

DAVEY

Variable Speed Pump

ED16-40NPT

Installation and Operating Instructions

DAVEY
EvoDrive



IMPORTANT
Please read carefully

daveywater.com

Please pass these instructions on to the owner of this equipment once the product has been installed.

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WARNINGS



ATTENTION: The EvoDrive system and associated pipework operate under pressure. Under no circumstances should the EvoDrive system, or associated pipework be disassembled unless the internal pressure of the system has been relieved. Failure to observe this warning will expose persons to the possibility of personal injury and may also result in damage to the pump, pipework or other property.

This appliance is not intended for use by persons (including children) with reduced physical, sensory or mental capabilities, or lack of experience and knowledge, unless they have been given supervision or instruction concerning use of the appliance by a person responsible for their safety. Children should be supervised to ensure that they do not play with the appliance. This appliance can be used by children from aged 8 years and above and persons with reduced physical sensory, mental capabilities, or lack of experience and knowledge if they are under supervision, or instruction concerning use of the appliance in a safe way and understand the hazards involved.



IMPORTANT: If the supply cord is damaged, it must be replaced by the manufacturer, its service agent, or similarly qualified persons in order to avoid a hazard. Pump is to be supplied through a residual current device (RCD) having a rated residual operating current not exceeding 30mA. Cleaning and user maintenance shall not be made by children without supervision. Children shall not play with the appliance.

ABOUT YOUR EvoDrive

Thank you for purchasing a Davey EvoDrive VSD (variable speed) pump, this unit has been designed to provide many years of constant pressure performance for domestic water supply applications. It features a plug and play experience for ease of installation. The EvoDrive is primarily designed for pressure boosting and flooded suction type applications, but will also handle suction lifts to 4mts / 13ft

- When connecting to mains water supplies, please follow local codes, regulations as outlined by your local water authority.
- Note: Maximum system pressure should not exceed 650Kpa / 94psi
- Do not exceed the operational pressures set out in this instruction. Davey Water Products Pty Ltd will not accept responsibility for loss or damage resulting from failure to adhere to specifications for the installation and operation of the product.
- A pressure reducing valve is required on the suction side of the pump when the incoming pressure exceeds 500kPa / 70psi. In some areas, local codes restrict maximum allowable home pressures, and those cases will also require a pressure reducing valve.

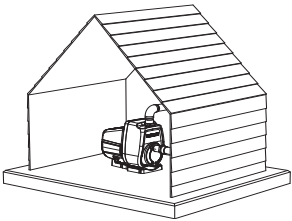
CRITICAL REQUIREMENTS

- The pump is installed in a safe and dry environment
- The pump enclosure has adequate drainage in the event of leakage
- Any transport plugs are removed
- The pipework is correctly sealed and supported
- The pump is primed correctly
- The power supply is correctly connected
- All steps have been taken for safe operation

INSTALLATION TYPES

Housing your Davey pump

To protect your pump from the weather, make sure the pump is housed in the water proof, frost free and well ventilated area. Ensure that it is mounted on a firm base and is secured as per the provided mounting points, as not to place undue stress on pipework and connections.



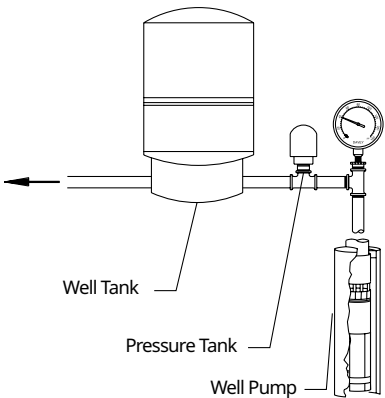
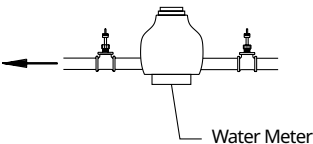
Connection to mains or town water supply systems

Water mains supply authorities have regulations surrounding direct connection to mains water supply. Fluctuation in inlet pressure at the water could exceed maximum operating pressure so please ensure the system operates with pump specifications. Davey Water Products Pty Ltd cannot accept responsibility for loss or damage resulting from incorrect, or unauthorised installations.

