

DAVEY

DAVEY
EcoPure®

Fibreglass Media Filters

Models: DEP2140, DEP2540, DEP2850,
DEP3250, DEP3650 & DEP4050

Installation and Operating Instructions



WARNING: Failure to follow these instructions and comply with all applicable codes, may cause serious bodily injury and/or property damage.

The installation of this product should be carried out by a person knowledgeable in swimming pool plumbing requirements following the installation instructions provided in this manual.

Please pass these instructions on to the owner of this equipment.

Your Davey EcoPure Media Filter

Congratulations on your purchase of a quality product from the Davey Water Products range of Pool and Spa Equipment. You are assured of many years of reliable and efficient performance from your Davey EcoPure Media Filter backed by Davey's Ten Year Tank Guarantee and Three Year Valve Guarantee.*

*Refer to guarantee statement on page 8 for full details.

Davey Media Filters have been specifically designed for the filtration of swimming pool water in conditions set out in the Australian Standard for swimming pool water quality (AS 3633) or equivalent. They should not be used for any other purpose without first consulting your Davey Dealer or Davey Water Products Pty Ltd.

The EcoPure Water Difference

Media filtration is nature's own proven method of filtration. Pool water enters the filter and passes through graded media where the suspended particles are trapped and the water is returned to the pool. As the build-up of dirt in the media increases, so the water pressure rises and the flow decreases. When the pressure reaches an unacceptable level, the flow must be reversed to clean the filter media bed in a process called "backwashing" which discharges the dirt to waste.

Installation Location

The filter should be placed in its permanent location, preferably as close to the pool as practicable. Position the filter tank and pump on a level concrete slab or similar base with minimum dimensions of 900mm x 600mm (3' x 2'). Do not use sand to level the concrete slab, as it may wash away and cause vibration and inefficient performance. Allow sufficient space around the filter for routine maintenance and provide for adequate filter drainage and pump ventilation.

Place the pump in position on the slab and locate the filter tank alongside with the multiport valve "PUMP" port oriented toward the pump.

A minimum clearance of 400mm above the multiport valve is required to permit easy removal.

Weather Protection

Davey Media Filter tanks are made from UV stabilised materials. However to ensure years of reliable service, it is recommended that every effort be made to ensure the filtration system is adequately protected from the weather. For proper care and maintenance of your filter, see section on "Filter Care".

Assembly

1. Undo the V-band clamp or flange nuts and remove the multiport valve.
2. Look inside the tank and ensure the laterals are secure inside the hub assembly and that the stand pipe is inserted with the o-ring correctly into the under drain of the valve.
3. Half fill the tank with water to provide a cushion for the media.
4. Make certain the under drain assembly is correctly located onto its stand at the base of the tank.
5. Place the sand guide in the top of the filter opening.
6. Pour the correct amount of media into the tank (refer specifications), evenly distributing it around the central pipe. Level out the top of the media bed.
7. Remove the sand guide and all traces of media from the tank flange.

8. Ensure the closure o-ring is clean and in the correct position. If necessary, apply a thin film of oring lubricant to the o-rings. Assemble the multiport valve to the tank aligning the ports to the appropriate plumbing.
9. Connect barrel unions utilising O-Rings supplied on fittings and screw into the multiport valve body.
10. Connect the pressure gauge to the air bleed port utilising the supplied O-ring on the air bleed plug. Do not apply Telfon tape to the pressure gauge thread as it may damage the valve.



CAUTION

- A non return valve is required between pump and pool on the inlet side.
- On installations where the waste line is more than 3 metres below pool water level and more than 12 metres in length, a vacuum break valve must be fitted in the waste line close to the filter.
- If an auxiliary pump is installed in line downstream of the filter, it should be protected against causing negative pressure in the filter tank. A flow or pressure switch which only enables the auxiliary pump to run when the main filter pump is running will achieve this.
- If the pump and filter are located below pool water level, it is necessary to fit isolating valves in the pipe between the pump and the skimmer box and in the return pipe from the multiport valve to the pool. This prevents water draining from the pool during maintenance.

FAILURE TO COMPLY WITH THE ABOVE CAUTIONS MAY RESULT IN FILTER DAMAGE NOT COVERED BY THE GUARANTEE.

Pipe Connections

Use Teflon tape on all male threads. Piping should be independently supported and not impose heavy loads on the filter or pump. Use 40mm or 50mm (1½” or 2”) pipe from the pump to the skimmer box, return pipe for the multiport valve to the pool and from the multiport valve to the drain.



DO NOT OVERTIGHTEN

The fittings and multiport valve on this product are constructed of ABS. Some PVC jointing compounds are incompatible with ABS. Check compound suitability before use.

For models that use the 40mm (1.5”) valves, i.e. DEP2140, DEP2540

If the pipe length in the installation, is less than 15m, use the supplied 40mm barrel unions as provided with 40mm PVC pipe.

