

Engineering Specification

Job Name _____

Contractor _____

Job Location _____

Approval _____

Engineer _____

Contractor's P.O. No. _____

Approval _____

Representative _____

Locksmith™ Series ACL

Locksmith™ Commercial Carbon Filter Systems

Connection Sizes: 1 1/2" & 2"

Flow Rates: Up to 75 gpm

Watts Locksmith™ Series ACL activated carbon filters are time tested, highly effective backwashing media filtration systems for the removal of chlorine as well as taste, odor, and color caused by organics from water.

The Locksmith™ controller is a Watts exclusive, highly functional control board that operates 1.5" & 2" single, duplex alternating and multi tank progressive flow softeners and filters without the need of additional controller, with the ability to operate external devices for highly configurable systems to suit the needs of a wide variety of application requirements.

These systems are designed for commercial applications with dechlorination flow rates up to 75 gpm with media bed sizes ranging from 2 to 20 cubic feet in size. If higher flow rates are required, multiple units can be installed in parallel. The media bed is cleaned of captured sediment by periodic backwashing and flushing. This cleaning cycle is time clock demand initiated and can be programmed to occur at any time that is convenient for the user. All steps of the cleaning cycle as well as returning to service are fully automatic and do not require manual actuation.

Series ACL activated carbon filters are designed for point of use or point of entry applications where dechlorinated water is required. Chlorine, an oxidizing agent, is added to municipal water to destroy micro-organisms. Chlorine causes the destruction of reverse osmosis membranes and polymer based ion exchange resins. Chlorine also causes objectionable tastes and odors in certain applications. Activated carbon in general is used for dechlorination, removal of taste, color, and odor caused by organics, as well as trace hydrocarbon removal from water. For applications involving trace hydrocarbon removal or taste, color, and odor removal due to organics, consult your Watts representative for proper sizing and carbon system selection. Series ACL activated carbon filters utilize 12 x 40 mesh coconut shell carbon granules which are tailored for chlorine removal. Coconut shell carbon media has a high micro-porosity which makes it ideally suited for the removal of low molecular weight contaminants such as chlorine. Another advantage of this carbon is its superior hardness, which combined with a de-dusting process in its production, creates an exceptionally clean product with low fines.



ACL-150 & ACL-200

Series ACL systems are ideal for food and bottled water processing, restaurant drink station water treatment, commercial ice production, soft drink water processing, reverse osmosis pretreatment, ion exchange resin pretreatment, and general dechlorination of municipal water.

Features

- Durable brass bodied control valve for years of service
- WQA Certified fully automatic time clock initiated control valve
- Fully adjustable backwash and flush cycles
- Dry contact lock out switch for remote interface is standard
- High surface area, with a minimum of 1,050 m²/g, low carbon fines, and coconut shell carbon
- Highly corrosion resistant WQA OR NSF Certified fiberglass tanks
- Durable polypropylene lower distribution system

Standards

Control Valve- Certified to NSF/ANSI Std. 61 and 372

Mineral Tank- Certified to NSF/ANSI Std. 44 or 61

⚠ WARNING

Do not use with water that is microbiologically unsafe or of unknown quality without adequate disinfection before or after the system.

NOTICE

The information contained herein is not intended to replace the full product installation and safety information available or the experience of a trained product installer. You are required to thoroughly read all installation instructions and product safety information before beginning the installation of this product.

Specification

A Watts Locksmith™ Series ACL activated carbon filter system shall be installed on the building's main water line just after it enters the building. The installation point shall be after any backflow prevention or pressure regulating valves. Other installation options are to install a system just before the plumbing equipment or processes requiring dechlorinated water. In installations where the dedicated cold water make up to a water heater is the installation point, a backflow preventer and a thermal expansion tank must be installed as well. The system shall be installed with a bypass valve to allow for the shut down and removal of the unit without interrupting the water supply to the building.

The filter system shall be a backwashing granular media bed type with digital programmable time clock initiated backwash and high capacity coconut shell carbon filter media. The carbon media shall be rated at 1,050 m²/g minimum surface area and have a minimum iodine number of 1,000. The system shall include all components necessary for proper operation. Electrical requirements are 120 volt 60 hertz. A local drain is required to accept drain water from the system. The feed water pressure must not fall below 30 psi or exceed 125 psi. Water temperature must not fall below 34°F or exceed 110°F (1 - 43°C).

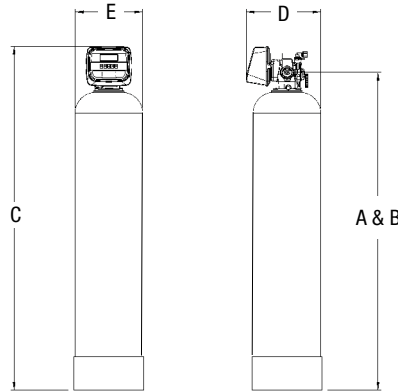
Feed Water Guidelines

pH	6 to 8.5
Water Pressure	30 psi to 125 psi (205 kPa to 8.5 bar)
Temperature	34 - 110°F (1 - 43°C)
Oil and H ₂ S	None Allowed
Iron	Less than 1 ppm
Total Chlorine	Less than 5 ppm

*For all other guideline information please contact your Watts representative.

Dimensions & Weights

Series ACL-150 & ACL-200



Series ACL-150

Model No.	Dimensions										Shipping Weight	
	A		B		C		D		E		lb	kg
	in.	mm	in.	mm	in.	mm	in.	mm	in.	mm		
NC12FL150	53.25	1353	53.25	1353	61	1550	12	305	12	305	161	73
NC14FL150	68.25	1734	68.25	1734	73.63	1869	14	356	14	356	259	117
NC16FL150	68.25	1734	68.25	1734	73.63	1869	16	406	16	406	314	142
NC18FL150	68.25	1734	68.25	1734	73.63	1869	18	457	18	457	424	192
NC21FL150	65.25	1657	65.25	1657	70.63	1793	21	533	21	533	547	248
NC24FL150	75.25	1911	75.25	1911	80.63	2047	24	610	24	610	819	372

Series ACL-200

Model No.	Dimensions										Shipping Weight	
	A		B		C		D		E		lb	kg
	in.	mm	in.	mm	in.	mm	in.	mm	in.	mm		
NC12FL200	53.5	1359	53.5	1359	61.63	1567	14	356	12	305	169	77
NC14FL200	68.5	1740	68.5	1740	74.25	1886	15	381	14	381	267	121
NC16FL200	68.5	1740	68.5	1740	74.25	1886	16	406	16	406	322	146
NC18FL200	68.5	1740	68.5	1740	74.25	1886	18	457	18	457	432	196
NC21FL200	65.5	1664	65.5	1664	73	1854	21	533	21	533	555	252
NC24FL200	75.5	1918	75.5	1918	83	2108	24	610	24	610	827	375
NC30FL200	75.5	1918	75.5	1918	83	2108	30	762	30	762	1195	542
NC36FL200	75.5	1918	75.5	1918	83	2108	36	914	36	914	1669	769

Specifications

Model No.	Tank Size	Mineral Tank		Flow Rates for Service and Backwash	
		Carbon FT3	Underbed 1/2 x 1/4 - 1/4 x 1/8 - #20	Service GPM 15 GPM FT2	Backwash GPM
NC12FL150	12 x 52	2	20	7.4	7
NC14FL150	14 x 65	3	50	11.1	10
NC16FL150	16 x 65	4	50	14.8	12
NC18FL150	18 x 65	5	100	18.5	16
NC21FL150	21 x 62	7	100	25.9	25
NC24FL150	24 x 72	10	200	37	30
NC12FL200	12 x 52	2	20	7.4	7
NC14FL200	14 x 65	3	50	11.1	10
NC16FL200	16 x 65	4	50	14.8	12
NC18FL200	18 x 65	5	100	18.5	16
NC21FL200	21 x 62	7	100	25.9	25
NC24FL200	24 x 72	10	200	37	30
NC30FL200	30 x 72	15	300	55.5	50
NC36FL200	36 x 72	20	500	74	70

Ordering Information

Model No.	Ordering Codes	Description	Pipe Size	Space Required	Weight	
			In.	W X D X H	lb.	kg
NC12FL150	68110920	2 Cubic Foot 1 1/2" Carbon Filter with Auto Backwash	1.5	15 x 13 x 64	161	73
NC14FL150	68110921	3 Cubic Foot 1 1/2" Carbon Filter with Auto Backwash	1.5	16 x 15 x 77	259	117
NC16FL150	68110922	4 Cubic Foot 1 1/2" Carbon Filter with Auto Backwash	1.5	18 x 17 x 77	314	142
NC18FL150	68110923	5 Cubic Foot 1 1/2" Carbon Filter with Auto Backwash	1.5	19 x 19 x 77	424	192
NC21FL150	68110924	7 Cubic Foot 1 1/2" Carbon Filter with Auto Backwash	1.5	24 x 23 x 84	547	248
NC24FL150	68110925	10 Cubic Foot 1 1/2" Carbon Filter with Auto Backwash	1.5	26 x 25 x 92	819	372
NC12FL200	68110927	2 Cubic Foot 2" Carbon Filter with Auto Backwash	2	16 x 13 x 64	169	77
NC14FL200	68110928	3 Cubic Foot 2" Carbon Filter with Auto Backwash	2	17 x 15 x 77	267	121
NC16FL200	68110929	4 Cubic Foot 2" Carbon Filter with Auto Backwash	2	18 x 17x 79	322	146
NC18FL200	68110930	5 Cubic Foot 2" Carbon Filter with Auto Backwash	2	20 x 19 x 77	432	196
NC21FL200	68110931	7 Cubic Foot 2" Carbon Filter with Auto Backwash	2	23 x 22 x 77	555	252
NC24FL200	68110932	10 Cubic Foot 2" Carbon Filter with Auto Backwash	2	25 x 25 x 88	827	375
NC30FL200	68110933	15 Cubic Foot 2" Carbon Filter with Auto Backwash	2	38 x 30 x 107	1195	542
NC36FL200	68110934	20 Cubic Foot 2" Carbon Filter with Auto Backwash	2	48 x 40 x 107	1669	769

NOTICE

The service flow rates listed for the carbon filters are for dechlorination. Slower flow rates may be required depending on the specific contaminant and concentration of the contaminant.

WARNING

Wet activated carbon preferentially removes oxygen from air. In closed or partially closed containers and vessels, oxygen depletion may reach hazardous levels. If workers are to enter a vessel containing carbon, appropriate procedures for potentially low-oxygen environment should be followed.

