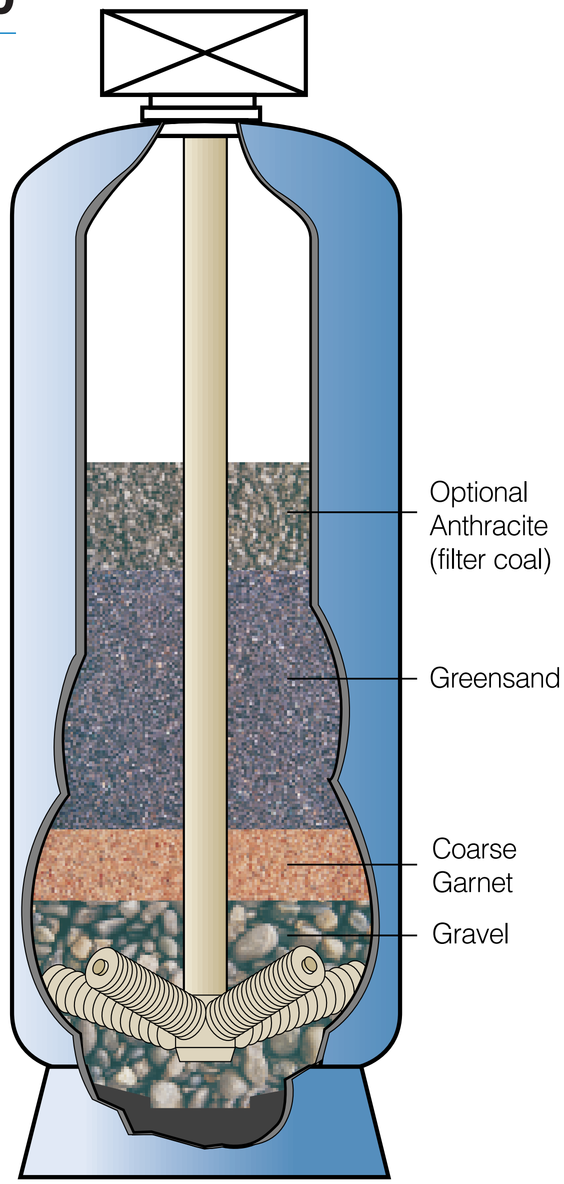
Iron/Manganese Removal Systems

...for effective removal of iron, manganese.

Neither iron or manganese in water present a health hazard, however their presence in water may cause taste, staining and accumulation problems. Because iron and manganese are chemically similar, they cause similar problems. Iron will cause reddish-brown staining of laundry, porcelain, dishes, utensils and even glassware. Manganese causes a brownish-black stain. Soaps and detergents do not remove these stains, and the use of chlorine bleach and alkaline builders (such as sodium carbonate) can actually intensify the stains. Iron and manganese deposits will buildup in pipelines, pressure tanks, heaters and UV light disinfection systems – reducing the available quantity and pressure of the water supply.



The New Zealand Drinking Water Standards state staining will occur at levels exceeding 0.2 gm/m^3 for iron and 0.05 gm/m^3 for manganese. Iron and manganese can be present in water in the following forms:

- *Clear water iron*
- *Red water iron*
- *Iron bacteria*
- *Organic*

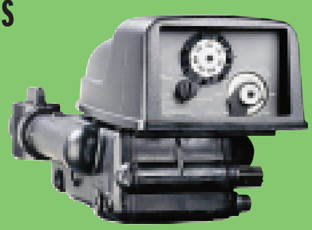
The methods to remove iron and manganese are varied and require a complete water analysis to design the 'right' system for your water. AquaFlo also have a "Design Information Sheet" which should be filled out prior to equipment recommendation.

Greensand/Potassium Permanganate

Manganese Greensand is a purple/black granular filter medium processed from glauconitic sand. The filter media is contained inside a fibreglass vessel, as water flows through this media, oxidation occurs which takes the iron out of solution and turns it into a particle. The particle is then trapped in the media just like a sand filter. The filter is backwashed and regenerated with a solution of Potassium Permanganate based on time using a built-in automatic valve.