If the pipe length in the installation is greater than 15m, 50mm PVC pipe is recommended and the supplied unions should be adapted to suit. 50-40 reducing adapters will need to be purchased at your local building/plumbing supplier.

For models that use the 50mm (2”) valves, i.e. DEP2850, DEP3250, DEP3650, DEP4050

It is recommended to use 50mm PVC pipe, regardless of the length of the pipe.

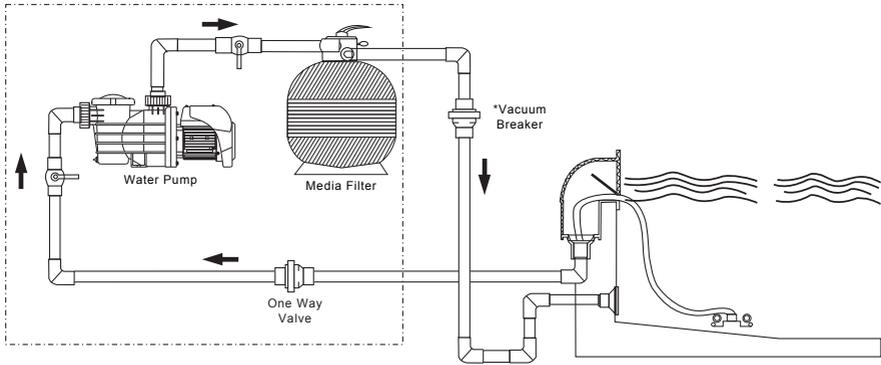
50mm barrel unions are provided with the multiport valve for connection of PVC pipe to “pump”, “pool return” and “waste”



NOTE:

Ensure pipework is connected to appropriately labelled multiport valve connections.

Typical Installation



* Vacuum breaker required if installation is greater than 3m above pool water line and is greater than 12m in length.

Commissioning Filter

Refer to “operating instructions” below for **safety warning** and **multiport valve control** prior to the filter start-up. The pool should be slightly overfilled and the filter backwashed and then run on RINSE to prevent dust and fine particles in the media bed returning to the pool.

1. Backwash the filter for up to 2 to 3 minutes, then stop the pump.
2. Position the valve handle to “RINSE”.
3. Start the pump and run until the water in the valve sight glass becomes clear.
4. Stop the pump and position the valve handle to “FILTER”.
5. Start the pump. The Filter is now in filtration mode.
6. To determine the correct operating conditions, check the pressure gauge reading is 80kPa or below. Record the clean operating pressure of your filter.

Operating Instructions



WARNING - FILTER OPERATES UNDER HIGH PRESSURE

- Ensure all lids / closures / clamps are correctly secured before operating system.
- Never adjust clamps or change valve settings with the system under pressure.
- Relieve all pressure from system before working on filter.

Multiport Valve Control

The flow of water through the filter is controlled by the multiport valve on the top of the filter tank. The handle on top of the valve can be moved to any one of six positions, which have the following functions:

Valve Position	Function
FILTER	Normal filtration and vacuuming through filter.
BACKWASH	Clean the filter.
RINSE	Used on initial filter start-up and after backwash to prevent dirt in the sand returning to the pool.
WASTE	By-passes the filter; used for vacuuming to waste, or draining the pool.
RECIRCULATE	By-passes the filter to circulating water to the pool or to boost spa jets.
CLOSED	Shuts off all flow to the filter. Do not run pump.



CAUTION:
Never shift the valve handle position while the pump is running.



This filter tank must not be operated under vacuum. Should leaf baskets or suction lines become clogged, blocked or closed, filter damage not covered by guarantee may occur (particularly if an auxiliary pump is installed in line down stream of the filter).

Normal Filter Cycle

1. Set the valve to FILTER and start the pump.
2. With a clean filter, record the pressure gauge reading or mark the needle position on the pressure gauge.
3. Operate the filter each day for a sufficient time to turn over the water in the pool once every day. The filter should also be operated at all times the pool is in use and for about one hour afterwards. During the winter, the running time may be reduced.
4. When the pressure gauge reading is 40 - 50kPa higher than the clean filter gauge reading as in (2) above, it will be necessary to clean or backwash the filter (see section on Backwashing the Filter).

Backwashing the Filter

When the filter gauge reading is 40 - 50kPa above the clean filter gauge reading, cleaning or backwashing is required. To perform the backwash operation:

1. Shut off the pump. Be sure to disconnect any automatic Vacuum Cleaner.
2. Shift the valve handle to BACKWASH.
3. Start the pump and run until the water appears clean through the sight glass (this will take two or three minutes).
4. Shut off the pump and turn the valve handle to RINSE.
5. Start the pump and run for approximately one minute.
6. Shut off the pump and turn the valve handle to FILTER.
7. Start the pump; a new filter cycle has now begun.
8. If a backwash cycle does **not** reduce the operating pressure of the filter, the media will need to be changed. Contact your local pool shop.



