

PUROPACK

Purolite's Proprietary Packed Bed Design Provides Greater Flexibility and Delivers Exceptional Performance.

Introduction

During 1999 Purolite introduced its own proprietary design package for building and operating Counterflow Packed Bed water treatment plants.

The Puropack packed bed design was specifically engineered to meet the needs of customers and is supported by a fully detailed design manual. One of the key points has been the incorporation of backwash facilities to improve overall operational reliability.

More significantly Purolite can provide guidance on tolerance of design and resins to the presence of suspended solids.

In 2000, Purolite International worked closely with Kintech, a well known OEM, to engineer, build and commission a Puropack system for Taiwan's largest semi-conductor manufacturer, TSMC, to produce high quality water from a single pass system without using a polisher.

This customer was looking for:

- Superior treated water quality
- Consistent performance which could handle suspended solids at any level
- Superior rinse and regenerant economics
- Superior fouling resistance.

The system was designed using the Puropack Manual and Puredesign optimisation tools. The configuration is as follows: WAC,SAC,WBA,SBA.

The plant is designed to achieve 80m³/hr flow rate set around a cycle time of 16hrs. The system is operated as two trains.

Vessel Dimensions

Cation: 1.5 m Dia, 3 m ht.

Anion: 1.5 m Dia, 3.2 m ht.

The resins used and volumes per vessel are outlined below:

- WAC - Puropack C104, 1400 litres
- SAC - Puropack PPC100, 2200 litres
- WBA - Puropack A100, 2150 litres
- SBA - Puropack PPA400, 2050 liters



Water Quality

Influent water quality was:

Ca	1.53 meq/l
Mg	0.36 meq/l
Na	1.56 meq/l
Total cations	3.45
HCO ₃	1.31 meq/l
Cl	0.79 meq/l
SO ₄	1.35 meq/l
Total anions	3.45

CO ₂	0.09 meq/l
SiO ₂	0.13 meq/l

Water temperature 20°C

Performance Achieved

The plant is operating at full capacity and meets all design specifications. The water quality out of the SBA vessel is:
Conductivity < 0.2 - 0.3 us/cm
Silica < 20 ppb.

For further information please contact:

USA

Telephone: (1) 610-668-9090

Fax: (1) 610-668-8139

Email: fboodoo@puroliteusa.com

United Kingdom

Telephone: (44) 1443-235-411

Fax: (44) 1443-231-113

Email: purolite.uksales@dial.pipex.com

Germany

Telephone: (49) 2102-46033

Fax: (49) 2102-443663

Email: r.siering@purolite.de

France

Telephone: (33) 1-42-564563

Fax: (33) 1-45-633826

Email: purolite@wanadoo.fr

Italy

Telephone: (39) 02-481-8145

Fax: (39) 02-4801-2359

Email: purolite@purolite.it

www.purolite.com