STREAMLINE | INSTRUCTION MANUAL

BRAVO™ 650

Contents

1. System Features

Front of system 4
Side of system 5

2. Responsibilities

General responsibilities for the Bravo® Tank system 6
Manufacture responsibilities for the Bravo® Tank system 6
Personnel responsibilities for the Bravo® Tank system 6

3. Safety Regulations

System safety 7
Personal safety 8

4. Filling The Tank ..... 10 - 11

5. To Dispense Pure Water 12

6. Maintenance

Prefilter & Carbon Filter 13
Softner Filter 13
RO Membrane 14
DI Filter 14
The Pumps 14

7. Filters & parts 15

8. Warranty Information 16

9 . Why Streamline®? 17

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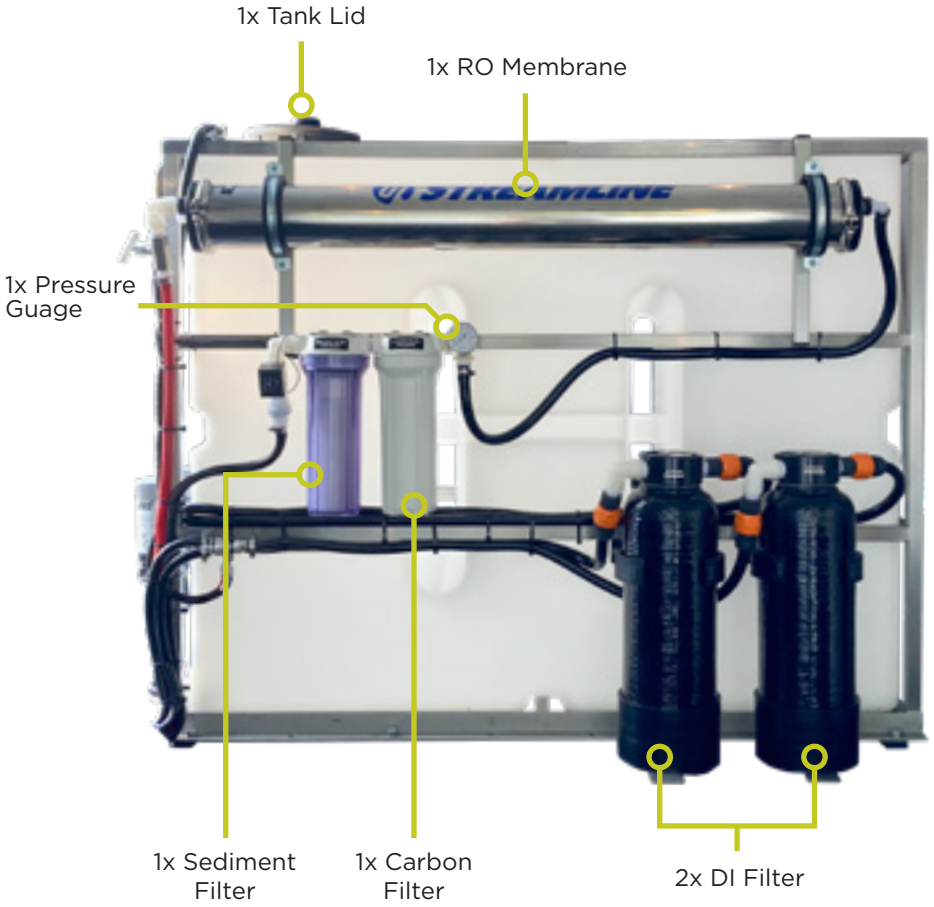
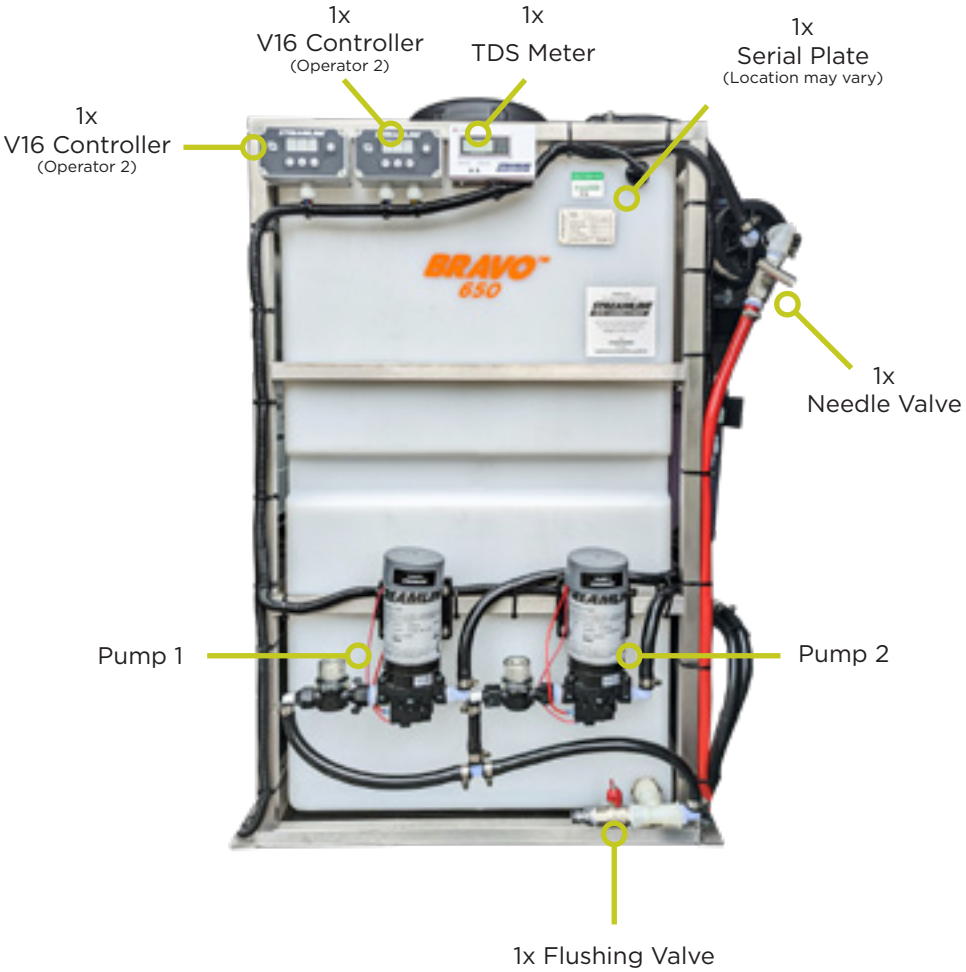
System Features

Front Of System



Side Of System



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Responsibilities

General Responsibilities

These operating instructions allows you to use the Bravo® tank system safely and efficiently. The instructional booklet must be read before setting up, starting or using your Streamline® equipment. It is an integral part of the product itself.

Please read the warning and instructions contained in this booklet carefully. They provide important information on the safe use and maintenance of the equipment. Pay particular attention to general safety instructions.

Please keep this booklet in a safe place near your Bravo® tank system for future consultation.

Your Bravo® tank system is constructed according to current safety standard and regulations. The latest and current edition is illustrated in this manual.

The contents of this booklet should be bought to the attention of all users.

Manufacturer Responsibilities

Varitech Systems Ltd, the manufacturer of Bravo® tanks, holds 12-months warranty on all machines and equipment from the date of purchased (see Warranty section 2)

Varitech Systems Ltd, the manufacturer of Streamline®, is in no case responsible for failures or errors caused by modifications to the unit by customer or other persons.

Personnel Responsibilities

The Bravo® tanks equipment is designed and manufactured to be operated in industrial applications. It is important that the operator(s) of the Bravo® tank system equipment have read through these operating instructions thoroughly, and understand all safety instructions and regulations.

The Bravo® tanks filtration equipment is not intended for use by children, adolescents, persons under the influence of alcohol / drugs or simply lacking experience and knowledge. These operating instructions are designed to educate the user, informing the operator how to carry out the task at hand successfully, whilst avoiding potential dangers that might occur.

Important
If needed, training videos can be found on the Streamline® website: www.streamline.systems

System Safety

The Bravo® tank is manufactured with the safety of the operator in mind, including some key features such as result in serious personal injury.

Over Pressure

- If the water pressure in the Bravo® tank trolley system is above the standard 10bar pressure, the pressure relief valve opens on the pump allowing a greater flow through the waste water outlet, reducing the pressure in the system and through the pure water outlet.

Over Heating

- If the powerful booster pump overheats on the Bravo® tank system, an activation switch is triggered and the system will automatically switch off.

Electrical Hazards

- As the Bravo® tank system is powered by an electrical source, never use the equipment in the rain, snow or strong winds.
- Never use the filtration system to clean people and/or animals.
- Before each use, undertake a visual check on all electrical cables for damage. Never use the filtration system with a damaged cable.

Mechanical Hazards

- To avoid all mechanical hazards, place the Bravo® tank system on an even surface, and ensure sufficient stability.

Use only original accessories that come with the Bravo® tank system, offering maximum quality and security. Failure to use original accessories absolves Varitech Systems Ltd, the manufacturer from all liability.

Personal Safety

Stay alert, watch what you are doing and use common sense when operating the Bravo® tank system. Do not use the Bravo® tank system while you are tired or under the influence of alcohol, drugs or medication. A moment of inattention while operating the tank system may result in serious personal injury.

Use personal protective equipment to avoid personal injury:

Protective Gloves

Protective Footware

Additional protective equipment such as a dust mask, non-skid safety shoes, hard hat or hearing protection may be required depending on the safety regulations in the operator surroundings.

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Filling The Tank

1. Ensure that the flush valve is closed and needle valve on the R.O. filter is fully open (turn anti-clockwise).

2. Switch the solenoid switch ‘on’ to fill. (Hold the Up and Down Arrow on Controller 2)

3. Connect a hose to the port marked ‘Waste’. This hose is the waste water hose and must discharge into the nearest suitable drain.

4. Connect a hose from the mains water supply, to the port marked ‘Water Inlet’ and turn on the water supply. Allow the water to flow through the system and out the waste water hose, until all air has been purged from the system.

5. Adjust the needle valve, by turning it clockwise, until a 50:50 ratio of water to tank and water to waste is achieved. (Ideally a ratio of 40:60, pure/waste is required for maximum R.O. efficiency). Use a measuring jug to set this ratio. Once the ratio is accurate, count the number of revolutions which the needle valve has been opened. By remembering this number, future set ups will not require the use of a measuring jug , simply count the revolutions when closing the needle valve.

6. The solenoid valve will automatically shut off when the tank is full. Remember to switch off the solenoid if you wish to turn filling off earlier. Hold up and down arrows to turn off the solenoid valve.

To Dispense Pure Water

1. Attach the 5mtr hose supplied to the port marked 'Feed' and to the hosereel. If you have a static hose reel mounted in the vehicle, it would already be connected, ready for use. Connect the other end of the hose on the hosereel to the waterfed pole.

2. Switch the flow controller 'on' by pressing the ↑ button, and adjust the flow of water to the pole by increasing the number, until a desired flow is achieved.

3. The pump MUST run continuously. If it is running intermittently whilst water is flowing to the pole, decrease the speed on the flow controller by pressing the ↓ button, until the pump runs continuously. Different pole lengths may require this setting to be altered.

4. When you have completed the cleaning task, switch the pump off before disconnecting the hoses from the poles and hosereels, by pressing and holding the ← button.

The system must not be stored under pressure as this with invalidate the warranty.

Please Note: We advise running any system with an RO filter for 15 minutes before first use or when you replace the filter. This is to ensure that the system calibrates to the desired PPM (Part Per Million) of the filter.

Maintenance

Streamline water filtration systems are designed to be used for window cleaning, bus cleaning, and boat cleaning, etc. where a spot-free finish is required. To achieve this, the system has a series of filters to produce pure water with a reading of 0ppm. However, the filters require maintenance from time to time to maintain optimum efficiency.

If you have purchased a de-ionising resin bead system, only recommended for use in soft water areas, you are required to regularly take water samples from the outlet of the last resin filter and test the ppm reading with the TDS meter supplied. Anything from 0ppm to 5ppm is acceptable. Any reading above 5ppm indicates that the resin beads are becoming spent and need replacing. Debris and carbon filters should be replaced at least every three months.

If you have purchased a reverse osmosis (hereafter referred to as r.o.) filter system, suitable for use in hard water areas, it is very important that the maintenance and procedures are carried out regularly and accurately to ensure that your system produces water inexpensively and efficiently.

Prefilter & Carbon Filter

The first two filters are debris and carbon pre-filters and we recommend that these are replaced at least every three months. This can be done by simply unscrewing the filter bowls, replacing the cartridges and then screwing the bowls back on again, hand tight only!

Softner Filter

The third blue filter vessel is a softening resin filter which removes the hardness from the water before it enters the r.o. filter. The resin becomes spent and can be regenerated with softening salt. The frequency of the regeneration depends on the TDS reading of the water supply.

As an example, if the TDS reading of the water supply is 100ppm, the softener resin is able to treat approximately 2250-litres of water. If the TDS reading of the water supply is 200ppm the softener resin is able to treat half this amount. Therefore, given a reading of 100ppm, the resin will need to be regenerated every 900 litres of water collected, as the r.o. filter only retains 40% of the total incoming water. To regenerate the softener resin, fill the cartridge in the salt housing with softening salt.

Disconnect the red hose from the outlet of the r.o. filter and connect it to the outlet of the softener resin filter (filter 3), thus allowing the softener salt to run to waste. Connect the mains supply hose to the filling port and turn on the mains water supply. Allow the brine solution to flow through the softener resin filter slowly until the salt has completely dissolved. Turn off the water supply, allow the water pressure to drop completely, and repeat the above process with a second fill of salt. Once the second fill has dissolved, allow the water to flow for a further five minutes in order to flush the salt out of the softener resin filter. This final rinse is very important, as salt ingress into the RO filter could cause damage to the membrane.

Softner Filter (Continued)

Once this regeneration process is complete, remove the red hose and re-connect the blue hose as before.

Then open up the Flushing Valve for 30 minutes allowing water to flow out the rear pipe down the drain. This operation flushes the RO Membrane of any Debris and keeps it in prestige condition.

RO Membrane

The reverse osmosis filter requires a backwash periodically and we would recommend doing this every time you do a regeneration process on the softening resin filter. This can be done using the purified water from the tank. To do this, open the needle valve completely (anti-clockwise). Disconnect the two quick couplers from the Filter Five inlet and Filter Three outlet respectively and join them using the joiner supplied. Switch on the pump. Run this mode for five minutes, and then reconnect all hoses as before.

DI Filters

The last blue filter vessel contains deionising resin. This filter polishes the water as it is pumped from the tank to the pole. The de-ionising resin cannot be regenerated and needs replacing should your TDS reading rise above 005ppm.

The Pumps

The pumps are protected by a pre-filter with a clear top, allowing for visual inspection. If any debris accumulates in the pre-filter, unscrew the top and flush out with clean water.

The pumps have a built in pressure switch. When switched on it will pump until it has reached the maximum pressure setting before cutting out. This is a safety feature. However, the pressure switch may burn out if the pump is allowed to run intermittently. To avoid this happening, make sure that the pump speed is correctly set on the flow controller.