CAUTION: Most filter media contains dust and fine particles that must be backwashed from media before filter is set to 'Filter'.

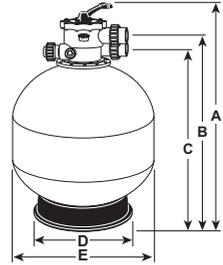


CAUTION:
Never vacuum while backwashing.

Technical Data

FIBREGLASS – OPERATING PERFORMANCE & MEDIA REQUIRED									
Model	Sand Required (kg/bags)	Zelbrite Required (kg/bags)	Glass Required		Max. Flow Rate (lpm)	Min Backwash Flow Rate (lpm)	6 Hour Turnover (litres)	Filtration Area (m ²)	Max. Water Temp. (°C) / Operating Pressure (kPa)
			Fine /Medium (kg/bags)	Medium /Course (kg/bags)					
DEP2140	85/5	64/5	45/3	30/2	185	123	66,600	0.22	40/320
DEP2540	155/8	117/8	75/5	45/3	260	173	93,600	0.32	
DEP2850	210/11	158/11	90/6	60/4	325	217	120,960	0.41	
DEP3250	250/13	188/13	105/7	75/5	415	277	149,400	0.53	40/370
DEP3650	350/18	263/18	165/11	105/7	520	347	187,200	0.66	
DEP4050	600/30	450/30	300/20	150/10	650	433	234,000	0.81	

DIMENSIONS (mm)								
Model	A	B	C	D	E	Inlet PVC	Outlet PVC	Waste PVC
DEP2140	844	708	648	486	510	40	40	
DEP2540	967	831	771		635			
DEP2850	1080	926	846		700			
DEP3250	1180	1026	946	714	820	50	50	
DEP3650	1285	1131	1051		920			
DEP4050	1406	1252	1172		1016			



Filter Care

The Davey media filter is the heart of the pool equipment installation. Proper care and maintenance will add many years of service and enjoyment to your pool. Keep the exterior of the filter clean, using a mild detergent and water.

Water Quality

Maintaining balanced water chemistry is important to the life of your pool equipment. This filter is designed to be used with Pool & Spa water, balanced in accordance with Langelier Saturation Index, with a pH level of between 7.2 and 7.6 and is regularly treated with a chlorine sanitising agent with the level not exceeding 3PPM.

Please consult your local pool shop regularly to have your water tested.

Trouble Shooting

Problem	Action
Reduced flow of water into pool.	Check filter pressure gauge. If 40-50kPa above clean filter reading, perform backwash (page 5).
If still reduced flow after backwashing.	Check for blocked or plugged lines which could restrict flow.
Large quantities of media returning to the pool.	One of the lower laterals may be damaged. To correct this condition, the media must be removed and the lateral replaced.
Pump is operating noisily.	Investigate for a possible air leak in the suction line, blocked pipes or rubbish in the pump strainer basket. (Refer to pump manual)

In the event of installation or operation difficulties with your product, contact the supplier from whom the equipment was purchased or your nearest authorised Davey Pool Equipment Service Centre. For assistance in locating your nearest Dealer contact the Davey Support Centre.

Removal of Filter



WARNING:

Always relieve pressure from system before performing any service work.

Should it be necessary to remove the filter, the following procedure should be adopted:-

1. Switch off the pump and remove the plug from the power point.
2. Open all air bleeds in system.
3. Close isolating valves where fitted.
4. Remove:
 - piping connection to the pump
 - piping connection to the pool return
 - piping connection to waste



NOTE: When making any enquiries about your Davey Filter, be certain to quote the Model Number from the nameplate on the equipment.



To avoid explosion and possible severe or fatal injury, filter pressure must not exceed 280kPa. Do not test filter with compressed air. Check that all clamps and fasteners are in good condition and are firmly secured before pressurising system. Never adjust clamps or fasteners while filter is pressurised.



DANGER - Hazardous suction. Do not block water entry into filtration system with any part of your body as the pressure can trap hair or body parts, causing severe injury or death. Do not block suction. Turn off pump immediately if someone becomes trapped.



Caution! Do not add chemicals directly to the pool skimmer. Adding undiluted chemicals may damage pump and filter and void warranty.



Small children using the pool or spa must ALWAYS have close adult supervision.



Routine Maintenance tasks – to maximise the life of your pool equipment & personal safety, use this checklist once a week. Turn pump off first.

