

# SORB 33<sup>®</sup> APU - As Removal Package Unit Model APU-300

The SORB 33<sup>®</sup> arsenic removal system from Severn Trent Services is economical, simple to operate and requires virtually no labor. In this simple pump-and-treat adsorption system, the contaminated water passes through a robust granular ferric oxide media, Bayoxide<sup>®</sup> E33. As water passes through the media, arsenic is adsorbed and removed to a level below the 4 micrograms per liter ( $\mu\text{g/l}$ ). The SORB 33 system requires no cleaning, no regeneration and no complex, labor-intensive steps.

The dry, crystalline Bayoxide E33 media was designed with a high capacity for arsenic, providing long operating cycles and low operating costs. The media's life expectancy is dependent on site-specific water quality and operating levels. Media is filled into the vessels from sacks by gravity or by hydraulic educting. The exhausted media is non-hazardous and can be sent to a landfill, passing TCLP requirements. Spent media can be removed hydraulically or by vacuum.

The SORB 33 APU-300 is a dual vessel skid-mounted adsorption system designed to accommodate a maximum flow rate of 300 gallons per minute (GPM).



## Features:

- Removes both As (III) and As (V) below 4  $\mu\text{g/l}$
- Robust dry media with high capacity for arsenic
- Long media life under continuous operation
- Very low residual effluents: <0.1% of water treated
- No re-pumping
- No chemicals for regeneration
- Low maintenance- no moving parts
- Small footprint
- NSF Standard 61 Approved media

## Benefits:

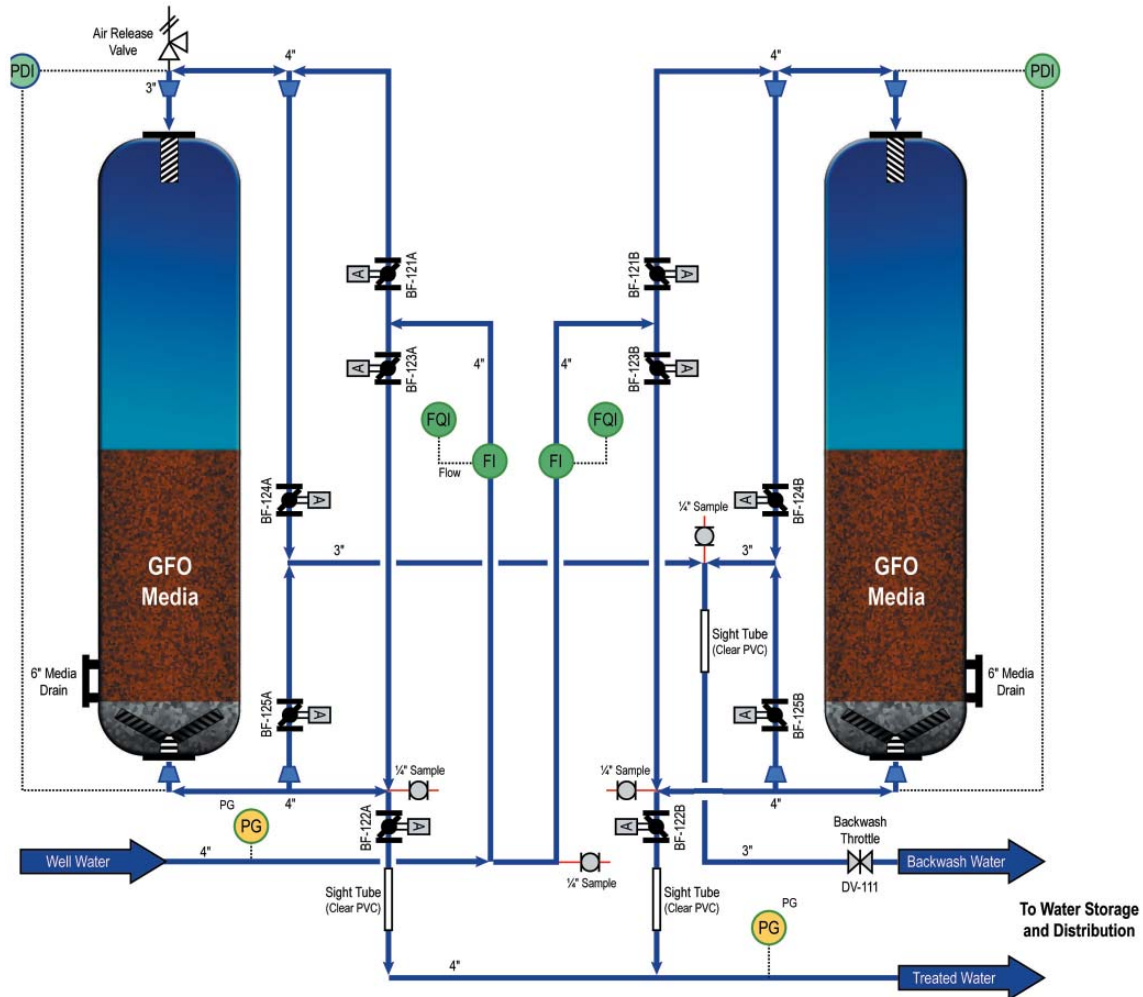
- Low capital costs
- Low operating costs
- Readily available media in any quantity
- Easy disposal of spent media- no hazardous waste generated
- Low extractables
- Low shipping cost and long shelf life of dry media
- Unattended operation- no manpower required

Bayoxide E33 is a registered trademark of Bayer AG.



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# Unit Process Configuration



Capacity		Dimensions & Materials	
Normal Flow Rate (4.5 Min EBCT)	260 GPM	Number of Tanks	2
Design Flow Rate	300 GPM	Materials	FRP & Polyethylene
Nominal Cycle Length	57,000,000 Gals	Tank Dimensions	63" Dia x 86" Hgt
Based on Inlet As Level of 50 µg/L		Skid Dimension	71"W x 150"L x 108"H
Specific Flow Rate	6.9 GPM/Ft <sup>2</sup>	Empty Weight	4,500 Lbs
Backwash Flow Rate (per Vessel)	220 GPM	Piping Materials	Sch 80 PVC
Media		Piping Size	4 Inches (4 in Tie-in)
Volume (not included in Price)	152 Ft <sup>3</sup>	Butterfly Valve Materials	PVC
Bed Depth	42 Inches	Distributor Configuration	Hub & Spoke
Freeboard	40%	Underbedding Gravel Size	1/8" x 1/16"
Media Size	9 x 32 Mesh	Gravel Volume (per Vessel)	14.0 Ft <sup>3</sup>
Normal to Design Empty Bed Contact Time	3.8 Min	Pressure Rating	125 PSIG
Controls & Instruments			
Control Panel includes PLC to position electric actuated butterfly valves for adsorption cycle, backwash and forward rinse. Backwash can be initiated manually or by timer or high differential pressure. Backwash flow throttled by diaphragm rate set valve. Instruments include turbine flow meter, gallonage counter, pressure differential and pressure gauge. 24V, 100V, 220V-50Hz, 60Hz electrical.			

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