pH Correction

Water in which the pH is below 7 is acidic. Acidic water accelerates corrosion in pipe work, causes staining of baths, sinks and other appliances and can leave a distinctive ‘metallic’ taste to the water. Raising the pH above 7 reduces these problems and makes the water more palatable.

pH correction media

Water with a pH below 7 is acidic and has a corrosive nature. Acidic water corrodes the copper pipe-work and heating systems found in domestic and industrial plumbing systems. The copper dissolves out and is deposited on fixtures and fittings leaving unsightly green stains. Raising the pH will neutralise the water stopping the corrosivity, removing the metallic taste and can also reduce any iron or manganese contamination.
The simplest way to raise the pH of water is to pass the water through a vessel containing slowly dissolving calcium and magnesium salts. These salts slowly dissolve into the water 're-mineralising' the water and naturally raising the pH. The water can be simply passed through the media through an in/out head or through an automatic backwashing filter head. The backwashing head has the advantage of remixing the media and also removing any debris or iron or manganese which may have been oxidised out of solution as the pH increases.

There are vessel dome holes options in which the pH media can be topped up without having to take off the valve.

Juaperle

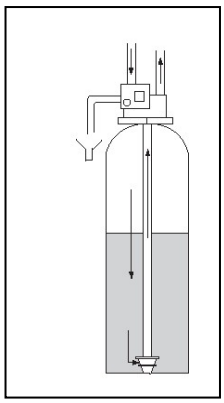
Juraperle is a granular media made up of 99.4% calcium carbonate. It has a superior performance to limestone due to its micro-crystalline structure. It dissolves very slowly, is free from soluble constituents and has a low silica content. Juraperle is consumed and from time to time new media should be added.

Corrosex

Corrosex is a highly reactive magnesium oxide salt and is used most effectively where the pH correction is substantial or the flow rate is high. In reality for a pH of less than 6 a 25% Corrosex, 75% Juraperle mix is ideal.

How does it work?

Water flows into the valve at the top, down through the media and then up through the ‘riser’ tube in the middle of the vessel. As the water travels through the media the calcium and magnesium salts slowly dissolve into the water raising the pH. Any iron or manganese contaminants in the water will also drop out of solution and are trapped in the vessel. There are timer options that can be set to automatically self clean (backwash) and wash away any of the accumulated iron and manganese.
The in/out pH units have the water flowing the opposite way down the riser and up through the media. This keeps the media free and clean. Manual backwash valves are available.



How to size.
On average 160 litres of water is used per person per day. This normally occurs in two peak periods, one in the morning and one in the evening. A family of four typically uses 700 litres of water per day but may use 300 litres in an hour in the morning. Larger households, farms, stables and irrigations systems all use more water.

When sizing a system the peak flow rate need to be taken into account. The size of the pump also needs to be taken into account as these filters normally use twice the service flow rate to lift the bed and backwash away the trapped iron and manganese. If the backwash flow is not available two smaller units running side by side is often a good solution.

The vessel size is given as the diameter and the height (in inches).
Recommended operating pressure range 20 to 120 psi. Water temperature range from 2 to 38°C.

pH system specifications

Vessel Ø" X h"	Flow m3/h	Back wash m3/hr	Valve Option	Ves (B1)	Ves (H1)
10-54	**0.7**	1.1	263/WS1	269	1387
12-52	**1.1**	1.8	263/WS1	315	1338
13-54	**1.3**	2	263/WS1	334	1374
14-65	**1.5**	2.3	263/WS1	369	1660
16-65	**1.9**	3.4	263/WS1	406	1660
18-65	**2.4**	3.9	263/WS1	469	1750
21-60	**3.3**	5.7	293/WS1½	552	1640
24-69	**4.3**	6.8	293/WS½	610	1890
30-72	**6.7**	11.4	293/WS2	770	2050
36-72	**9.6**	17.1	298/WS2	927	2150

Domestic in/out systems are often smaller as pragmatic decisions such as lack of space are issues. Before considering the smaller systems check the incoming water quality is good (no iron and manganese or turbidity).

Autotrol Valves			
Valve	Inlet/ outlet	Drain	HV
255	¾"	½"	200
263	1"	¾"	210
293	2"	1½ "	291

Clack Valves			
Valve	Inlet/ outlet	Drain	HV
WS1	1"	1"	180
WS125	1¼"	1"	180
WS15	1½"	1"	182
WS2	2"	1½ "	217
WS2H	2"	2"	295
WS3	3"	3"	320

Softeners, Nitrate, Arsenic Iron & Manganese removal systems are also available as are other media such as sand, carbon etc.
Sizes and dimensions are for indication purposes only and may change without notice.