Riva-Flo

by onga Australia

Owners Manual

CE

These instructions act as a guide only and do not cover every contingency. If you are not familiar with the installation and operation of pumping equipment you should seek advice from your authorised Riva-Flo stockist or someone experienced with pumping equipment.

OPERATION

Please read these instructions in full before installing and commissioning the pump unit.

PUMP PROTECTION (All Models)
Pump Protection: Warranty of these pumps is void unless they are housed correctly and protected from weather, floods, chemicals, dust, vermin, insects etc. The housing used should be weather proof and well vented so that motor heat can escape. To obtain best performance, pumps should be installed as close to water supply as possible. It is recommended that the pump unit is bolted down.

FLUID PUMPED
Pumps are manufactured to pump water found in defined applications. Special pumps are made to pump chemicals, septic tank effluent, sewerage, swimming pool, spa, hot water, high viscosity, dirty water and large or stringy particles.

Care should be taken that pumps are not used to pump fluids beyond their design criteria or they will fail or operate unreliably.
Recommended Water Temperature Limits °C.

Model	Min.	Max.
TF	5	80
MF & other	5	60

If in doubt seek advice from an experienced pump engineer.

INSTALLATION: SHALLOW WELL & CENTRIFUGAL

PLUMBING
(Shallow Well up to 25ft (7.5 metre suction lift)
Riva-Flo Models TF, MF, SF, CF, & PF
Shallow Well Suction Pipe: Galvanised PVC or high grade polythene pipe can be used. A pipe friction table should be consulted to establish size of pipe. As it is important that there are no air leaks, pipe joints should be tightened correctly and jointing compound used. Self priming pumps should draw water through humps in the suction line but best results will be obtained if pipe rises evenly from water to pump. When pump is being used on flooded suction (from ground level tanks) a check valve should be used. Make sure it is installed in the correct direction. Water should be drawn 2 inches above the tank bottom so that sediment is not pumped through the system. On suction lifts, a foot valve MUST be used.

CONNECTING PIPES

Pumps can be damaged if care is not taken when connecting pipes. Pipes should be supported so that the pump casing is not strained by the weight or misalignment.

Pipe fittings should be carefully screwed onto the pump making sure not to cross-thread or overtighten. We recommend the use of a moulded pipe fitting to connect to the pump as this avoids possible damage to the pump threads and unnecessary replacement of parts.

PRIMING:

HOW TO START THE PUMP

(Shallow Well Jet & Centrifugal Models)

Priming: To prime pump, remove priming plug and fill pump and suction pipe with water. Replace plug and start pump. If pump pumps a little and stops, then turn pump off, check suction pipe for possible leaks and repeat priming procedure until pump operates satisfactorily.

MF55 PRIMING

Prime the pump through the top female outlet so that the pump and suction line are full and then install RF pressure tank. Turn pump on and allow to operate until primed and all air is flushed out of suction and discharge lines.

The MF55 pump has a 1"BSP (25mm) male suction port which includes a built-in non return valve. For best performance install pump as near to water as possible using 25mm or larger pipe.

If the pump is required to lift the water in a long suction line, remove the built-in non return valve from pump suction and install a footvalve at the end of the suction pipe.

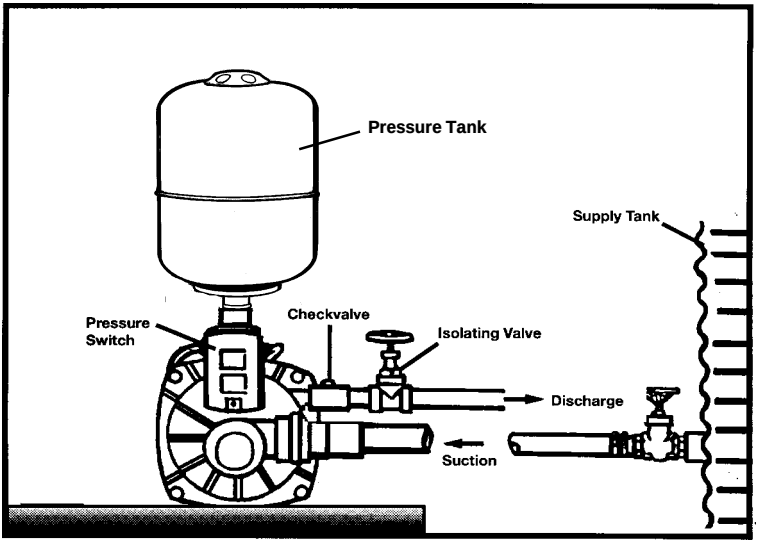
The MF55 pump has a 1" BSP (25mm) female outlet and is positioned adjacent to the inlet port.

A Riva-flo pressure tank with a 1" male fitting will assemble directly into this outlet.

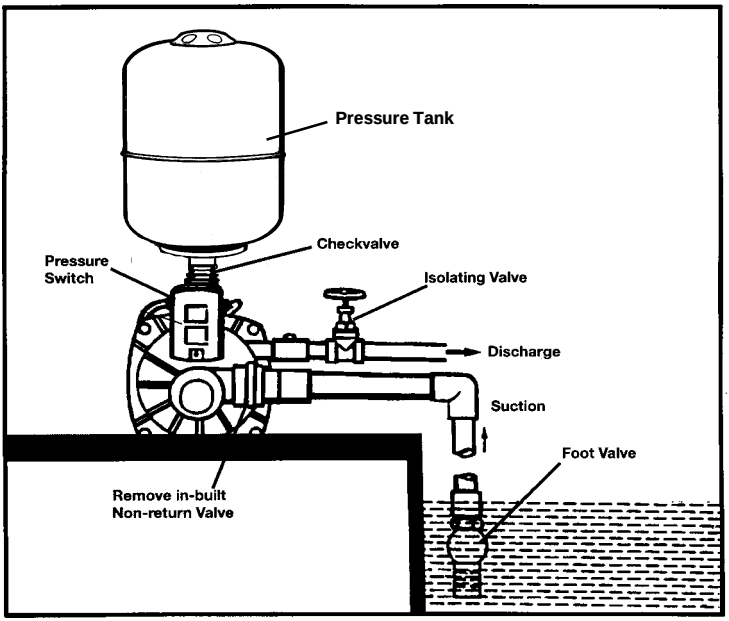
The pressure switch should be screwed into the port on the front of the pump casing. No sealing tape should be necessary and the locknut should only need be just over handtight to seal.

All pressure switches are factory set and will suit most domestic requirements, but minor adjustment may be necessary to suit individual installations.

INSTALLATION WITH FLOODED SUCTION FROM SUPPLY TANK



INSTALLATION WITH A SUCTION LIFT



INSTALLATION: DEEP WELL

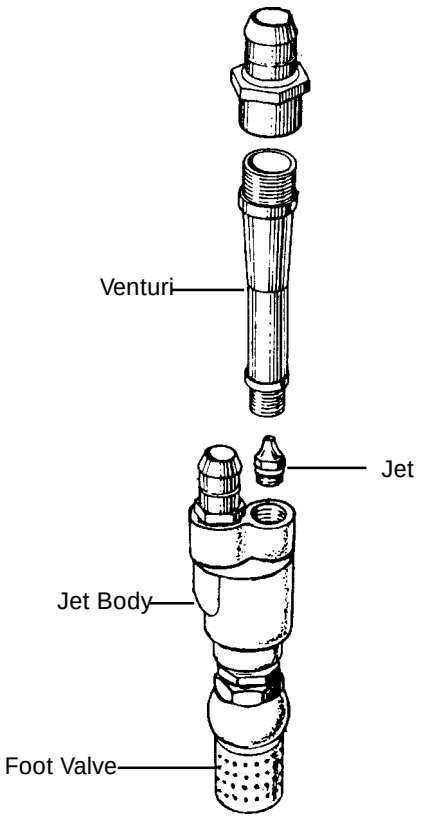
PLUMBING

(Deep Well Jet Pump up to 130ft (40 metre suction lift)

Riva-Flo Models DF

Deep Well Suction Pipe: The correct grade of polythene pipe should be used. Use a good joint sealant on all screwed pipe joints and tighten properly as air leaks will stop pump operating. When installing injector to pump, cut pipes so that when coupled they will lie straight side by side. Adequate heating of pipe ends makes them easy to push on. Tighten stainless steel hose clamps, two per fitting, so that pipes will not pull off.

Deep Well Injector Exploded View



PRIMING:

HOW TO START THE PUMP

(Deep Well Jet Models)

Deep Well Priming: Close control valve, unscrew priming plug and pour in water until both pump and suction pipes are full.