- a. Make sure that any pressure gauges are in working condition and the operating pressure is within limits as specified on the product.
- b. Make sure that each suction inlet, and main drain has a cover that is securely attached and in safe working condition.
- c. Make sure that all skimmer covers are securely attached and in safe working condition. These should be replaced every 3 to 4 years.
- d. Remove any obstructions or debris from the main drain cover.
- e. Ensure the skimmer baskets and the pump hair and lint pots are free of leaves and debris at least once a week.
- f. Remove obstructions and combustibles from around the pump motor.
- g. Make sure all wiring connections are clean and that all wiring and electrical equipment is in good condition. Damaged wiring must be repaired or replaced by a qualified electrician as soon as damage is discovered.
- h. Check water balance and sanitiser levels at your local pool shop.



WARNING! Pump suction is hazardous and can trap and drown or disembowel bathers. Do not block suction. Do not use or operate swimming pools, spas or spa baths if a suction cover is broken, missing or loose. Two suction covers and inlets must be provided into every pump to avoid suction entrapment.

Davey Warranty

Davey Water Products Pty Ltd (Davey) warrants all products sold will be (under normal use and service) free of defects in material and workmanship for a minimum period of one (1) year from the date of original purchase by the customer as marked on the invoice, for specific warranty periods for all Davey products visit daveywater.com.

This warranty does not cover normal wear and tear or apply to a product that has:

- been subject to misuse, neglect, negligence, damage or accident
- been used, operated or maintained other than in accordance with Davey's instructions
- not been installed in accordance with the Installation Instructions or by suitably qualified personnel
- been modified or altered from original specifications or in any way not approved by Davey
- had repairs attempted or made by other than Davey or its authorised dealers
- been subject to abnormal conditions such as incorrect voltage supply, lightning or high voltage spikes, or damages from electrolytic action, cavitation, sand, corrosive, saline or abrasive liquids,

The Davey warranty does not cover replacement of any product consumables or defects in products and components that have been supplied to Davey by third parties (however Davey will provide reasonable assistance to obtain the benefit of any third-party warranty).

To make a warranty claim:

- If the product is suspected of being defective, stop using it and contact the original place of purchase. Alternatively, phone Davey Customer Service or send a letter to Davey as per the contact details below
- Provide evidence or proof of date of original purchase
- If requested, return the product and/or provide further information with respect to the claim. Returning the product to the place of purchase is at your cost and is your responsibility.
- The warranty claim will be assessed by Davey on the basis of their product knowledge and reasonable judgement and will be accepted if:
 - a relevant defect is found
 - the warranty claim is made during the relevant warranty period; and
 - none of the excluded conditions listed above apply
- The customer will be notified of the warranty decision in writing and if found to be invalid the customer must organise collection of the product at their expense or authorise its disposal.

If the claim is found to be valid Davey will, at its option, repair or replace the product free of charge.

The Davey warranty is in addition to rights provided by local consumer 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.

For any internet connected products the consumer is responsible for ensuring a stable internet connection. In the event of a network failure the consumer will need to address the concern with the service provider. Use of an App is not a substitute for the User's own vigilance in ensuring the product is working to expectation. Use of a Smart Product App is at the User's own risk. To the fullest extent permitted by law Davey disclaims any warranties regarding the accuracy, completeness or reliability of App data. Davey is not responsible for any direct or indirect loss, damage or costs to the User arising from its reliance on internet connectivity. The User indemnifies Davey against any claims or legal actions from them or others relying on internet connectivity or App data may bring in this regard.

Products presented for repair may be replaced by refurbished products of the same type rather than being repaired. Refurbished parts may be used to repair the products. The repair of your products may result in the loss of any user-generated data. Please ensure that you have made a copy of any data saved on your products.

To the fullest extent permitted by law or statute, 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 Davey products. This limitation does not apply to any liability of Davey for failure to comply with a consumer guarantee applicable to your Davey product under local laws and does not affect any rights or remedies that may be available to you under local laws.

For a complete list of Davey Dealers visit our website (daveywater.com) or call:

DAVEY

Davey Water Products Pty Ltd
Member of the GUD Group
ABN 18 066 327 517

daveywater.com

NEW ZEALAND

7 Rockridge Avenue,
Penrose, Auckland 1061
Ph: 0800 654 333
Fax: 0800 654 334
Email: sales@dwp.co.nz

NORTH AMERICA

Ph: 1-888-755-8654
Email: info@daveyusa.com

AUSTRALIA

Head Office
6 Lakeview Drive,
Scoresby, Australia 3179
Ph: 1300 232 839
Fax: 1300 369 119
Email: sales@davey.com.au

EUROPE

7 rue Eugène Hénaff 69200
Vénissieux, France
Ph: +33 (0) 4 72 13 95 07
Fax: +33 (0) 4 72 33 64 57
Email: info@daveyeurope.eu

MIDDLE EAST

Ph: +971 50 6368764
Fax: +971 6 5730472
Email: info@daveyuae.com