

# User Guide

## NTS Series

### Neutralising Water Treatment Systems



**WaterMark**  
WMTS103:2016  
Cert. No. WM 74593  
Australian Certification  
Services

OCT2019

For correct operation & installation it is essential to observe these instructions.

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## Puretec Customer Service

Thank you for purchasing a Puretec Treatment System. Your system is a proven performer manufactured from only quality materials and components. It will give years of reliability and trouble free operation if maintained properly.

This user guide is designed for Puretec Treatment Systems. Be careful to ensure the information and illustration is applicable to your particular unit.

**Caution: Do not use with water that is microbiologically unsafe or without adequate disinfection before or after the system.**

The systems are designed for metropolitan supply water but can be used in other situations. For other types of water supply, please contact your local Puretec dealer.

Puretec Treatment Systems are designed to run economically for many years, dependent on the initial installation and periodic maintenance.

Flush system for 5 minutes or more, after any period of non-use, more than 2 weeks.

Note: For point of entry installations an approved dual check backflow prevention device must be installed. When line pressure exceeds 600 kPa, a pressure limiting valve must be installed.

## Installation Record

For future reference, fill in the following data:

Product Information	
Model Number:	
Serial / Batch Number:	
Purchased From:	
Date of Installation:	
Installer / Plumber Details:	

Water Analysis Information	
Hardness:	_____ ppm / mg/L
Iron:	_____ ppm / mg/L
Manganese:	_____ ppm / mg/L
pH:	_____
TDS (Total Dissolved Salts):	_____ ppm / mg/L

**Installation Note:** A water filter system/tap, like any product, has a limited life and may eventually fail. Also sometimes failure happens early due to unforeseen circumstances. To avoid possible property damage, this product should be regularly examined for leakage and/or deterioration and replaced when necessary. A drain pan, plumbed to an appropriate drain or outfitted with a leak detector, should be used in those applications where any leakage could cause property damage, and/or the water supply should be turned off if no one is home/present.

## How the NTS Neutraliser Works

Water with a pH level below 6.5 could be acidic, soft, and corrosive. Acidic water leaches metal ions such as iron, manganese, copper, lead and zinc from pipework. This in turn will elevate levels of toxic metals, cause damage to plumbing and cause aesthetic and taste problems such as a metallic taste or a blue-green stain on surfaces.

The best way to treat the problem of low pH water is with the use of a NTS Neutraliser. The media slowly dissolves as the water passes through the bed, raising the pH level to 7 or above.

As the calcium carbonate media is absorbed, and therefore periodic replacement is necessary. The lower the pH, the faster the media will be depleted and the longer the contact time required. The system should be sized according to the pH level and the flow rate required, contact Puretec for a recommendation.

Due to the nature of the upflow system, no electricity or backwashing is required.

**IMPORTANT NOTE** : Since the neutraliser media dissolves as it elevates pH level, it will increase the hardness of your water. Installation of a water softener may be necessary if the hardness becomes a problem.

## Before Installation

### Professional Installation Required

Installation requires shutting water off to home, cutting home water supply pipe and using a welding torch to add piping and fittings. Specialised tools and skills are required, this must be completed by a qualified tradesperson.

### Make Sure Your Water Has Been Thoroughly Tested

An analysis of your water should be made prior to the selection of your water treatment equipment. Your dealer will generally perform this service for you, and may send a sample to the factory for analysis and recommendations. Enter your analysis on Page 3 for your permanent record.

pH neutralisers are designed to balance the pH of the water, however it will also increase the level of calcium in the water. This may cause scaling issues and we recommend to contact Puretec for advice.

## Locate Water Treatment Equipment Correctly

Select the location of your neutraliser with care. Various conditions which contribute to proper location are as follows:

- Locate in correct relationship to other water conditioning equipment. Contact Puretec for assistance.
- Locate the neutraliser in the supply line **BEFORE** the water heater.
- **DO NOT** install the neutraliser in a location with temperatures below 0 °C or above 43.3 °C. Temperatures outside these limits may cause permanent damage and will also void the warranty.
- **DO NOT** install on lines where the pressure exceeds 600kPa, pressures above 500kPa must have a pressure limiting valve installed.
- **DO NOT** install where water hammer conditions may occur without installing an arrestor.
- Allow sufficient space for installation and easy servicing.

## Facts to Remember While Planning Your Installation:

- All installation procedures **MUST** conform to local plumbing codes.
- If lawn sprinklers, a swimming pool, or geothermal heating/cooling or water for other devices/activities are to be treated by the neutraliser, a larger model **MUST** be selected to accommodate the higher flow/volume. Contact Puretec for assistance.



