

### DAVEY WATER PRODUCTS GUARANTEE FOR AUSTRALIA & NEW ZEALAND

This Davey product is guaranteed to be free of material or manufacturing defects at the time of original purchase. Should any part fail as a result of such defects within five years (one year only for models 24RHP25 and 100RHP25) of original purchase, the product will be repaired or replaced free of charge.

#### TERMS AND CONDITIONS

1. This guarantee applies to all states and territories of Australia and New Zealand only and is subject to the provisions of the Trade Practices Act (Aust.), the Goods and Consumer Protection Legislation of the various Australian states and the Consumers Guarantee Act 1993 (NZ) as applicable.
2. The guarantee period commences on the date of original purchase of the equipment. Evidence of this date of original purchase must be provided when claiming repairs under guarantee. It is recommended you retain all receipts in a safe place.
3. This guarantee covers parts and workshop labour only. Goods should be forwarded, with proof of date of original purchase, to an Authorised Davey Service Centre freight paid.
4. This guarantee 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, incorrect installation, chemical 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 unauthorised persons attempting repairs are not covered under guarantee. The product must only be connected to the maximum pressures as shown on the nameplate.
5. Without limiting the original purchaser's entitlements under the Trade Practices Act (Aust.), the Goods & Consumer Protection Legislation of the various Australian states, or the Consumers Guarantee Act 1993 (NZ), 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.
6. Where the Trade Practices Act (Aust.), the Goods and Consumer Protection Legislation of the various Australian states and the Consumers Guarantee Act 1993 (NZ) does not apply, Davey shall not be liable for any loss of profits or any consequential, indirect or special loss, damage or injury of any kind whatsoever suffered by the purchaser 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.
7. Nothing in this guarantee is intended to have the effect of contracting out of the provisions of the Trade Practices Act (Aust.), the Goods and Consumer Protection Legislation of the various Australian states and Consumers Guarantee Act 1993 (NZ) except to the extent permitted by the various Acts and this guarantee is to be modified to the extent necessary to give effect to that intention.
8. Davey may be collecting personal information from you in order to provide you with a service. Davey Water Products Pty Ltd promises only to use this information in accordance with the Provisions of the Privacy Act 1988 (Cth) and the Privacy Policy of Davey Water Products Pty Ltd which is available at [davey.com.au](http://davey.com.au).

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DEPEND ON  
**DAVEY**

**WATER PRODUCTS**

# Installation and Operating Instructions

## SUPERCELL 8P, 18P, 40P, 60P, 100G, 170G, 80PHP16, 24RHP25 & 100RHP25 PRESSURE TANKS



**WARNING:** MAXIMUM WORKING PRESSURE RATING FOR :-  
SUPERCCELL 8P, 18P, 40P, 60P, 100G & 170G is 1000kPa (145 psi)  
SUPERCCELL80PHP16 is 1600kPa (232 psi)  
SUPERCCELL 24RHP25 and 100RHP25 is 2500kPa (363 psi)



**WARNING:** Wherever it is possible that the pump system pressure may reach or exceed the tank pressure rating under any circumstance (e.g. pressure switch incorrectly set), it is strongly recommended that the system is protected by a suitable pressure relief valve set at or below the maximum tank pressure rating. Failure to install a pressure relief valve may result in tank failure causing property damage or serious personal injury.



**CAUTION:** To prevent personal injury, ensure all water pressure is released from the pressure system prior to work being performed. Ensure pumps are disconnected and/or electrically isolated.

**Please pass these instructions on to the operator of this equipment.**

## READ ALL INSTRUCTIONS BEFORE INSTALLING YOUR NEW SUPERCCELL TANK

These instructions have been prepared to acquaint you with the correct method of installing and operating your Supercell Tank. We urge you to study this publication carefully and follow its recommendations. In the event of installation difficulties or the need for further advice, you should contact the Dealer from whom you purchased the system or your nearest Davey Water Products Sales Office.



### NOTE:

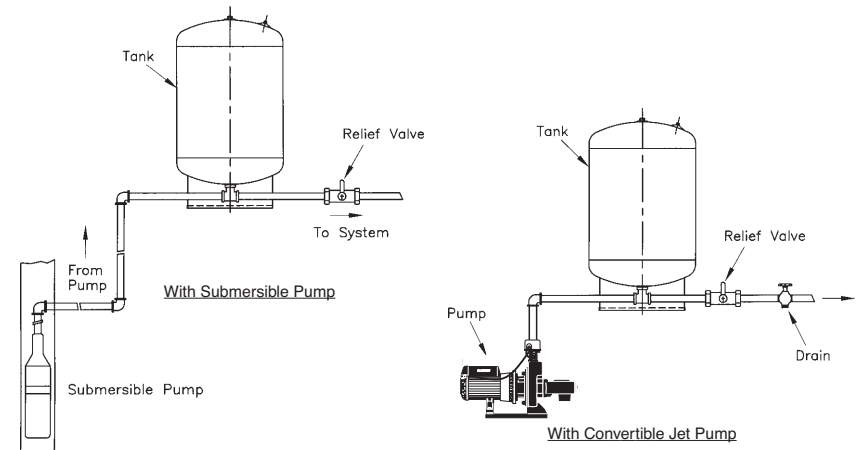
- \* All models (Supercell 8P, 18P, 40P, 60P, 100G, 170G, 80PHP16, 24RHP25 and 100RHP25) will accept water up to 90°C maximum.
- \* Be sure to protect the Supercell tank and all associated pumps and piping from freezing temperatures.

