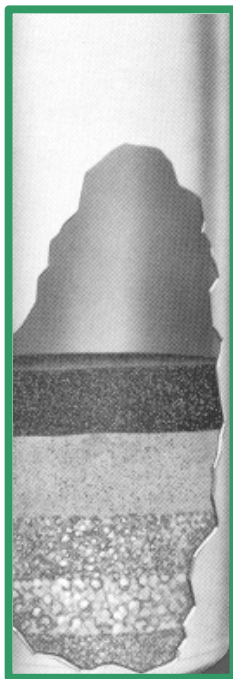


# Application Table

## FRF Series Multi- Media Filters

Model	50	70	100	120	150	240	300
Part Number	919805	919807	919810	919812	919815	919824	919830
Mineral Tank	12x52	13x54	14x65	16x65	21x62	24x72	30x72
Media Volume (ft <sup>3</sup> )	1 ½	2 ¼	3 ¼	4	5	8	10
Gravel (lbs)	15	30	40	55	140	200	250
Bed Area (ft <sup>2</sup> )	0.79	0.92	1.07	1.40	2.40	3.14	4.90
Backwash Rate (gpm)	10	12	15	20	35	50	70
<b>Head Loss</b>							
Flow at 5 gpm/ft <sup>2</sup>	3.9	4.6	5.4	7.0	12.1	15.7	24.5
Head Loss in psi at 5 gpm/ft <sup>2</sup>	5	7	7	8	9	10	10
<b>Flow Range</b>							
Flow at 3 gpm/ft <sup>2</sup> (gpm)	2.4	2.8	3.2	4.2	7	9	15
Flow at 8 gpm/ft <sup>2</sup> (gpm)	6.3	7.4	8.5	11.2	19	25	39



### Multimedia Filters

consist of progressively finer layers of

- No. 1 anthracite**
- filter sand (0.55 mm)**
- 30/40 garnet sand**
- 8/12 garnet with**
- 1/8"x1/16" gravel underbedding.**

When the filter is backwashed, the bed is graded with the coarse anthracite on top, the fine sand in the middle, and the even finer, and denser, garnet sand in the lowest level. This provides better filtration since the coarse media is first and the lower layers of the media are finer. A multimedia filter provides depth filtration.

**Loading.** Standard loading rates for multimedia filters are 3 to 8 gpm/ft<sup>2</sup>. Higher rates even in excess of 10 gpm/ft<sup>2</sup> are allowable in polishing service, where the water is already clear and the solids loading is low.

**Sizing.** It is common to size a bank of multimedia filters at 5 gpm/ft<sup>2</sup> with one filter out of service. A triplex system would then peak at 5 gpm/ft<sup>2</sup> with one filter out of service and go to 3.3 gpm/ft<sup>2</sup> with all filters in service.

Another common scheme is to use a bank of four filters, using the effluent from three of the filters to backwash the fourth. The backwash rate is 15 gpm/ft<sup>2</sup> so three filters at 5 gpm/ft<sup>2</sup> each will backwash the fourth filter.