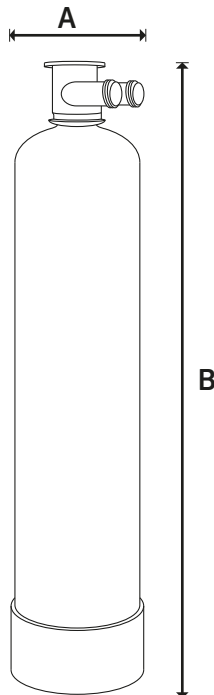
### **WARNINGS**

- The control valve, fittings and/or bypass are designed to accommodate minor plumbing misalignment but are not designed to support the weight of a system or the plumbing.
- Do not use petroleum jelly, oils, other hydrocarbon lubricants or spray silicone anywhere. A silicon lubricant may be used on the black o-rings but it is not necessary.
- Do not use pipe dope or other sealants on threads. Thread seal tape is the preferred sealant but is not necessary on the nut connection or caps because of o-ring seals.
- All plumbing should be done in accordance with local plumbing codes. Avoid getting primer and solvent cement on filter system.
- Install grounding strap on metal pipes if required.
- Ensure the system is protected against high pressure and extreme temperatures.

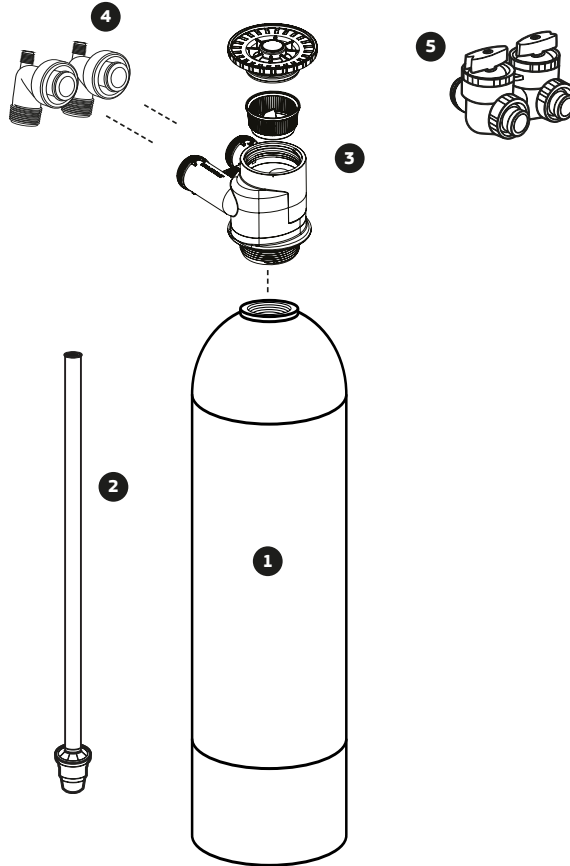
## Specifications

Operating Pressure Min/Max:	130 - 860 kPa
Operating Temperature Min/Max:	0 - 43 °C (protect from freezing)
Inlet/Outlet Connection:	1" / 1" BSPM

	NTS1000	NTS2000	NTS3000	NTS4000
Width (mm) (A):	178	245	270	320
Height (mm) (B):	889	1400	1500	1600
Max Media Storage (L):	15	30	45	60



**Exploded Diagram**



Item	Description	Product Code
1	Pressure Tank	-
2	Riser Pipe	WTD2130
3	NTS Valve	WTV1010
4	Elbow Adapter	WTV5070
5	Bypass Valve (Optional)	WTV5000

## Installation Procedure

### 1 Unpack the Equipment

Ensure all parts are present and have not been damaged in transport. You should have:



Treatment System



Bypass Assembly  
(purchased separately)



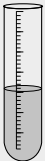
Media



User Guide

### 2 Ensure Water Has Been Tested

Input values into Installation Record on page 3 and the analysis has been inspected by Puretec.



Water Analysis Information	
Hardness	... 5.90 ... ppm / mg/L
Iron	... 0.3 ... ppm / mg/L
Manganese	... 0.5 ... ppm / mg/L
pH	... 7 ...
TDS (Total Dissolved Solids)	... 27.5 ... ppm / mg/L
Conductivity	... 40.4 ... EC / uS/cm
Chloride	... 52.5 ... ppm / mg/L
Sodium	... 9.6 ... ppm / mg/L



Customer Service Helpline  
1300 140 140 (AU) 0800 130 140 (NZ)



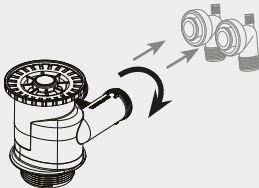


**3** Install Water Treatment Equipment Correctly

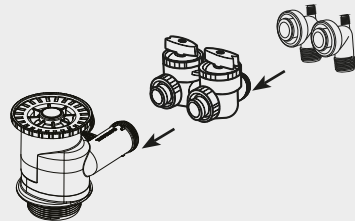
1. Select the location of your water treatment system with care. Various conditions which contribute to proper location are as follows:
2. Install as close as possible to a drain on a level surface.
3. Install in correct relationship to other water treatment equipment. Contact Puretec for assistance.
4. Install the treatment in the supply line BEFORE the water heater. Temperatures above 43.3 °C (110 °F) will damage the system and void the warranty.
5. DO NOT install the treatment in a location where freezing temperatures occur. Freezing may cause permanent damage and will also void the warranty.
6. DO NOT install where water hammer conditions may occur without installing an arrestor.
7. Allow sufficient space around the installation for easy servicing.