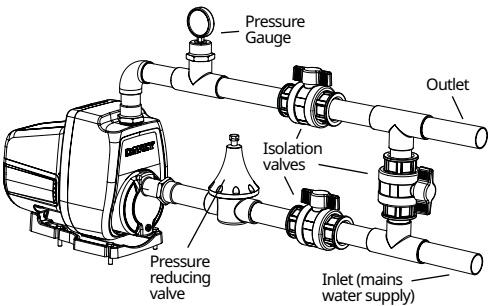
Flooded suction – inlet boosting from municipal water supply or well pump

Municipal Water Supply Application

Do not exceed a total system pressure of 100psi

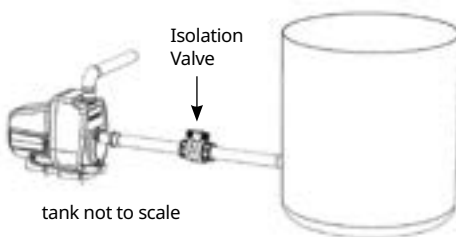


Well Pump Application



Above ground water sources (flooded suction)

Installations with flooded suction require an isolation valve so water supply can be turned off for pump removal and servicing. There is no need to install a one-way check valve in the suction pipeline as there is a one-way check valve installed in the tee piece immediately on top of the EvoDrive pump discharge as well as the inlet.

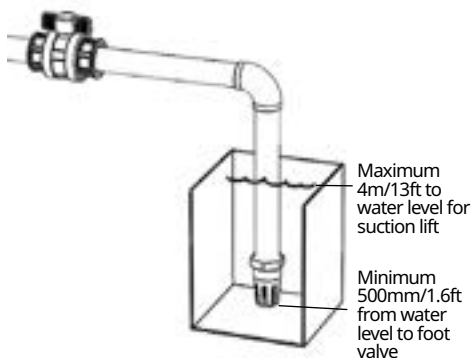
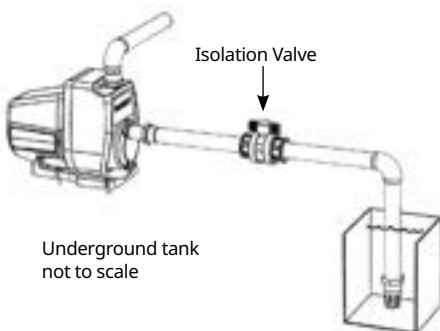


In-ground water sources (eg suction lift from in ground tank)

Whenever the installation position of the pump is higher than the lowest water level, a foot valve should be fitted to the end of the suction pipe.

Ensure that the foot valve is at least 500mm / 1.6ft below minimum water level to avoid a vortex of air being drawn into pipe.

As pictured always ensure the installation of your Davey EvoDrive suction pipe is no more than 4mts / 13ft from the pump inlet to the water level.



Installation to hot water system

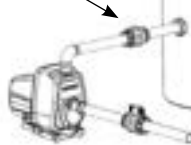
Always protect your system from damage caused by back pressure from hot water systems.

You should always have installed on the hot water inlet an approved non-return valve.

Always ensure the installation meets the appropriate regulations for your local area.

Install approved Non return valve.

Hot water storage tank



Dual Pump Connection

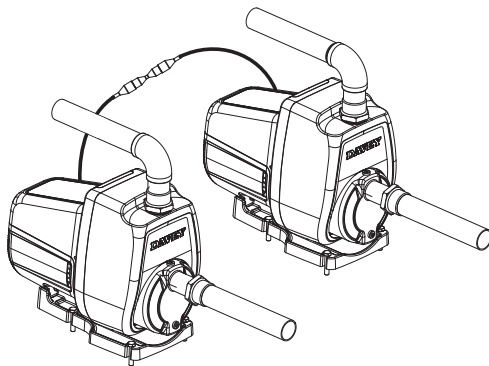
The EvoDrive can be arranged in a dual pump setup in parallel for alternating redundancy and increased supply capacity on demand. Connect the two pumps using the Davey EvoDrive male to male connection cable (see Davey Dealer).

Once connected press and hold the up arrow on one of the pumps for 3 seconds until the running light flashes on both pumps. they are now connected.

Now press and hold the up arrow key of the pump that is to be the HOST for 3 seconds to confirm that status. They now ready to be used.

Pump operation will alternate between each other for each time water supply is required, and will run simultaneously when that level demand is required.

NOTE: For this pump arrangement greater than DN32 / 1.25" pipework is required to allow for larger flow rates.



Dual Pump connection lead required (available separately).



INSTALLATION

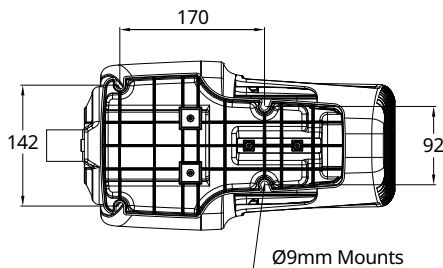
Choosing a Site

Choose a clean and dry site with a firm base as close to the water source as possible with correct power supply. Make sure your pump is always connected to an adequate, reliable source of clean water. To protect your pump from the weather, make sure the pump house is both waterproof, frost free and has adequate ventilation. The pump should be mounted on a firm base allowing for drainage, to avoid damage to flooring etc. that over time may occur from leaking pipe joints or pump seals. Do not mount the pump vertically. Never place flammable materials on, or near your pump.

It is possible to adjust the pressure set point. Some plumbing authorities impose a pressure limitation on the pressure of water into a dwelling. Consideration of operating pressures should also be given to appliances within the dwelling. If unsure, check with local authorities, or a licenced contractor.

Mounting the Pump

It is best practice to mount the pump using the 4 x bolt locations to fasten it down to the base. It is not recommended to use any form of adhesive to mount it.



Pipe Connections

For best performance use P.V.C, or polythene pipe with a diameter at least the same as the pump's inlet. Larger diameter pipe may be used to minimise resistance to flow when pumping for distances longer than 5m (16'). Use unions at pipe connections to enable easy removal and servicing.

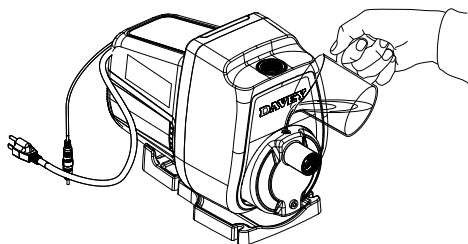
Use enough teflon tape to ensure airtight seal and hand tighten only, do not screw connections all the way into suction port. To prevent strain on pump thread always support heavy inlet and outlet pipes.

Lay suction pipe at a constant gradient to avoid air pockets which may reduce pump efficiency, avoid installing 90° elbows before the suction inlet of the pump, within a distance equivalent to 5 x pipe diameter. For example: using 40mm (1½") suction pipe, avoid installing a 90° elbow within 200mm (7¾") of the pump inlet this will assist laminar flow.

STARTING THE PUMP

Your Davey EvoDrive pump is specifically designed to be as easy as possible to install and operate. Once the pump has been installed to the pipework and the casing filled with water to prime, it is as simple as plugging in and powering it up (see image below). Your Davey EvoDrive will come preset at 60psi, just open the furthest tap from the pump and allow it to run for a few minutes until the system has purged all air out, then observe that the pump stops accordingly.

If the pump continues to run after shut off the tap please check for leaks and repeat above process.



Always ensure your pump casing is full of water prior to initial start up or the pump seal may be damaged.

