

Introduction

nextsand is based on a rare natural mineral that is highly processed and graded. It's unique properties allow it to radically alter the performance and cost of media filtration. The hardness, stability and micro-porous character of nextsand makes it a perfect filtration media for virtually every application in the water and wastewater treatment industry.

Features

- High filtration performance-3-5 micron removal.
- High capacity filtration throughout the entire nextsand bed depth provides more than twice the capacity of multimedia filtration.
- High flow- 3-4 times that of multimedia with superior filtration.
- Long lasting media (>5 years) not consumed in the process.
- Simple periodic backwash keeps the media clean and operating efficiently.

Applications

- RO Pretreatment–superior SDI reduction
- Cooling Towers–unequaled Turbidity removal
- Municipal Water Treatment, pressure and gravity filters–higher flow, lower pressure drop and superior filtration performance
- Wastewater Polishing–exceptional TSS removal
- Precipitated metals removal
- Carwash reclaim and recycling
- Irrigation

Physical Properties

- Composition: High Purity Alumino-Silicate
- Size: 0.4-1.4 mm (approx. 14x40 mesh)
- Color: Dark Gray
- Surface Area: 25m²/gram
- Surface Absorption: Hydrophillic
- Thermal Stability: Stable to 500° C
- Coefficient of Uniformity: 1.7
- Bed Void Volume: 55%
- Surface Charge: Net Negative
- Bulk Density: 55 lbs per ft³ (0.88 kg/L)
- Packaging: 1 ft³ bags, 1 m³ supersacks.

Performance Characteristics

- Filtration (nominal): 3-5 micron
- Surface Loading: 16-20 gpm/ft² (Typical)
12 gpm/ft² (Optimized for silt, SDI and ultrafine particulates)



Example 1 Service Flow: 15 gpm Filtration: < 10 micron

	nextsand	MultiMedia
Surface loading	15 gpm/ft ²	5 gpm/ft ²
Surface area req'd	1.0 ft ²	3.0 ft ²
Tank Dimensions	14" x 65"	24" x 71"
Media volume req'd	3.2 ft ³	10.8 ft ³
Media weight	216 lbs	1057 lbs
BW flow req'd	17 gpm	51 gpm
Daily BW volume	179 gal	510 gal
Filtration	<5 micron	<10 micron
Comparative cost	1X	3 X

Example 2 Service Flow: 45 gpm Filtration: < 10 micron

	nextsand	MultiMedia
Surface loading	15 gpm/ft ²	5 gpm/ft ²
Surface area req'd	3.0 ft ²	9.0 ft ²
Tank Dimensions	24"x72"	42"x72"
Media volume req'd	9.5 ft ³	35.3 ft ³
Media weight	672 lbs	3469 lbs
BW flow req'd	53 gpm	153 gpm
Daily BW volume	556 gal	1530 gal
Filtration	<5 micron	<10 micron
Comparative cost	1X	3.3 X

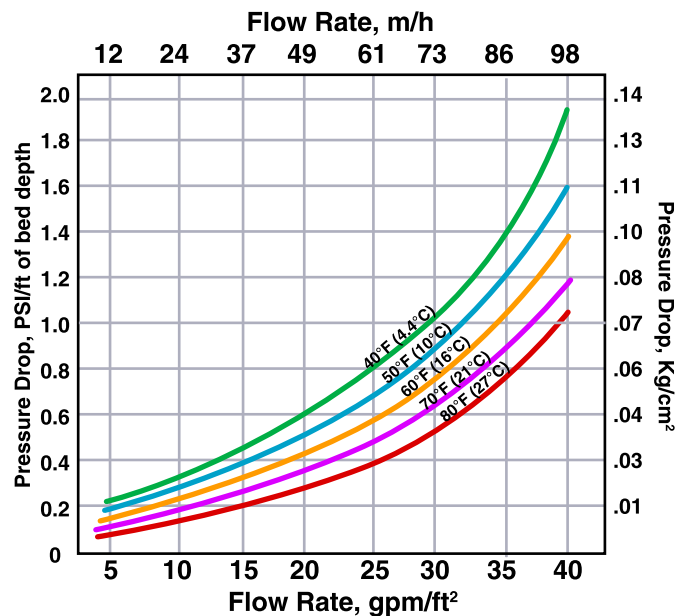
The tables above illustrate the advantages of **nextsand** by comparing two systems designed for the same service flow; one system based on **nextsand**, and one multimedia system (gravel, garnet, fine garnet, anthra - cite). Each system is based on best design practices for the respective media.

Specifications

Operating Characteristics

Service Flow	12-20 gpm/ft ²
Backwash flow	13-22 gpm/ft ²
Backwash duration	5-15 min
Backwash expansion	40-50%
Backwash frequency	Delta-P determined
Bed depth	30"-48" depending on application

Pressure Drop vs Flow



Typical Backwash Flow Requirement, vs Water Temp

Flow	80°F (27°C)	70°F (21°C)	60°F (16°C)	50°F (10°C)	40°F (4.5°C)
U.S. gpm/ft ²	22.3	19.8	17.2	14.8	12.5
m/h	54.5	48.4	42	36.2	30.6
*40% bed expansion.					