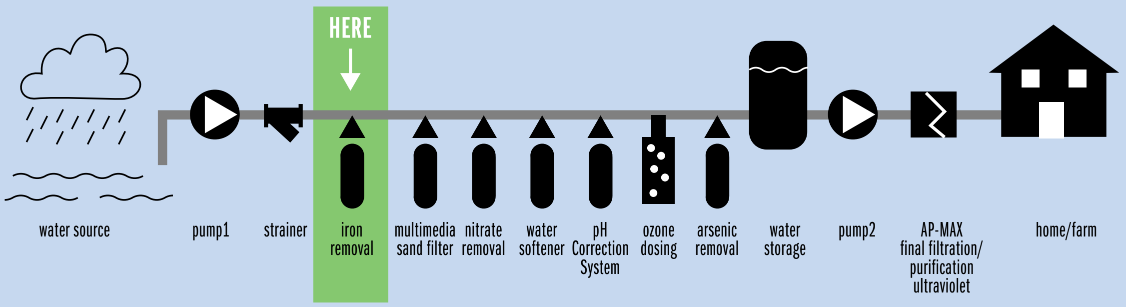
Control Valve Options

Performa / 740



Performa / 440i

Where you are in the AquaFlo water supply sequence...



AquaFlo

GENERAL SPECIFICATIONS

Pressure Vessels
Wound resin bonded fibreglass filament for strength and polyethylene inner shell for chemical inertness.
Working Pressure 200 - 1040 kPa. (30 - 150 psi)
Operating Temperature 5 - 40°C maximum

Valves*
- Autotrol Series Performa 263 & 273 Noryl Control valve for small to medium size plant
- Autotrol 180 Brass valve for medium to large

Controllers
Electrically operated 6 or 7 day time clock driving control valve as standard. Optional volume based control available.

Instructions
Installation and Operating Instructions are included with all Multimedia Filters.

Media
High quality greensand, gravels and optional other media as appropriate for the application.

Pipe Work
Standing pipe work, where fitted, connecting filter vessel to valving is rigid PVC. Galvanised pipe is available as an option.

Installation
Any regulatory requirements pertaining to plumbing and drainage connections are the responsibility of the client. Plant should be installed under cover protected from direct sunlight, rain and frost.

Client to Provide
- Single phase 230 volt power.
- Drain for backwash.
- All connecting pipe work and valving from control unit.
- Minimum 200 kPa (30 psi) operating pressure
- Water flow or pump operation at 2.00 am to allow for Auto-backwashing
- Consumables: Potassium Permanganate

** Filtec reserves the right to offer an alternative valve(s) depending on customer requirements.*

Cautions:
- *A Pressure Reduction Valve should be installed in areas of high water pressure over 800 kPa (120 psi)*
- *If abrasive grit or large particles are present in the water supply, an inlet strainer is recommended to prevent damage to the backwash valve*
- *Potassium permanganate should be stored safely as per manufacturer's instructions*

SYSTEM SPECIFICATIONS

	Model Greensand	Flow Rate (L/min)		Inlet/ Outlet (mm)	Valve	Tank Diameter (mm)	$KNMO_4$ Usage § (gm)	Greensand Media (kg)	Tank Size Ø" / h"	Tank Volume (Litre)	Max. Pressure (kPa/psi)
		Max	B/Wash								
Household/Farm	GS250A	15.0	30.0	25	Performa FA	250	100	50	10 / 54	62	800/120
Household/Farm	GS300A	30.0	45.0	25	Performa FA	300	130	70	12 / 52	84	800/120
Medium	GS400A	50.0	55.0	25	Performa FA	400	190	90	14 / 65	144	800/120
Commercial/ Industrial	GS600A	70.0	75.0	50	180A	600	280	140	21 / 62	312	700/100

§ Potassium Permanganate usage per regeneration
Larger units are available.

A minimum 200 kPa (30 psi) operating pressure is required.

For more information contact...

Filtration Technology Ltd
PO Box 58-853, Greenmount, Auckland.
Auckland: Tel: 0-9-274 4223, Fax: 0-9-274 4224
Wellington: Tel: 0-4-232 2402, Fax: 0-4-232 2403
Dunedin: Tel: 0-3-488 6200, Fax: 0-3-488 6300
Website: www.aquaflo.co.nz

Local Agent: