

SORB 33[®] Arsenic Removal System

Model EAS-1606

170 – 230 GPM

The SORB 33[®] 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[®] E33. As water passes through the media, arsenic is adsorbed and removed to a level below the 5 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. The exhausted media is non-hazardous and can be sent to a landfill, passing TCLP requirements.

The SORB 33 Model EAS-1606 is a 6' \varnothing carbon steel single or double vessel adsorption system designed to accommodate flow rates ranging from 170 – 230 GPM. The system has an EBCT range of 3.3 – 4.5 minutes and employs 102 ft³ of adsorptive media.

Features:

- Removes both As (III) and As (V) below 5 $\mu\text{g/l}$
- 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:

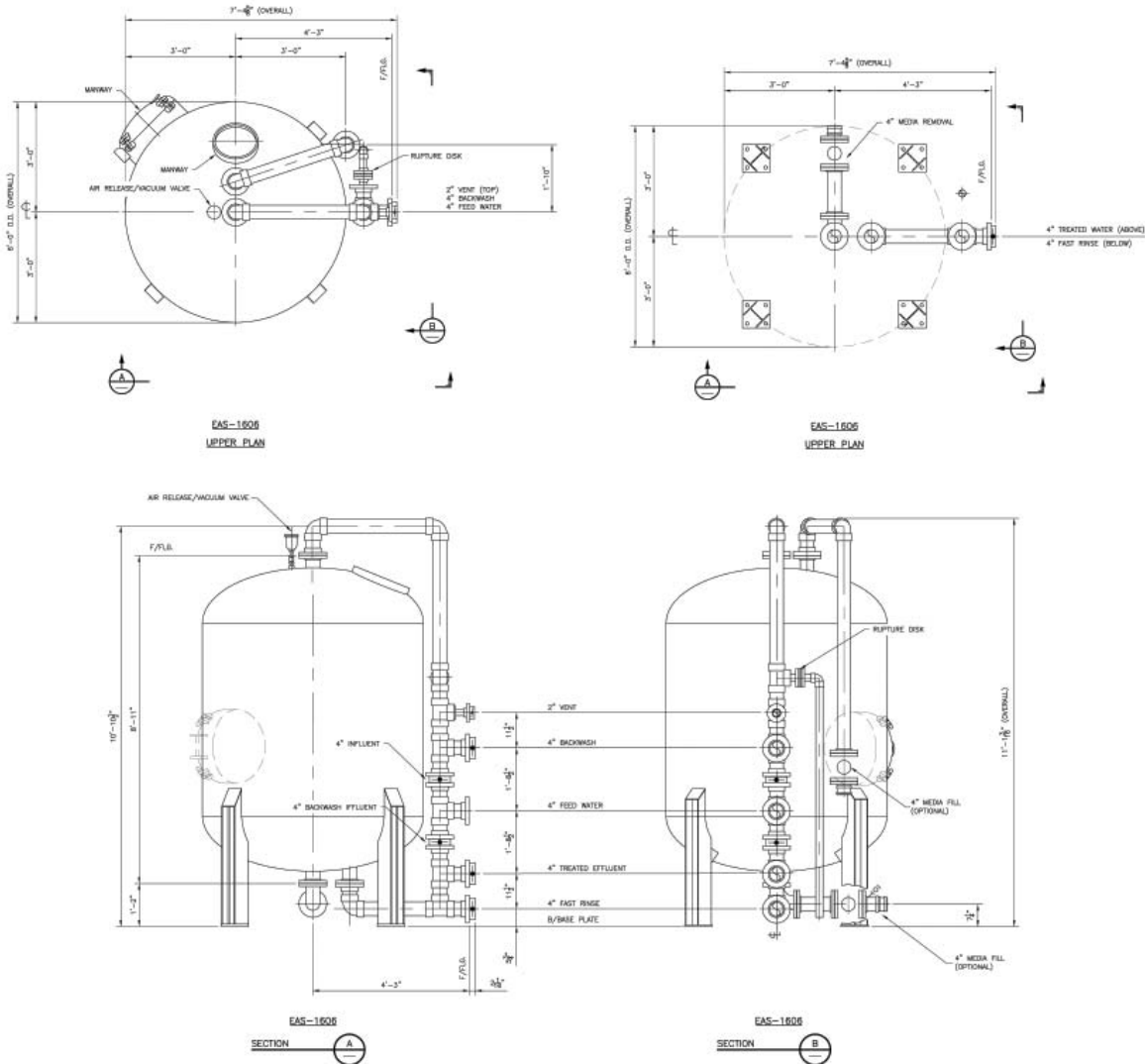
- Low capital costs
- Low operating costs
- Readily available media in any quantity
- Easy disposal of spent media- no hazardous waste generated
- Low extractables
- Low shipping cost and long shelf life of dry media
- Unattended operation- no manpower required