The pump must not be stored under pressure as this will invalidate the warranty.

BRAVO 650 Parts and product codes

Prefilter Change

Filterplus® 10” Sediment 5 Micron Cartridge
Product code: DF10-F-001

Filterplus® 10” Carbon Block Cartridge
Product code: CF10-F-001

These filters should be changed every 3 months

DI Resin

Tulsion High Grade Demineralising Resin
Product code: MB115

This should be changed every 3 months or when TDS reads 5ppm or more.

Reverse Osmosis

Filterplus® Reverse Osmosis Membrane 4040
Product code: S-MRO-4040-V

Every 12-18 months or when TDS reads 25ppm or more

Pump

Streamflo Pump 12v 100psi 5.5lpm
Product code: SF-DP30-014-10

Every 12-18 months or when needs renewal

Other parts

Streamline V16 controller
Product code: SFC16

HM Digital TDS Meter
Product code: TDS3

Filter plus 6x18 filter vessel complete
Product code: FP0618-01

650ltr upright tank
Product code: TNK650VW

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Warranty Information

Streamline® Warranty

The warranty on all Machines and Equipment is for 1 year (12-months) from RECORDED DATE OF PURCHASE.

THIS WARRANTY EXCLUDES NORMAL MAINTENANCE ITEMS, including but not limited to HOSES, FILTERS, O-RINGS, DIAPHRAGMS, VALVES, GASKETS, CARBON BRUSHES and damage to motors and other components as a result of failure to replace normal maintenance items. THIS LIST IS NOT EXHAUSTIVE.

If Streamline® receives notice of such defects during the warranty period, Streamline® will either, at its opinion, repair or replace components which prove to be defective.

Replacement parts will only be supplied under warranty, upon the inspection and approval of the defective parts by Streamline®

Should it be necessary to supply replacement parts before the opportunity to inspect, these will be charged at current prices and credit will only be issued upon subsequent inspection and warranty approval by Streamline®

The customer is responsible for the cost of return of the defective part. If warranty is approved, Streamline® will pay for the cost of the repaired or replacement part.

This warranty excludes the following conditions and circumstances which are at the discretion of Streamline®

Wear and tear, misuse, abuse improper maintenance, frost damage, the use of chemicals other than those supplied or approved by Streamline®, improper installation or repair, unauthorised modification, incidental or consequential costs, loss or damage, service, labour or third party charges, the cost of returning defective parts to Streamline®.

This warranty constitutes the exclusive remedy of any purchaser of a Streamline® unit and is in lieu of all other warranties, express or implied, including without limitation any implied warranty of merchantability or fitness for use, to the fullest extent permitted by law. In no event shall any implied warranty of merchantability or fitness for use exceed the term of the applicable warranty stated above and Streamline® shall have no other obligation or liability.

Important

Unfortunately these rights cannot be transferred to a third party.

Why Streamline®?

Flexibility

- Streamline® systems can be built according to customers' exact requirements
- For non-standard systems, the user's needs or specifications are listened to and turned into reality.

Quality

- Whilst price is important, quality is remembered long after price is forgotten
- We insist on sourcing brand name products from around the world, only of a reputable quality, and bring them together under the Streamline® name
- All Streamline® products carry a full one year's warranty, according to the manufacturers' standard terms and conditions of sale.

Service

- We have an in-house technical helpline able to answer most of your questions relating to the capabilities and functionalities of all Streamline® products
- If we get it wrong, we will put it right. If you are sent a wrong item, we will immediately attend to sending you the correct item and arrange a collection of the wrong item without any quibbles
- Streamline® is backed by a comprehensive range with massive stocks providing you with a 'one stop shop' for all your requirements.

Manufatured in the United Kingdom

STREAMLINE Checked & tested by quality control

Notes

STREAMLINE

BRAVO® 650

INSTR-BRAVO-650