**4** Installing the Bypass (purchased separately)

**Optional:** Install MP100B + PL05MP1 on the outlet to prevent an excess media from coming through the line.



Uninstall the plastic fittings by turning the knob counterclockwise.



Connect the bypass assembly followed by the plastic fittings. Hand tighten the knobs, do not overtighten.

Refer to Page 13 for bypass operation.

## 5

### Connecting The System

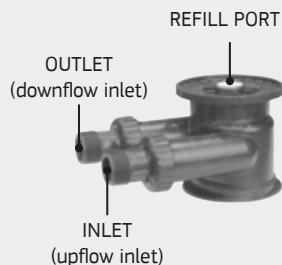
1. Refer to diagram (below) for correct plumbing of valve. Cut the inlet line as required to accommodate the inlet/outlet of the neutraliser. **ONLY** use thread tape, as liquid sealants will cause deterioration of the plastic. **DO NOT OVERTIGHTEN**.
2. After the valve has been connected, remove the fill-port cap using the spanner provided. Add the neutralising media using a funnel (not supplied), ensuring that it is no more than 2/3 full. Replace the fill-port cap.

**Note:** Overfilling the tank can result in excess undissolved media entering the line. You may have been supplied with more media than required, retain this for future replenishing.

3. Adjust the bypass to allow water flow (refer to Page 13) and turn the water supply back on.
4. The water will initially be 'milky white' in appearance. Flush the water through the system until all the air in the lines is expelled, or when the water runs clear.
5. Installation is now complete, and your system is ready for use.

**Note:** If the pH is initially over corrected, the inlet bypass can be partially closed to mix untreated water with treated water to achieve the desired level (if installed).

#### Valve Identification



## Maintenance

1. Isolate water supply by closing the inlet valve.
2. Relieve pressure by opening a tap down stream. Remove fill-port cap with the spanner provided. Some water will weep out of the valve, however this is normal.
3. Top-up the media as required, ensuring that you do not exceed the maximum level on the tank (more than 2/3 full).
4. Replace fill-port cap onto the valve and tighten with the spanner provided. Open the inlet valve, the system is now ready for use.

## Replenishment of Calcium Carbonate media

The NTS Neutraliser uses a pure calcium carbonate media.

During water usage a specific amount of media is consumed, thus requiring periodic top-ups for a continuous supply of treated water. The frequency is dependent on the pH level and water usage. Always replenish the media before the supply is exhausted. No extra water is required when topping up the media level.

An easy way to determine if the neutraliser requires media replenishment is to place a mark on the outside of the unit at the maximum level of the media when first installed. Every 2-3 months check the level by shining a light through the tank and compare the current level to the maximum. If you are unable to see through the tank, remove the fill-port cap and measure down to the top of the media. Add more media if the media is more than 2 inches below the mark.

The media storage capacity is as per the following chart, and should be no more than 2/3 full.

Model	Capacity – x Litres	Maximum Flow – x Litres *
NTS1000	15	40
NTS2000	30	70
NTS3000	45	90
NTS4000	60	100

\* The lower the pH (acidity) of the water being treated, the greater the attrition rate of the media and the slower the water should pass through the bed. The unit should be sized according to the level of pH and existing flow rate.

**Type of Media to Use:** Calcium Carbonate – Puretec code: WTM2000 15L (15 litres).

### **PPE**

**Eye / Face** Wear dust-proof goggles.

**Hands** Wear PVC or rubber gloves.

**Body** When using large quantities or where heavy contamination is likely, wear coveralls.

**Respiratory** Where an inhalation risk exists, wear a Class P1 (Particulate) respirator.

### **Tank Clean-Out (Yearly):**

To help prevent service problems the tank should be emptied and flushed out with a garden hose when dirt and other insolubles accumulate on a regular basis. Shut off water inlet supply and depressurise the system before service.

Steps to follow:

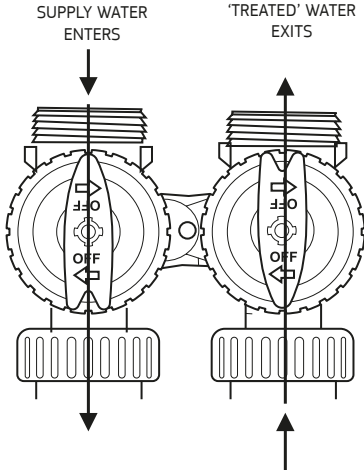
1. Disconnect inlet/outlet connections and remove valve.
2. Turn tank upside down and discard old media.
3. Rinse out with a garden hose.
4. Reconnect valve and inlet/outlet connections.

