

Arkal Filtration Systems

AGF

**A Breakthrough
in Media Filtration**

All Plastic Media Filters



■ **Corrosion Free - Cost Effective - Minimum Headloss**

■ **Special Synthetic Materials**

■ **Highest Strength/Weight Ratio Tank**

■ **Two Large Access Ports**

■ **Unique Under-Drain "Mushroom" Drainage System**

ARKAL
FILTRATION SYSTEMS

AGF All Plastic Med

- Corrosion Free
- Easy installation - no need for a crane
- Filter diameter - 48"
- In/Out Victaulic connection - 4"
- Two user-friendly 30 cm x 20 cm ($11\frac{13}{16}$ " x $7\frac{3}{4}$ ") access ports provide for easy inspection and simplifies the loading and unloading of gravel (media)
- Lightweight, 120 kg, 265 Lb. sturdy construction provides maximum operating pressure of 6 bar / 85 psi
- Removable legs provide for easy handling during shipping and on site assembly
- Compact packaging provides for easy storage prior to use



Aquaculture farm - New Zealand

lia Filters

Two large access ports, one at the top of the tank for inspection and gravel loading, the other at the bottom of the tank for emptying and maintenance. The hydro dynamic sealing system incorporates leak-free ports sealed with a submarine-type ellipse cover secured by water pressure.

The Distributor-Plate is designed to evenly distribute unfiltered water across the gravel bed and maintain a flat surface, even under high flow conditions.

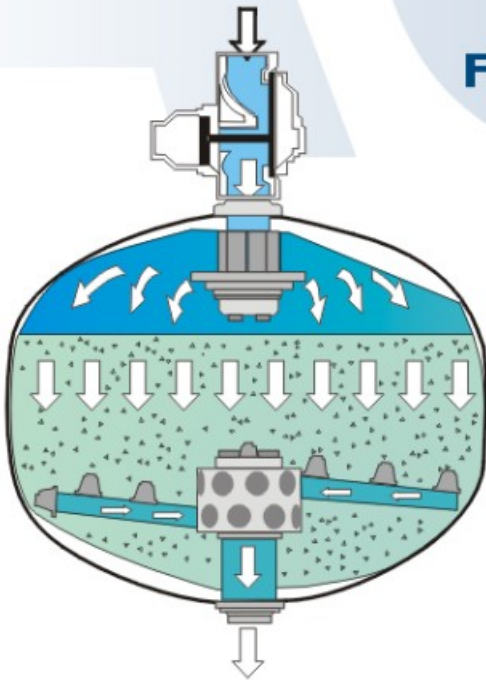
The filter's outer layer is made of composite material with a high strength to weight ratio.

A unique drainage design incorporating 55 "mushrooms" assures hydraulic balance during filtration, increases uniformity and efficiency in backflushing.

The filter's inner layer is made of black polyethylene, which is resistant to environmental stress, cracking and chemicals.



Filtration Process



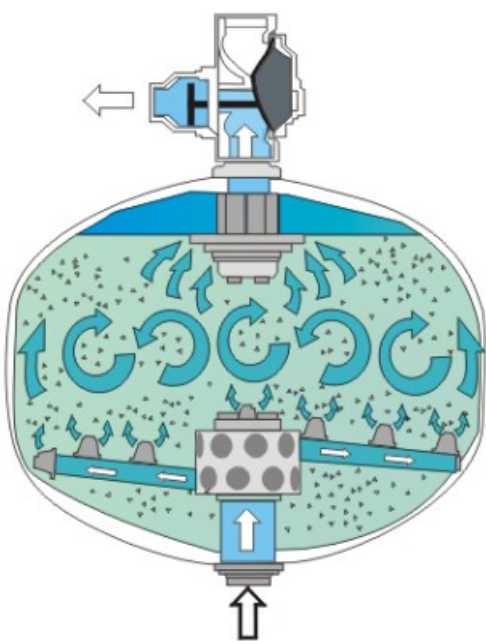
Filtration

Flow and Pressure Specification

Unfiltered water enters AGF filters through a three-stage distributor plate and reaches the media bed with minimal turbulence.

Contaminants are entrapped as the water flows through the media bed. Fifty five drainage mushrooms create a uniform collection of the filtered water.

During filtration, headloss across the filter media will increase according to the accumulation of solids within the media. When it reaches the limit set by the hydraulic conditions of the system, the media will be clean of the accumulated solids by way of the backflush operation.