**INSTALLATION MUST BE IN ACCORDANCE WITH LOCAL PLUMBING CODES WHERE APPLICABLE.**

## TYPICAL INSTALLATIONS



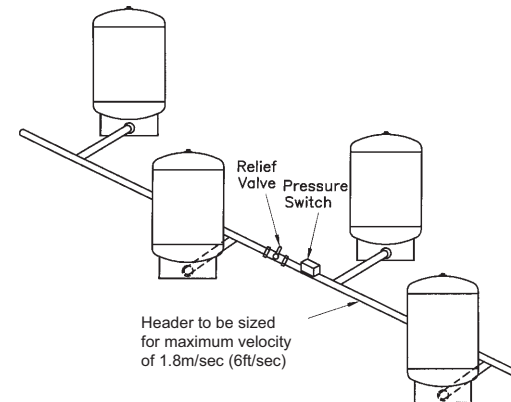
**NOTE:**  
Isolation valves, draw valves and gauges will improve serviceability.



## TYPICAL MULTIPLE TANK INSTALLATIONS

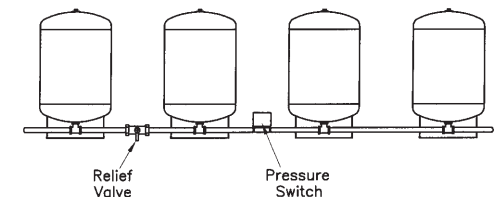


**NOTE:**  
Isolation valves, draw valves and gauges will improve serviceability.



NOTE: All tanks must have equal pre-charge.

Either / or



## Nominal Draw Off Capacity in Litres

Tank Model	Tank Capacity (litres)	Max Pressure Rating (kPa)	Pressure Switch Range kPa (psi)											Dimensions					
			Pressure Switch Range kPa (psi)											Height (mm)	Inlet				
			150-250 (22-36)	150-300 (22-44)	200-400 (29-58)	250-400 (36-58)	250-500 (36-73)	300-600 (44-88)	500-1000 (73-145)	700-1200 (101-174)	1000-1600 (145-232)	1600-2000 (232-290)	2000-2500 (290-363)		Diameter (mm)	Size (BSP)	Position		
Supercell 8P	8	1000	2.2	3.0	3.2	2.4	3.3	3.4	3.5	N/A	N/A	N/A	N/A	N/A	N/A	N/A	203	1" M	Bottom
Supercell 18P	18	1000	5.0	6.7	7.2	5.4	7.4	7.6	8.0	N/A	N/A	N/A	N/A	N/A	N/A	N/A	279	1" M	Bottom
Supercell 40P	40	1000	10.7	14.1	15.2	11.5	16.0	16.5	17.7	N/A	N/A	N/A	N/A	N/A	N/A	N/A	318	1" M	Bottom
Supercell 60P	60	1000	16.1	21.2	22.8	17.2	23.9	24.8	26.6	N/A	N/A	N/A	N/A	N/A	N/A	N/A	388	1" F	Bottom
Supercell 100G	100	800	26.3	34.5	37.3	28.3	39.3	41.3	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	406	1" F	Bottom
Supercell 170G	170	800	45.7	59.9	64.6	48.8	67.8	61.0	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	533	1 1/4" F	Bottom
Supercell 80PHP16	80	1600	21.5	28.2	30.4	23.0	31.9	28.7	35.5	30.2	27.9	N/A	N/A	N/A	N/A	N/A	388	1" F	Bottom
Supercell 24RHP25	24	2500	6.3	8.3	9.0	6.3	9.4	10.3	10.5	9.1	8.4	4.5	4.6	N/A	N/A	N/A	260	1" M	Bottom
Supercell 100RHP25	100	2500	26.3	34.5	37.3	28.3	39.3	41.3	43.9	37.7	34.8	18.9	19.1	N/A	N/A	N/A	460	1" M	Bottom

## Tank Pre-Charge

For correct operation pressure tanks should be pre-charged as follows:

- Pressure switch controlled pumps with differential pressure set at 140 kPa (20 psi), pre-charge the tank to 15kPa (2 psi) below the cut in pressure.
- For pumps controlled by pressure switches with higher differential pressures, electronic controls or variable speed controls, pre-charge the tank to 65% of the maximum system pressure.
- Pressure tanks installed on mains pressure, pre-charge should be set at the mains pressure.
- For hot water expansion, pre-charge should be set at the mains pressure.

For your convenience, this pressure tank has been factory set at 200kPa (29 psi) except models 100G and 170G which have 140kPa (20 psi) pre-charge, and model 80PHP16, 24RHP25 and 100RHP25 which have 400kPa (58psi).