Replace priming plug and turn on pump. Pressure gauge should rise to above 40 psi.

Open control valve slowly and flush air from pump and suction pipes.

Care should be taken to maintain minimum operating pressure. As deep well pumps are sensitive to air, if pump is not primed at first attempt, repeat priming process.

If pump has been installed on an offset or river installation, it may be impossible to install suction pipes to rise evenly from water to pump. To overcome this, a 'T' should be installed in both the suction and pressure pipes at each hump for priming purposes.

For further deep well injector kit installation information, refer to the installation and operating instructions supplied with the kit.

TROUBLE SHOOTING

FAULT	REMEDY
1. Priming Trouble	· Foot or check valve may be leaking. · Foot valve should be installed below actual drawdown water level. · Suction lift too high. · Air leak in suction pipe. · Check valve may be installed in wrong direction. · Voltage or wiring of motor maybe incorrect.
2. Motor Switching On and Off When No Water is Being Used	· Pressure switch setting incorrect - check catalogue. · Pressure tank filled with water - no air cushion. Recharge to instruction on pressure tank. If pressure tank loses pressure after a short period of operation, then check pressure tank and air valve for leaks, replace pressure tank bladder if necessary. · Foot or check valve leaking. · Discharge or suction pipe or pipe fittings leaking.
3. Pump Not Switching Off or Taking Too Long to Switch Off	· Low line voltage. · Drop in suction water level. · A leak on discharge side of pump. · Blocked impeller or jet. To correct for a drop in voltage and/or water level, adjust top pressure switch setting about 5 psi (35 kPa) below pump top pressure to compensate the differential change.
4. Motor Thermal Overload Tripping	· Motor operating on low pressure. · A blocked impeller causing it to rub. · Waterlogged Aqua Pack. To cure see "Motor Switching On and Off" (**2.**) above.
5. Minimum Pump Operating Pressure High	· If deep well pumps have a minimum operating pressure of 5 to 7 lbs. above catalogue, this might indicate an air leak on the suction side of pump.
6. Pump runs but fails to operate	· The pump has probably lost prime. · Check for an air leak in the suction pipe. · Foot or check valve leaking making priming difficult. · Pump and suction pipe may not have been filled with water. Pump impeller, suction pipe, or foot valve clogged. · No water in the tank or water source.

TECHNICAL DATA

Type	DF200	PF200	SF200
Rated Voltage (V)	220-240	220-240	220-240
Rated Frequency	50	50	50
Rated Power (W)	1800	1700	2000
Max. Total Head (m)	24.0	23.0	37.0
Min. Total Head (m)	9.0	8.0	12.0
Max. Flux (l/m)	64	355	155
Rated Speed (l/m)	2800	2800	2800
Duty Type		S1continuous	
Insulation Class		Class B	
Degree of Protection		IP 44	

TECHNICAL DATA

Type	DF300-3	PF300-3	SF300-3
Rated Voltage (V)	400-415	400-415	400-415
Rated Frequency	50	50	50
Rated Power (W)	3000	3000	3000
Rated Current (A)	4.5	4.5	4.5
Max. Total Head (m)	33.0	36.0	38.0
Min. Total Head (m)	29.0	12.0	19.0
Max. Flux (l/m)	235	210	205
Min. Flux (l/m)	-	-	-
Rated Speed (l/m)	2800	2800	2800
Duty Type		S1continuous	
Insulation Class		Class B	
Degree of Protection		IP 44	

ELECTRICAL (All Models)

All single phase systems are supplied with a standard Australian (3) three pin plug and cord for connecting to 240 volt power outlets. Either 10 or 15 amp plugs are used depending on the motor size.

Pumps intended for use in outdoor fountains, garden ponds and similar places must be supplied through a residual current device (RCD) with a rated residual operating current not exceeding 30mA.

Where required, means for disconnecting the pump from the supply having a contact separation of at least 3mm in all poles must be incorporated in the fixed wiring.

On 3 phase motors the connecting box shall still meet the IP 44 requirements after the pump has been wired in.

480 volt single phase and 415 volt 3 phase motors must be equipped with a contactor and must be wired in by an authorised electrician.

