LG Chem

LG QuantumPure™

The Choice for High-Performance Ion Exchange Resins

LG Water Solutions

QuantumPure™ offers a comprehensive range of high-performance ion exchange (IX) resins, including SAC, SBA, WAC, WBA, and mixed bed resins in various ionic forms, designed to meet a wide range of water treatment needs from deionization and softening to selective ion removal.

Produced using state-of-the-art manufacturing processes, QuantumPure™ IX resins deliver consistent quality, excellent chemical resistance, and extended service life, reducing the need for frequent replacements and maintenance. As a part of the LG Water Solutions product line, QuantumPure™ IX resins deliver the benefits of a globally trusted brand renowned for innovation and quality.

Premium IX Resins with Uniform Particle Size

Exceptional Uniformity:
Our premium product features a uniformity coefficient below 1.1 (WBA: ≤1.2) for reliable performance every time.

Rigorous Quality Control:
Manufactured to meet the highest quality control standards to maximize efficiency and durability.

Enhanced System Performance:
Engineered to enhance system performance with superior exchange capacity and extended service cycles, providing long-term reliability and operational cost savings.

Flexible Applications:
Available in three resin types – SAC, SBA, and WBA, designed for versatile applications across a wide array of water treatment needs.

Product Name	QuantumPure™ UC-08	QuantumPure™ UC-08 H	QuantumPure™ UC-10	QuantumPure™ UC-10 H
Resin Type	SAC			
Matrix	Styrene-divinylbenzene, Gel			
Functional Group	Sulfonic Acid			
Ionic Form	Na^+	H^+	Na^+	H^+
Total Capacity, min. (eq/ℓ)	2.00	1.80	2.20	2.00
Uniformity Coefficient	≤1.1			
Average Diameter (μm)	600±50	620±50	650±50	660±50
Specific Gravity*	1.28	1.20	1.32	1.22
Shipping Weight (g/ℓ)*	840	800	830	800
Max. Operating Temperature	120°C / 248°F			
Operating pH Range	0-14			
Moisture Retention (%)	43–49	50–56	38–44	45–51
Swelling Rate*	9% ($Na^+ \rightarrow H^+$)		8% ($Na^+ \rightarrow H^+$)	

Product Name	QuantumPure™ UA-10	QuantumPure™ UA-10 OH	QuantumPure™ UA-12	QuantumPure™ UA-12 OH	QuantumPure™ UA-20	QuantumPure™ UWA-80
Resin Type	SBA					WBA
Matrix	Styrene-divinylbenzene, Gel					Styrene-divinylbenzene, Porous
Functional Group	Trimethyl Ammonium (Type 1)				Dimethylethanol Ammonium (Type 2)	Tertiary Amine
Ionic Form	Cl^-	OH^-	Cl^-	OH^-	Cl^-	Free Base
Total Capacity, min. (eq/ℓ)	1.35	1.10	1.30	1.00	1.30	1.60
Uniformity Coefficient	≤1.1	≤1.1	≤1.1	≤1.1	≤1.1	≤1.2
Average Diameter (μm)	550±50	590±50	575±50	620±50	575±50	500±100
Specific Gravity*	1.08	1.07	1.08	1.07	1.11	1.04
Shipping Weight (g/ℓ)*	670	655	670	660	690	615
Max. Operating Temperature	80°C / 176°F (Cl^-); 60°C / 140°F (OH^-)				60°C / 140°F (Cl^-); 40°C / 104°F (OH^-)	60°C / 140°F
Operating pH Range	0–14	0–14	0–14	0–14	0–14	0–9
Moisture Retention (%)	43–49	59–65	49–55	62–70	45–51	55–60
Swelling Rate*	23% ($Cl^- \rightarrow OH^-$)		24% ($Cl^- \rightarrow OH^-$)		14% ($Cl^- \rightarrow OH^-$)	23% (FB → Cl^-)

*The values specified are for reference only and does not guarantee performance.

IX Resins for Mixed Bed

Ready-to-Use:

Mixed resins engineered for efficient, convenient production of high-purity water.

Flexible Resin Size Options:

Available in both uniform particle size or Gaussian distribution types to meet diverse treatment needs.

Optimized for Ultrapure Water Applications:

The UPS type is optimized as a final polisher in ultrapure water applications, ensuring the highest levels of water purity.

Product Name		QuantumPure™ UPW-100		QuantumPure™ UPW-200		QuantumPure™ UPW-300		QuantumPure™ UPW-400	
Matrix		Styrene-divinylbenzene, Gel							
Functional Group		Sulfonic Acid	Type 1 (Trimethylammonium)	Sulfonic Acid	Type 1 (Trimethylammonium)	Sulfonic Acid	Type 1 (Trimethylammonium)	Sulfonic Acid	Type 1 (Trimethylammonium)
Ionic Form		H^+	OH^-	H^+	OH^-	H^+	OH^-	H^+	OH^-
Total Capacity, min. (eq/ℓ)		1.9	1.0	1.9	1.0	1.9	1.0	1.9	1.0
Average Diameter (μm)		620±50	620±50	620±50	620±50	620±50	620±50	620±50	620±50
Uniformity Coefficient		≤1.1	≤1.1	≤1.1	≤1.1	≤1.1	≤1.1	≤1.1	≤1.1
Ionic Conversion (%)	H^+	99.0 Min	-	99.0 Min	-	99.0 Min	-	99.0 Min	-
	OH^-	-	95.0 Min	-	95.0 Min	-	95.0 Min	-	95.0 Min
	Cl^-	-	1.0 Max	-	1.0 Max	-	1.0 Max	-	1.0 Max
Mixed Ratio		1:1 (by equivalents) Cation : Anion		1:1 (by equivalents) Cation : Anion		1:1 (by equivalents) Cation : Anion		1:1 (by equivalents) Cation : Anion	
Inlet Condition	Specific Flow Rate	SV30		SV30		SV30		SV30	
	Resistivity	>17.5MΩ·cm		>17.5MΩ·cm		>17.5MΩ·cm		>17.5MΩ·cm	
	TOC	-		<2 ppb		<2 ppb		<2 ppb	
Outlet Condition	Resistivity	Guaranteed ