

FRF Series Activated Carbon Filters

Application Table

Model ¹	50	70	100	120	150	240	300	600
Part Number	919705	919707	919710	919712	919715	919724	919730	919760
Mineral Tank	12x52	13x54	14x65	16x65	21x62	24x72	30x72	36x72
Media Volume (ft ³)	1 ½	2 ¼	3 ¼	4	5	8	10	15
Gravel (lbs)	15	30	40	55	140	200	250	300
Bed Area (ft ²)	0.79	0.92	1.07	1.40	2.40	3.14	4.90	7.10
Backwash Rate (gpm)	5	8	10	12	20	25	40	60
Head Loss								
Flow at 5 gpm/ft ²	3.9	4.6	5.4	7.0	12.1	15.7	24.5	35.4
Head Loss in psi at 5 gpm/ft ²	0.5	0.7	0.9	1.2	2.3	2.7	0.8	1.8
Flow Range								
Flow at 2 gpm/ft ² (gpm)	1.6	1.8	2.1	2.8	5	6	10	14
Flow at 6 gpm/ft ² (gpm)	4.7	5.5	6.4	8.4	14	19	29	42

Granular Activated Carbon, GAC, removes tastes, odors, dissolved organic chemicals, and chlorine from municipal and industrial water supplies. Water King standard carbon is 8x30 created from bituminous coal. The activation process increases the porosity and surface area of the media developing a capacity for adsorption of organics from water. GAC has two different uses.

Adsorption. Using activated carbon for adsorption of trace organics improves taste, reduces odors and reduces toxic compounds such as pesticides and herbicides.

Chlorine Removal. GAC also has the ability to catalyze the oxidation of free chlorine to chloride. It is a functional method of removing chlorine from water prior to softening or dealkalization. Chlorine over 1 or 2 ppm is unacceptable in most resin based ion exchange applications because chlorine in water reduces resin life.

APPLICATION

- ◆ Feed water should be clear and free of iron and suspended solids.
- ◆ Service rates of 5 gpm/ft² are practical for ordinary taste, odor and chlorine loads.
- ◆ Backwash flow rates of 10-12 gpm/ft² create 30 to 40% bed expansion.
- ◆ GAC requires periodic backwashing to eliminate accumulated suspended matter and to re-grade the GAC bed.
- ◆ GAC must be periodically replaced in either adsorption or chlorine removal applications.

PHYSICAL PROPERTIES OF ACTIVATED CARBON

- ◆ Designation: Granular Activated Carbon 8x30 Mesh Virgin Coal Base
- ◆ Color: Black
- ◆ US Standard Mesh Size: 8x30
- ◆ Tolerances: larger than 8 mesh 5% max, smaller than 30 mesh 3% max
- ◆ Iodine Number (ASTM D 2866-83): 1000 minimum
- ◆ Molasses Number: 210 minimum
- ◆ Abrasion Number (ASTM D 3802-79): 85 minimum
- ◆ Methylene Blue: 180 minimum
- ◆ Benzene Number: 38 minimum
- ◆ CTC (ASTM D 3467-88): 55 minimum
- ◆ Ash Content (ASTM D 2866-83): 12% maximum
- ◆ pH (ASTM D 3838-80): 7 units
- ◆ Moisture (ASTM D 2867-91): 3% maximum
- ◆ Bulk Density: 0.42 g/ml, 31 lbs/ft³
- ◆ Meets American Water Works Association Standard B604-96
- ◆ NSF Approved
- ◆ Meets Food Chemical CODEX Standards
- ◆ Reference: CEI Specification Sheet 080106