3 phase motors can turn in any direction depending on their electrical connection. When first connected the power should only be flicked on and off so as to determine the motor rotation. If the rotation is not correct as indicated on the pump then any 2 of the 3 power leads should be reversed and the direction rechecked. Do not run the motor or pump in the reverse direction as pump damage can occur.

ELECTRICAL TROUBLE SHOOTING PROCEDURE (All Models)
No electrical power, electrical fuse blown, pump not plugged in, voltage incorrect. etc.

If the motor thermal repeatedly trips there is a fault which should be corrected before major problems occur.

- Simple initial inspection may show cause of jammed or fouled impeller which if not corrected will result in motor burnt out.

Automatic Reset: This automatically resets as the motor cools.

⚠ BEWARE: Pump may restart without warning

PRESSURE TANK INSTALLATION

Pressure tanks must be charged with air before installation. The air pressure should be 10% lower than the pressure switch cut-in setting of the pump, (e.g. pump working on 20-40 psi should have a tank air charge of 18 psi.)

Pressure tanks should be installed under cover out of the weather and the air pressure should be regularly checked and maintained.

PRESSURE TANK MAINTENANCE & TROUBLE SHOOTING

(Auto Operation all Models)

The air charge should be checked at least once a year as tanks gradually lose air which causes pump cycling.
To check air pressure, turn off the electricity to the pump.
Turn off the gate valve from the water supply.
Turn on a tap so that the water is drained from the pump.
Only then, measure the air pressure in the tank using a tyre pressure gauge on the valve. If the pressure is low, recharge using a tyre pump.

Do not over charge the tank with air as this will cause tank liner damage, pressure surge problems, and the system to malfunction.

False readings can be obtained when checking the air pressure unless the tank is completely empty of water.
If in doubt unscrew or disconnect the tank from the pipe work. When the air pressure is correct, reinstall the tank, open gate valve from the supply tank and turn on the electricity. The pump should now operate normally once any air is purged from the lines and pressure switch adjusted accordingly.

For further information on the installation of a pressure system, refer to the installation and operation instructions supplied with the pressure kit.

SAFETY HINTS

BEWARE:

- Pump may restart without warning if motor features include an automatic overload. Refer "Electrical Trouble Shooting Procedure".

- **DO NOT** over charge the air pressure within the pressure tank where installed. Refer "Pressure Tank Installation" for correct air pressure setting procedure.

- Larger pump models may require a lifting device to manoeuvre unit.

- If a domestic pressure system is installed near a mains pressure hot water service, a checkvalve should be installed on the discharge line of the pump to prevent hot water leakage back to the pump should the hot water service's non return valve fail. Pump protection can be achieved by installing a checkvalve between the discharge side of the pump and the hot water service at a distance so as heat transfer cannot effect the pumps casing.

- Pumps are electrically operated and must be kept dry out of wet or damp conditions. Motor vent holes should not be touched as rotating parts may cause injury.

- Always turn the POWER OFF and pull out the power plug if doing repairs or adjustments to the pump.

Riva-Flo
by onga Australia

1. Your Riv-flo unit, when used for its designed purpose, correctly housed and vented against weather, vermin, dirt etc should render trouble free service. You should carefully read the instructions supplied and your unit should be installed and operated in accordance with these, otherwise this warranty will not apply.

The warranty does not cover damage, malfunction or failure resulting from, use on incorrect voltages, alteration, accident, misuse, neglect, abuse, faulty or improper installation, misadjustment, mains supply problems, thunder-storms, lightening, infestation by insects or vermin, tampering by unauthorised persons, failure due to non company supplied components or products being substituted as part of the system, or exposure to abnormal corrosive conditions.

2. Onga Pty Ltd (The Company) hereby warrants in accordance with and subject to the provisions herein contained your unit against defects in material and workmanship under normal use and service and when properly installed and connected for a period of 12 months or 2000 hours operation (whichever occurs first), from the date of purchase of new equipment to the original owner and used in the original installation. This warranty is limited in time to two years from date of manufacture. In the event of a breakdown or failure of your unit or part there of, within the period of 12 months or 2000 hours which prevents normal working, the Company will, if your unit is returned to one of the addresses listed, repair the breakdown or failure and replace any defective part free of charge. Freight charges to us both ways and risk of loss or damage will be your responsibility. If new or replacement parts are supplied for in field replacement work, any labour or travelling charges will be your responsibility. Spare parts are normally stocked for a period of 5 years and generally stocked for the life of the unit.