Backwash

Backflushing Process

Periodic backflushing is necessary to clean the media bed of accumulated contaminants. During the backflushing process, the flow of clean, filtered water from one or more tanks in the battery is reversed through one filter at a time via a three-way backflush valve. As the flow is reversed, the media bed is floated via hydraulic turbulence, and contaminants are flushed out to the backflush manifold, through the backflush port of the three-way valve. The design of the drainage system is critical to ensure uniform floating of the media bed during the backflush process, and is critical for minimizing the amount of backflush water required to rapidly expel the contaminants from the media bed.

Once the backflush is completed, the valves return to the filtration mode and the next filter will backflush.

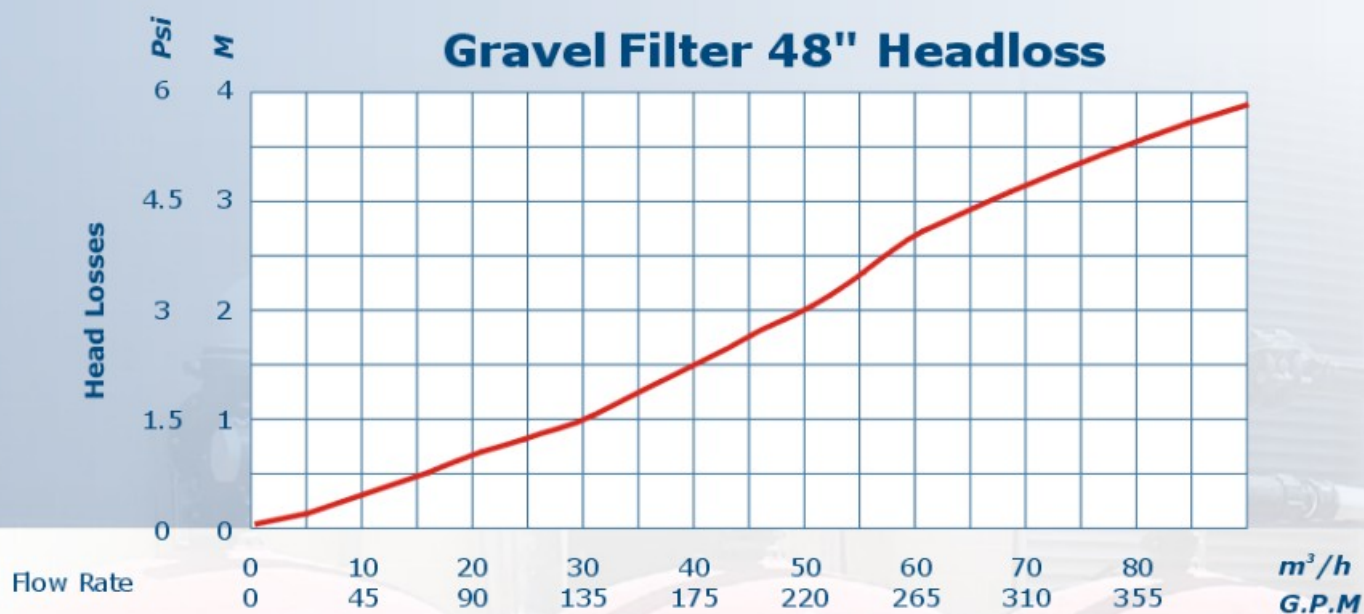
Media / Filtration

Media / Filtration

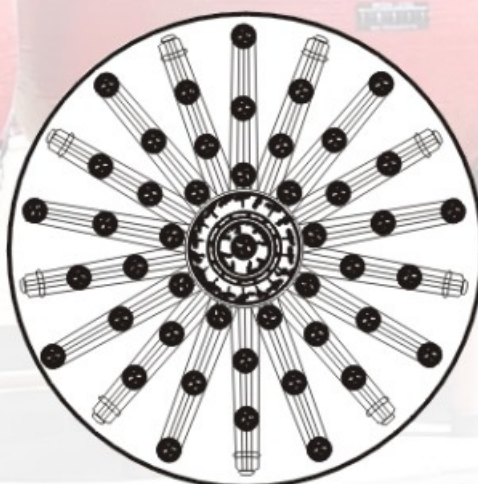
Quartz		Size (mm)			Backflush flow rate
		Min.	Max.	Ave.	
Top Layer	0	0.6	0.84	0.84	25-40 m ³ /h 110-176 G.P.M
Support Layer	2	1.25	2.0	2.0	35-55 m ³ /h 154-242 G.P.M

