Filtration Media Systems – ACF Carbon

System features:

- Fully automatic, manual or in/out operation
- Timer or volumetric controller and valve options
- Industry standard FRP media vessel
- Range of carbon types to suit different feedwaters
- Pre-treatment interlock for RO interface
- High maximum operating pressure (700kPa)
- Large range of pressure vessel sizes
- Optional dual tank systems

ROtek ACF automatic backwash carbon filters use high capacity acid washed, pH stabilised activated carbon media to remove chlorine, tastes and odours from feedwaters. By changing the type of carbon used and using the same hardware, we can also provide systems for removal of tannins, hydrogen sulphide and other odour producing contaminants from the feedwater stream.

The flow control valve (top or side mount options are available on larger tank diameters) directs pressurised feedwater into the pressure rated media tank where it is distributed across the media bed via a specially designed diffuser. After passing through the media bed, treated water enters the internal strainer and riser tube located in the base of the tank and is returned to the flow control head before exiting. Suspended solids trapped in the media bed are removed by periodic reversal of the water flow initiated by the electronic control head on a time or volume basis.

Standard valves used allow untreated water to bypass the valve during backwashing to ensure a continuous supply of treated water downstream. A no-unfiltered-water-bypass (NB) option is available to stop water flow exiting the treated water line during backwash. A manual backwash valve is optional if automation is not required. For feedwaters with low suspended solids loads, a simple IN/OUT head is also available.

Filtration Media Systems – ACF Carbon

Model	*Media Volume*	*Service/Peak/Backwash flow rate range*	*Feed Water Turbidity*	*Standard Control Valve*	*In/Out Port*	*Tank Size (dia. x h)*
ACF-1054	35	F20: 6-10/21/21-25 WS1TC: 6-15/25/21-25	NTU<5	Timer (Volumetric optional)	¾" or 1"	10"x54"
ACF-1354	63	F20: 10-18/35/35-41 WS1TC: 10-22/38/45	NTU<10	Timer (UWB) (Volumetric optional)	¾" or 1"	13"x54"
ACF-1465	85	F20: 12-25/41/41-48 WS1TC: 14-30/45/41-48	NTU<10	Timer (Volumetric optional)	1"	14" x 65"
ACF-1665	99	15-27/53/53-63	NTU<10	Timer (Volumetric optional)	1" or 1.5"	16" x 65"
ACF-2162	170	26-46/91/91-108	NTU<10	Timer (Volumetric optional)	1.5"	21" x 62"
ACF-2472	225	35-60/119/119-141	NTU<10	Magnum 293-742/764	1.5"	24" x 72"
ACF-3072	368	54-93/187/187-221	NTU<10	Magnum 293-742/764	2"	30" x 72"
ACF-3672	524	78-134/269/269-318	NTU<10	Magnum 293-742/764	2"	36" x 72"
ACF-4272	764	106-183/366/366-433	NTU<10	Application specific	2" or 3"	42" x 72"
ACF-4872	1047	138-239/478/478-565	NTU<10	Application specific	2" or 3"	48" x 72"

- *Flow rate data shown is for removal of chlorine and related sanitisers. Flow rates will vary for different types of carbon and the particular application, data shown above is typical applications only and may vary due to feedwater quality and application.*

- *Pressure drop through the filter will occur according to pipe diameters used on installation, flow rate and sediment loading on the through use. An integrated three-valve bypass assembly is recommended for all installations to allow the system to be isolated should this be necessary at any time. Inlet and outlet pressure gauges will also assist with system performance monitoring. System flow rate will vary according to the application and type of contaminant removal required.*

ACF Automatic Carbon Filters – Valve Options

Standard media pressure vessels used for filtration systems have 2.5", 4" or 6" top openings for installation of flow control heads and pipework. Flow control valves may be manual or automatic, electrical or non-electric, and functions may be initiated through a simple timer, volume of water treated, or an external contact closure from a PLC, differential pressure monitor or contact closure. Choose the flow control valve and controller according to the application, required flow rates, mode of operation and FRP tank size. Some valve types are shown here and details on additional valves to suit particular applications are available by request.

CLACK WS1CI Integrated Flow Control Valve and Controller

The WS1EI multi-cycle valves are simple, easy to use timer actuated 1" softener or filter flow control valves for 6" to 21" diameter FRP tanks with 2.5"-8 NPSM FRP openings. These versatile valves are primarily designed for commercial applications requiring flow rates up to 102lpm at 103kPa pressure drop. The valve uses a 1.05" riser tube and comes with an upper bayonet type screen. Standard supply includes a bypass assembly as standard to simplify service requirements.
NOTE: *The WS1EI valve has untreated water bypass during regeneration.*

AUTOTROL 263 Performa Valve – 400 Series

The 263 Performa model is an automatic 3-cycle 1" Filter valve designed for larger residential and light commercial applications with higher service flow rates to 95 LPM at 103kpa drop and backwash flow rate of 76 LPM at 170kpa drop. The Performa valves are supplied complete with a 400 or 900 Series Control with transformer and have four external ports that allow the valves to be configured to suit most applications.
NOTE: *The 263 valve has untreated water bypass during regeneration. Bypass valve assemblies are available to allow filter system isolation or blending operation.*

AUTOTROL 150 Series – Logix 700 Series Flow Control Valve

The 150/153-316 Stainless Steel valve is a 1.5", 3-cycle filter valve designed for commercial and industrial applications with flow rates to 216lpm @ 103kPa pressure drop. The valve is 316 grade stainless steel, piston operated and is available in top or side mount formats.
NOTE: *The 150 valves may be ordered with filtered water bypass or no-unfiltered water bypass configurations*

ACF Automatic Carbon Filters – Valve Options

AUTOTROL 293 MAGNUM Cv Series – Logix 700 Series Flow Control Valve

The Magnum Cv is a 1.5" flow control valve is moulded from Noryl available with an external flow metering turbine. Used for commercial and industrial applications, the valve provides for flow rates up to 285lpm @ 103kPa pressure drop. All options are ordered separately. Filter application order backwash flow control separately.
OPTIONS: 2" PVC solvent weld or 2" BSP Stainless Steel adaptor kit
NOTE: *The Magnum valves can be supplied with or without untreated water bypass during regeneration.*

AUTOTROL Valve Controller Types

Logix 742 Time Clock controller for 255/293 Series Flow Control Valves

This simple time clock control provides the option of selected day of week regeneration or can be programmed from ½ a day up to 99-days regeneration frequency setting. The 742 has an adjustable backwash between 0 to 200 minutes and purge between 0 to 200 minutes. This control includes a remote regeneration input signal as a standard option allowing for a dry contact signal.

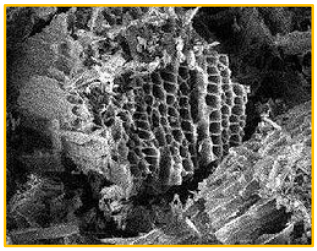
Logix 762 Time Clock Controller for 255/293 Series Flow Control Valves

This simple, economy electronic demand (volumetric) control initiates a regeneration cycle based on the volume of water treated. Programming is simple and incorporating a 28-day variable reserve feature with the ability to regenerate immediately once a volume of water is treated. The 762 has an adjustable backwash between 0 to 200 minutes and purge between 0 to 200 minutes. Features include a calendar override that can be set to regenerate between ½ and 99 days.

Manual Valve

Economical back-washable filter. Simply turn the rotary valve handle to backwash the filter. Complete with backwash flow control and ball valve. Ideal for sites where electric power is not available or for filtering water where minimum backwash waste is required e.g. tank water.

ACF GC1200N Activated Carbon Media



GC1200N grade activated carbon is an acid washed, pH stabilised coconut husk-based filtration media used to remove low molecular weight organic micro-pollutants, ozone and chlorine-based sanitisers from municipal feedwater sources.

GC1200N media is the most commonly used type of carbon used in pre-treatment stages prior to reverse osmosis treatment. The media has highly macro-porous granular structure to remove chlorine, low molecular weight organic contaminants and other commonly used sanitisers. GC1200N has a high hardness level to reduce the formation of fines and a high density to increase adsorption capacity. Acid washing removes fines and neutralises pH levels to simplify installation and handling.

Description:
High Activity Microporous Granular Activated Carbon

Application:
For the treatment of aqueous solutions containing high concentrations of low molecular weight organic micropollutants, chlorine and ozone.

Advantages:
- High adsorption capacity with a rapid removal rate
- High hardness and reduced production of fines
- High density and high mass adsorption capacity
- Acid washed for extremely low ash yielding minimal water-soluble contaminants
- pH neutral for rapid commissioning

Typical Analysis:
Apparent Density (g/mL) 0.42-0.50
Moisture as packed (% max.) 3
Ash Content (% max.) 1.5
Iodine Number >1200
Butane Index (%) >23.4
Hardness Index (% min.) 98
pH 6 – 8

Particle Size Specification:
5% max on upper sieve, 90% min between sieves, 5% max through lower sieve
Available Particle Size: Effective Size Uniformity Coefficient
12 x 40 Mesh 0.6 – 0.7mm < 1.7
Other sizes are available on request.

Packaging:
Available in 25kg paper bags and 500kg bulk bags. Other packaging available on request.

ACF Anthracite Media

Anthracite Filter Media is sourced from anthracite which yields the highest percentage of carbon. It is then hydraulically classified to reduce mineral matter and ash to a minimum, and finally screened and washed to ensure suitability for filtration purposes.

Combined with filtration sands, anthracite is an excellent filter media for water clarification in drinking and industrial use. Due to its regular grain and shape, anthracite retains suspended particles in the depth of the filtering bed. Compared to a conventional multi-layer sand filter, this filtering medium allows a higher flow, less pressure drop and a better and faster backwash.

Description:
Anthracite filtration media for dual or mixed-bed water filtration media systems

Advantages:
- High hardness
- Tight Particle Sizing
- Pre-washed to remove floaters & water-soluble ash

Typical Analysis:
Bulk Density (g/mL) 0.7-0.8
Specific Gravity (g/ml) > 1.4
Moisture as packed (w/w) < 3.5
Acid Solubility (w/w) < 1.0
Caustic Solubility (w/w) < 2
Hardgrove Grindability Index < 50

Particle Size Specification:
5% max on upper sieve, 90% min between sieves, 5% max through lower sieve
Available Particle Size: Effective Size Uniformity Coefficient
6 x 12 Mesh 1.6 – 2.0mm < 1.4
8 x 16 Mesh 1.2 – 1.3mm < 1.3
14 x 30 Mesh 0.5 – 0.7mm < 1.7
12 x 40 Mesh 0.5 – 0.7mm < 1.8
Other sizes are available on request.

Packaging:
Available in 25kg paper bags & 1.3 m3 bulk bags. Other packaging is available on request.

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