### **IMPORTANT SERVICING NOTE:**

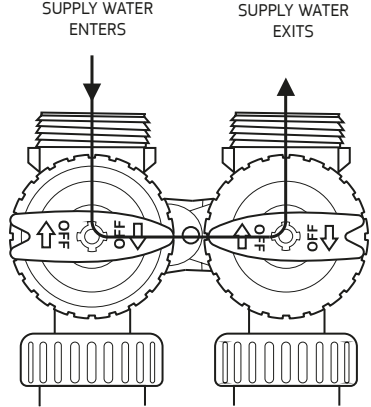
Under normal circumstances removal of the fill-port head assembly should not be required. However, if it must be removed, disconnect the plumbing attached to the bypass valve first. Then, rotate the fill-port head assembly to the left or counter clockwise. Before attempting any disassembly, pressure should be relieved by shutting off water to the system and opening a faucet. Upon reassembly, all o-rings should be lubricated with silicone grease. Reattach fill-port head assembly by rotating to the right or clockwise until fill-port head assembly is seated to the tank hand tight. Reconnect the plumbing to the bypass valve.

## Bypass Valve Operation - *Optional Accessory*

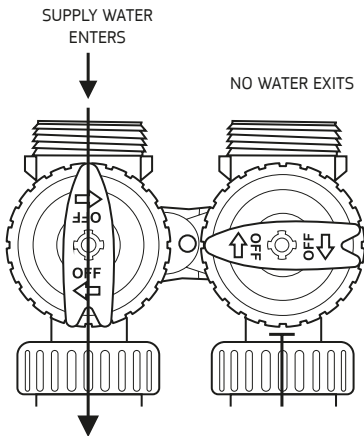
### Normal Operation



### Bypass Operation



### Shut Off Mode



## Troubleshooting Guide

Possible Problem	Solution
A. Neutraliser overcorrects upon installation or after replenishment.	1. The inlet bypass can be partially closed to allow untreated and treated water. Periodically test treated water pH and open bypass valve when pH begins to drop.
B. Neutraliser fails to increase pH upon installation.	1. Make sure bypass valve is closed. 2. Test water or have it tested via third party. If high hardness or total dissolved solids (TDS), seek alternate means of treatment such as feeding a solution of soda ash or caustic soda.
C. Neutraliser fails to increase pH after being in service.	1. Check filter bed for cementing or channelling. Break channelling or cementing with stiff rod or tubing.
D. Excessive pressure drop.	1. Check untreated water for sediment, silt or sand. Install sand trap or multiple cartridge filter prior to neutraliser.

**Warranty**

Any claim under this warranty must be made within 1 year of the date of purchase of the product. This product is warranted to be free of defect of material and workmanship for 1 year from date of purchase. To make a claim under the warranty, take the product and proof of purchase to place where you purchased the product, and they will lodge a Warranty Request with Puretec. 1 year warranty is 1 year parts and labour. Excludes consumables.

Puretec will pay your reasonable, direct expenses of claiming under this warranty. You may submit details and proof of your expense claim to place of purchase for consideration.

The warranty only applies if the product was used and/or installed in accordance with the user guide and/or installation instructions. This warranty is given in lieu of all other express or implied warranties and manufacturer shall in no circumstance be held liable for damages consequential or otherwise or delays caused or faulty manufacturing except as excluded by law.

Applicable to all above, is that the warranties need to be approved by Puretec to ensure product was not incorrectly used, installed or claimed. False and incorrect claims will be pursued at Puretec's discretion, including chargeable inspection and labour costs incurred.

**Warranty/Australia**

This warranty is given by Puretec Pty Ltd, ABN 44 164 806 688, 37-43 Brodie Road, Lonsdale SA 5160, telephone no. 1300 140 140 and email at sales@puretec.com.au.

This warranty is provided in addition to other rights and remedies you have under law: Our goods come with guarantees which cannot be excluded under the Australian Consumer Law. You are entitled to replacement or refund for a major failure and to compensation for 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.

**Warranty/New Zealand**

This warranty is given by Puretec Ltd, Reg. No 4464398, PO Box 875 Cambridge 3450, NZ, telephone no. 0800 130 140 and email at sales@puretec.co.nz.

This warranty is provided in addition to other rights and remedies you have under law: Our goods come with guarantees which cannot be excluded under the Consumer Guarantees Act. You are entitled to replacement or refund for a major failure and to compensation for 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.



**Puretec**<sup>®</sup>  
PERFECTING WATER

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