(see table next page)

Gravel Filter 48" Headloss



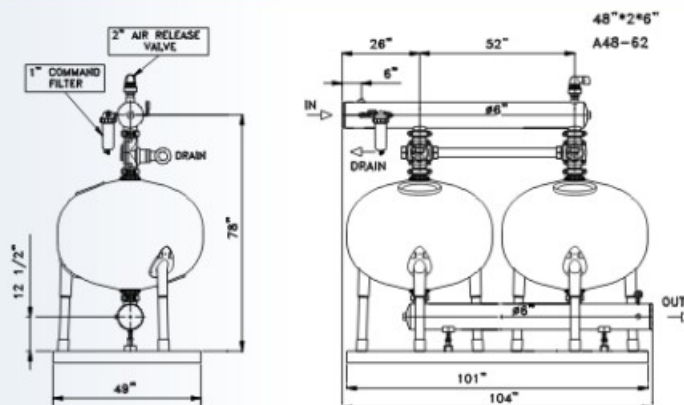
Drainage System
(55 Mushrooms)



AGF Battery

Flow And Pressure Specifications

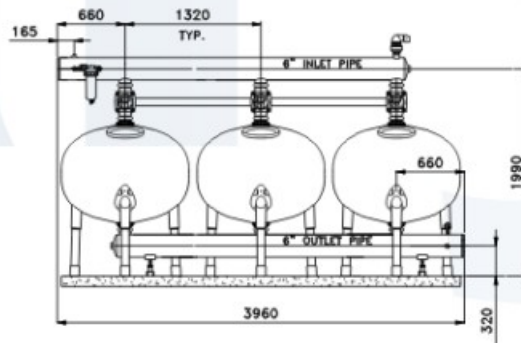
Filter No.	Model	Mani-fold	Maximum Working Pressure		Filtration Area	Flow Media 2		Flow Media 0		Media 0 Weight	Filter Weight
						Flow	Media Weight	Flow	Media 2 Weight		
1	AGF-48-1	--	6 bar	85 Psi	1.16 m ² 12.48 ft ²	40-50 m ³ /h 175-220 GPM	650 kg 1435 lb	15-25 m ³ /h 66-110 GPM	420 kg 925 lb	440 kg 970 lb	120 kg 265 lb
2	AGF-48-2	6"	6 bar	85 Psi	2.32 m ² 25.00 ft ²	80-100 m ³ /h 350-440 GPM	1300 kg 2865 lb	30-50 m ³ /h 132-220 GPM	840 kg 1850 lb	880 kg 1940 lb	240 kg 530 lb
3	AGF-48-3	6"	6 bar	85 Psi	3.48 m ² 37.50 ft ²	120-150 m ³ /h 530-660 GPM	1950 kg 4300 lb	45-75 m ³ /h 200-330 GPM	1260 kg 2775 lb	1320 kg 2910 lb	360 kg 795 lb
4	AGF-48-4	8"	6 bar	85 Psi	4.64 m ² 50.00 ft ²	160-200 m ³ /h 700-880 GPM	2600 kg 5730 lb	60-100 m ³ /h 265-440 GPM	1680 kg 3700 lb	1760 kg 3880 lb	480 kg 1060 lb
5	AGF-48-5	10"	6 bar	85 Psi	5.80 m ² 62.50 ft ²	200-250 m ³ /h 880-1100 GPM	3250 kg 7165 lb	75-120 m ³ /h 330-530 GPM	2100 kg 4625 lb	2200 kg 4850 lb	600 kg 1325 lb
6	AGF-48-6	10"	6 bar	85 Psi	6.96 m ² 75.00 ft ²	240-300 m ³ /h 1055-1320 GPM	3900 kg 8600 lb	90-150 m ³ /h 395-660 GPM	2520 kg 5550 lb	2640 kg 5820 lb	720 kg 1590 lb



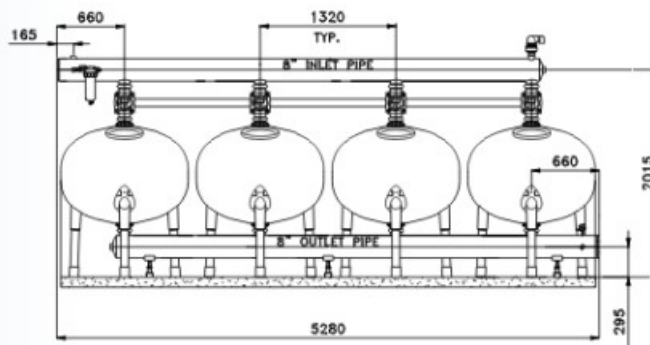
Data for 48" AGF Tank Systems (Dimensions in mm*)	48x1 Tank	48x2 Tank	48x3 Tank	48x4 Tank	48x5 Tank	48x6 Tank
A. Inlet/Outlet Diameter	6"	6"	6"	8"	10"	10"
B. Distance between filters connections		1320mm 52"	1320mm 52"	1320mm 52"	1320mm 52"	1320mm 52"
C. Inlet/Outlet Reference		660 26	660 26	660 26	660 26	660 26
D. Backwash pipe Diameter	4" 110mm	4" 110mm	4" 110mm	4" 110mm	4" 110mm	4" 110mm
E. Backwash Valve Outlet	4" vic. x 3" th.	4" vic. x 3" th.	4" vic. x 3" th.	4" vic. x 3" th.	4" vic. x 3" th.	4" vic. x 3" th.
F. Backwash center Height	1660mm	1660mm	1660mm 65 1/8"	1660mm	1660mm	1660mm
G. Inlet center Height	1991 78 1/8"	1991 78 1/8"	1991 78 1/8"	2017 79 7/16"	1991 78 1/8"	1991
H. Outlet Location	610 24"	610 24"	610 24"	610 24"	610 24"	610 24"
I. Outlet center Height	307 12"	307 12"	307 12"	281 11"	307 11"	307 12"
J. Length		2640 103 13/16"	3960 155 1/8"	5280 207 1/8"	6945 273 1/16"	8315 327 1/8"

Arkal AGF PAD SIZE

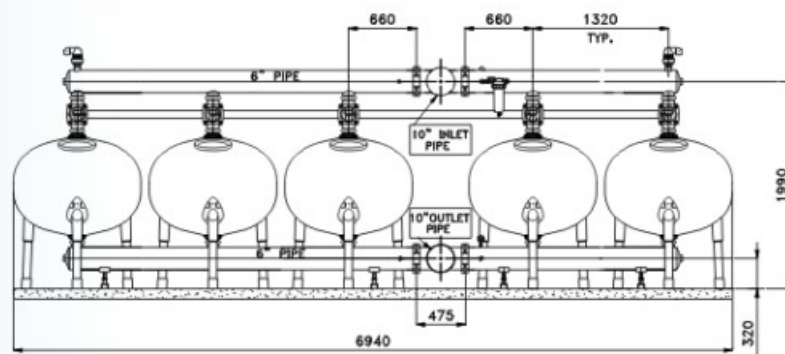
Pad Size 4200x1600 mm
165³/₈" x 63"



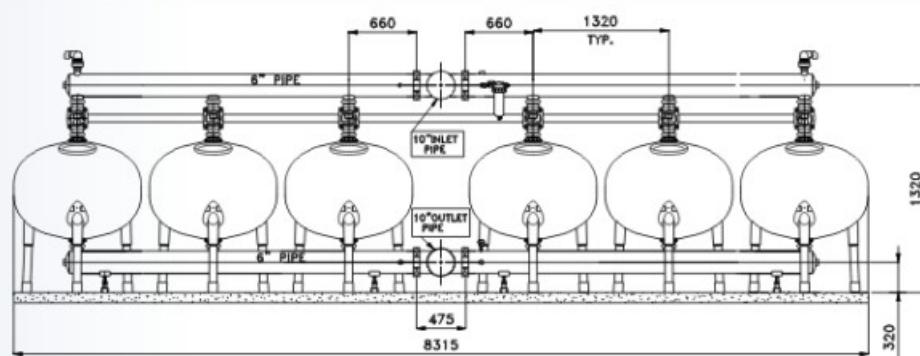
Pad Size 5800 x 1600 mm
228⁷/₈" x 63"



Pad Size 7200 x 1600 mm
283⁷/₁₆" x 63"



Pad Size 8600 x 1600 mm
338³/₁₆" x 63"



Applications

Seawater Aquarium
75 m³/h 330 G.P.M



Drinking Water - Indonesia
200 m³/h 880 G.P.M



Cooling Tower Sidestream
150 m³/h 660 G.P.M



Swimming Pool - Thailand
180 m³/h 800 G.P.M

Bet Zera, Jordan Valley 15135, ISRAEL

Tel: +972-4-6775140

Fax: +972-4-6775476

E-mail: filters@arkal.com

Web: www.arkal-filters.com



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