and the nature of the system involved, which may require other installation arrangements not outlined here. Frequently Asked Questions (FAQ) are listed on our website [www.daviescraig.com.au](http://www.daviescraig.com.au) emails can be directed to [info@daviescraig.com.au](mailto:info@daviescraig.com.au) or Telephone +61 (0) 3 9369 1234 during business hours.

## WARRANTY

Davies, Craig Pty Ltd warrants for a period of Three years or 2000 hours continuous running (whichever is the lesser) from the date of purchase. Davies, Craig will carry out, free of cost, any repairs that are reasonably necessary to correct any fault in the operation of your Davies, Craig product provided that such a fault is directly attributable to a defect in the workmanship or materials used in the manufacture of the part(s). This warranty is void if the product is misused, altered, tampered with, or is installed or used in a manner that is inconsistent with Davies, Craig's written recommendations and/or installation instructions. Labour and consequential costs are excluded. **DAVIES, CRAIG PTY. LTD. To make a warranty claim, go to: [daviescraig.com.au/warranty](http://daviescraig.com.au/warranty)**



For all your automotive cooling needs, visit;  
[www.daviescraig.com.au](http://www.daviescraig.com.au)