MAINTENANCE

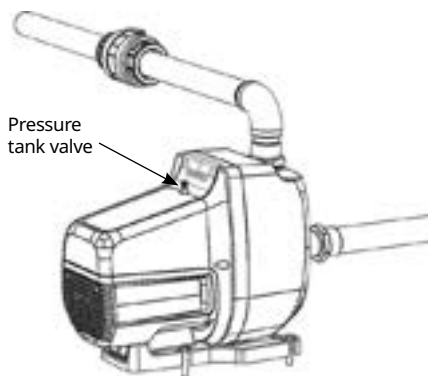


Check the pressure using an automotive style pressure gauge. Your Davey EvoDrive comes with a pressure tank pre-charged at 26-29psi.

It is best to periodically check the pressure to ensure correct performance.

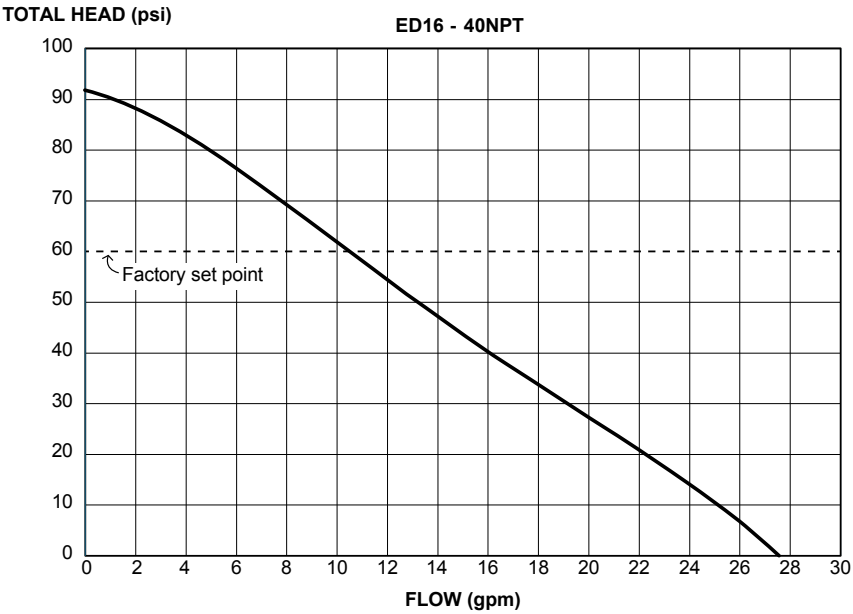
Pressure can be adjusted via the Schrader (automotive) style valve as pictured below.

If the set pressure of the EvoDrive has been altered the pressure tank must be set to 70% of that set point to operate within specifications.



SPECIFICATIONS

Models	Power (P1)		Inlet	Outlet	Plug Type	Regional Suitability	Voltage (V) Frequency (Hz)		Max. head (ft)	Max. Flow (gpm)	Max. suction lift (ft)	Max. Water temperature (Deg°F)
	kW	HP										
ED16-40NPT	0.9	1.2	1"NPT	1"NPT	TypeB (NEMA 5-15)	USA	110-120V	50-60	230	28	13	167



CONTROL PANEL OPERATIONS



PUMP ON

START UP



WATER PUMP
SWITCH ON/OFF

PRESS AND HOLD
TO RESTORE
FACTORY SETTINGS



INCREASE SET PRESSURE



DECREASE SET PRESSURE
press and hold the button for 3s
to check water temperature.



WATER PUMP OPERATION



PIPELINE LEAKAGE



POWER FAILURE

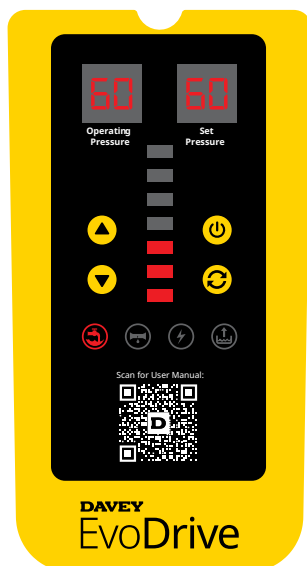


INLET WATER SHORTAGE



POWER BAR
THE FEWER LIGHTS,
THE MORE ENERGY SAVINGS

PROGRAMMING INSTRUCTIONS



Press  key 3s.