**CAUTION: Never over-charge the tank and use air at ambient temperature only!**

## Installation



**NOTE: To avoid possible water damage to property from ruptured pipes, leaking connections, worn/leaking pump seals, etc., pumps and associated equipment (including this Supercell Pressure Tank) must be installed on a well drained site or in a properly constructed water proof enclosure with drain tray.**

## Bottom Entry Models

Connect the tank vertically in the outlet piping of the water pump being used. Thread seal tape is necessary.



**Do not overtighten!**

## Base Mounted Models

These units have the inlet positioned on the bottom of the tank. Ensure that any fittings used firmly retain the pipe or hose connected. Thread tape should be used on all threads.

The tank should be placed on a firm base. If vibration is likely to occur in the vicinity the tank should be mounted on a resilient mount.

In order to ensure your tank provides its maximum service life it should always be installed in a covered, dry position. The tank should not be allowed to rub against any surrounding hard surfaces, such as walls, etc.



**Installation Inside Buildings: To cater for possible plumbing or tank failure, the installation must include an enclosure that will capture any water spraying from the tank and direct it into a properly constructed drain tray.**



**Note: When installing a Supercell Tank and/or associated pump system inside a building, allowance for possible high pressure leakage MUST be made.**

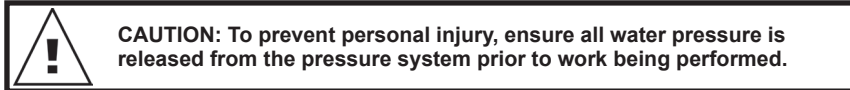


**Note: In order to carry out routine maintenance the Supercell Pressure Tank MUST be easily accessible to the end user or home owner.**

## Checking and Replenishing Tank Air Charge

Supercell "P", "G" and "PHP16" Pressure Tanks do not require regular checks under normal operating conditions. Supercell 24HP25 and 100RHP25 should be checked every 4-6 months. In either case, if air charge adjustment is required then follow the following procedures:

1. Remove the pressure tank completely from pump installation, ensuring to isolate the pressure tank and release the water pressure from the tank beforehand. OR  
Release all water pressure from the pressure tank by switching off the pump at the power point, and opening the closet tap. For above ground supply tanks it is necessary to close the gate valve between the supply tank and the pump.



Leave tap open during air replenishment.

2. When all water pressure has been released from the system, check air pressure at air valve on top of pressure tank. The pre-charge pressure reading should be as detailed on page 3 of this document.
3. If necessary, replenish air charge to the correct pressure indicated. Ensure that a tap in outlet piping of pump is open during replenishment of air pre-charge.



## Periodic Checks

Flushing: Depending on the quality of the pumped water, from time to time your tank may require flushing to remove settled fines such as mud or sand. If sand or mud is allowed to stay in the tank it will accelerate wear on the internal lining and shorten your tanks life.

Safely disconnect the tank from the water supply, discharge all air from the tank and flush the tank several times with clean water. Once the flushing water is clean, reconnect the tank and recharge the air as per above.

External Inspection: A tank in good order will not leak, but over time due to damage through rough handling, impacts or grit and/or impurities in the water the tank shell may fail and/or leak. Should the tank leak or show signs of possible failure the tank should be immediately disconnected and replaced.



## Operational Difficulties & Trouble Shooting

NOTE: Loss of air charge is the most overwhelming cause of difficulties with Supercell Pressure Tanks. Partial or complete loss of air charge will cause any of the following problems:-

- a) Rapid pump cycling (ie. pump stops and starts frequently during operation).
- b) Decreased draw-off capacity.

Alternatively, the same problems could be caused by a punctured or leaking diaphragm as indicated by water leaking from the air valve when the valve core is depressed (typically when checking tank pre-charge).

Supercell 8P, 18P, 40P, 60P, 100G, 170G and 80PHP16 have a diaphragm which is captive (non-serviceable). In the event of diaphragm failure the whole tank must be replaced.

Supercell 24RHP25 and 100RHP25 have a serviceable diaphragm which may be replaced.

Symptom	Causes	Remedies
Pump Cycling (Pump stops and starts frequently while operating)	i) Punctured diaphragm (check that water escapes from air valve when depressed) ii) Incorrectly set pressure switch iii) Incorrect pressure tank pre-charge	i) Replace Tank. ii) Reset pressure switch to manufacturers recommendations iii) Adjust tank pre-charge to 15kPa (2psi) below cut-in
Pump stops and starts when all taps are closed	i) Leaking tap or pipework on suction and/or discharge side	i) Isolate suction pipework, if pump continues to stop and start, check for leaks on discharge. If pump stops and does not restart, problem is likely to be leaking checkvalve on suction side of pump system.
Water flow from open tap stops then starts when first opened	i) Tank pre-charge set too high or too low ii) Pressure switch cut-in set too low	i) Adjust tank pre-charge to 15kPa (2psi) below cut-in ii) Adjust pressure switch cut-in
Tank will not hold air pre-charge	i) Faulty air valve ii) Punctured diaphragm	i) Replace air valve core ii) Replace tank or diaphragm where diaphragm may be replaced.