3. This warranty does not extend to engines, pressure gauges, or component parts of Units not manufactured by the company but where permissible and possible the Company will make available to you the benefit of any warranty of that manufacturer thereof.

4. The Company will not be liable for costs involved with the taking out and re-installing of equipment that has failed under the warranty period. This includes electrician's time with wiring costs, and plumber's time and materials.

5. This warranty does not extend to or cover your Unit or any part of it which in the reasonable opinion of the Company has worn by fair wear and tear, abraded or corroded by fluid pumped, run in a dry condition, operated at high temperatures or outside the technical specification of the equipment, or has been damaged or rendered defective by accident, wilful act, negligence (other than that of the Company) misuse, alteration, or repair carried out by other than the Company (or by permission with its dealers), usage of other than the Company's parts, operation on voltages or frequencies other than indicated on the rating plate, incorrectly set voltage regulator, electrical fusion, lightning, or by force majeure. This warranty is an exclusive warranty and is in lieu of all other warranties and conditions, expressed or implied, whether statutory or otherwise.
Swimming pools or spa equipment will not be warranted where the Langelier saturation index "Ph" range is outside 6.8 to 8.8 and they have not been regularly treated with Chlorine or Bromine based sanitising system. Use of any other chemical treating system voids warranty.

6. Save as foresaid the Company shall not be liable for any loss or damage of any kind whatsoever (including injury or death to persons or animals or loss or damage to property) whether suffered or incurred by you or by some third party where such loss or damage arises in relation to or as a result of the Unit or any part thereof and whether arising wholly or partly as a result of negligence of the Company, its servants or agents or otherwise. Without limitation upon the provisions of the foregoing provisions of this clause the Company shall not be liable for any consequential loss or damage (including financial loss or damage) and in no event and in no circumstances shall the liability of the Company to you or any third party exceed the total purchase price of the Unit or parts thereof in question.

7. Nothing in this warranty, limits or restricts, or is intended to derogate from, any right or remedy which the purchaser or ultimate user of the Unit may have pursuant to Australian State and/or Australian Federal Consumer Protection Legislation and where necessary shall be so read and construed.

8. Claims under this warranty must give evidence of date of purchase, model and serial number of the pump or equipment. Also the claimant's name and address, phone number.

HEAD OFFICE **ABN 27 004 856 204**
2 Redwood Dve, Notting Hill 3168
Tel (03) 9574 4000 Fax (03) 9562 7237
www.onga.com.au

EXPORT SALES
2 Redwood Dve, Notting Hill 3168 Australia
Tel 61-3-9574 4000 Fax 61-3-9574 4090
Email export@onga.com.au

CHINA
12-8E, No. 38 Qin Huyi Rd Fuzhou China
Tel +86 591 773 4683 Fax +86 591 771 7013
Email onga@pub3.fz.fj.cn

SALES & SERVICE AUSTRALIA

ADELAIDE
91 Grange Road
Allenby Gardens SA 5009 Australia
Tel (08) 8340 7888 Fax (08) 8340 7999
Email adelaide@onga.com.au

BRISBANE
20-26 Balaclava Street
Woolloongabba Qld 4102 Australia
Tel (07) 3393 0177 Fax (07) 3393 0790
Email brisbane@onga.com.au

MELBOURNE
2 Redwood Drive
Notting Hill Victoria 3168 Australia
Tel (03) 9574 4040 Fax (03) 9574 4088
Email melbourne@onga com.au

PERTH
156 Francisco Street
Belmont WA 6104 Australia
Tel (08) 9277 7500 Fax (08) 9478 3026
Email perth@onga.com.au

SYDNEY
Unit 1/52 Heathcote Road
Moorebank NSW 2170 Australia
Tel (02) 9734 8615 Fax (02) 9734 8601
Email sydney@onga com.au

TOWNSVILLE
9-15 Corporate Crescent
Garbutt Qld 4814 Australia
Tel (07) 4725 1588 Fax (07) 4725 1650
Email townsville@onga.com.au

NEW ZEALAND

AUCKLAND
323 Neilson St, Onehunga Auckland
Tel 64-9-634 7144 Fax 64-9-634 7088
Email query@onga.co.nz

CHRISTCHURCH
5 Lincoln Lane, Addington
Tel 64-3-366 5909 Fax 64-3-366 2524
Email query@onga.co.nz