Bayoxide E33 is a registered trademark of Bayer AG.



5415 W. Sligh Avenue, Suite 102
Tampa, FL 33634
Tel 813 886 9331
Toll-free 800 364 3931
Fax 813 886 0651
info@severntrentservices.com
www.severntrentservices.com

Unit Process Configuration



SORB 33® Model EAS-1606 Specifications

Vessel(s):

- Design Pressure 75 PSIG @ 140 ° F
- Carbon steel ASTM A516 Grade 70 material, per ASME Section VIII, Div 1 coded and stamped
- Diameter 6'-0" with 5'-3" straight side, heads 2:1 Semi-elliptical dished
- Structural steel support legs designed per UBC Seismic Zone 4 unless otherwise specified
- Vessel(s) have one 14" x 18" elliptical, top manway, and one 24" diameter side manway
- Shipping weight 2900 lbs., Operating weight 16500 lbs

Nozzles:

- 4" inlet and outlet, 4" media inlet (optional) and 4" media outlet, 1" for Air/Vacuum release.

Underdrain:

- Lateral collector/distribution system. The collector screens slot sized (0.008") for retaining gravel and media within vessel. Header collector system made from Schedule 80 PVC or 304 SS.

Process and Utility Piping: (Material)

- Influent, Effluent, Backwash, Vent, Fast Rinse, and Media Fill piping: PVC Type1 Grade 1 Schedule 80, plain end per ASTM D1785 with solvent weld fittings
- Media discharge pipe and fitting: polypropylene lined carbon steel
- Utility piping: Schedule 80 PVC or Carbon Steel ASTM 53 Grade B, with threaded fittings

System Manual Valves:

- Resilient seated, lug body butterfly valves. Manually operate all valves except influent valve.
- Full port ball valves: 316 SS construction with TFE seats and seals

System Automatic Valves:

- Influent butterfly valve equipped with 120VAC electric motor actuator. The actuator can be operated from Open/Auto/Close selector switch.

Instrumentation:

- Pressure Relief: A 2" rupture disc constructed of impervious graphite provided off each vessel vent line to protect against over temperature expansion and extreme system pressure excursion.

- Differential Pressure Switch: One indicating differential pressure switch provided for each vessel.
- Flow Meter: One inline magnetic flow meter with totalizer for mounting in field influent piping.
- Air release & combination air/vacuum valve: One combination air release and air vacuum valve provided for mounting on top vessel nozzle. A full port isolation ball on inlet of air release valve also provided.

Options:

- Transfer hose connectors and flush connections

Bayoxide® E33 Media: NSF Standard 61 Approved

- Chemical Designation: Synthetic Iron Oxide
- Bulk Density: 0.4 - 0.6 g/cm³
- Specific Surface Area: 120 - 200 m²/g
- Sieve Analysis: <0.5 mm, 20 % max. >2.0 mm, 5% max
- Density: Approx. 3.6 gm/cm³

565.0050.1 06/05