All parameters are restored
to factory settings

TROUBLESHOOTING

Error Code	Corresponding Fault	Menu Description
E1	Panel and motherboard communication failure.	Refer to Davey Dealer.
E2	Pump stalled or impeller jammed.	Refer to Davey Dealer.
E3	Input voltage failure, icon will illuminate. 	Have qualified electrician check power source.
E4	Outlet pressure sensor failure.	Refer to Davey Dealer.
E5	Controller failure.	Turn off power supply wait for 30 seconds and power up again, if problem still occurs refer to Davey Dealer
E6	Lack of phase.	Refer to Davey Dealer.
E7	Overcurrent.	Refer to Davey Dealer.
E9	Water temperature protection.	Ensure supply water temperature is less specification maximum allowed (70°C) / (167°F).
E10	Inlet water shortage Icon will illuminate. 	Check water supply.
E11	Pipe work leakage, Icon will illuminate. 	Check pipework for leaks, check the non return valves for leaks.
E12	Driver board overheating.	Pump will resume operation once internal temperature lowers, ensure pump is in a cool and ventilated spot.

Davey Warranty

Davey Water Products come with a warranty that cannot be excluded under the local country Law. You are entitled to a replacement, or refund for a major failure and compensation for any other reasonably foreseeable loss, or damage. You are also entitled to have the goods repaired or replaced if the goods fail to be of acceptable quality and the failure does not amount to a major failure.

Davey Water Products Pty Ltd (Davey) of 6 Lakeview Drive Scoresby VIC 3179 provides the following warranty in relation to this product:

1. The warranty period commences on either the date of installation or the original purchase of the equipment (whichever is the later). Evidence of this date must be provided when claiming repairs under warranty. It is recommended you retain all receipts in a safe place.
2. Davey products are warranted, subject to the exclusions and limitations below, to the original user only to be free of defects in material and workmanship for a period of 24 months from date of installation or sale with a proof of a receipt, but no more than 36 months from the date of manufacture. Davey's liability under this warranty shall be limited to repairing or replacing at Davey's option, without charge, FOB Davey's authorized service agent. Davey will not be liable for any cost of removal, installation, transport or any other charges that may arise in connection with the warranty claim. Product eligible for repair or replacement by the authorized Davey service agent, in accordance with Davey's warranty terms, shall be shipped back to the customer from the service center at Davey's cost.
3. This warranty is subject to due compliance by the original purchaser with all directions and conditions set out in the Installation and Operating Instructions. Failure to comply with these instructions, damage or breakdown caused by fair wear and tear, negligence, misuse, accident, incorrect installation, inappropriate chemicals or additives in the water, inadequate protection against freezing, rain or other adverse weather conditions, corrosive or abrasive water, lightning or high voltage spikes or through unauthorized persons attempting repairs are not covered under warranty. The product must only be connected to the voltage shown on the nameplate.
4. Davey shall not be liable for any loss of profits or any consequential, indirect or special loss, damage or injury of any kind whatsoever arising directly or indirectly from the product or any defect, and the purchaser shall indemnify Davey against any claim by any other person whatsoever in respect of any such loss, damage or injury.
5. Some states do not allow the exclusion or limitation of incidental or consequential damages or limitations on how long an implied warranty lasts, so the above limitations or exclusions may not apply to you. The warranty gives you specific legal rights and you may also have other rights which vary from state to state.
6. This warranty applies to all states and territories of United States of America and Canada only.

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USA

Have installation questions or problems?

Need warranty?

Before returning this product to your dealer contact

a Davey Authorized Service Centre in the USA by calling

1-888-755-8654 or visit daveywater.com

DAVEY

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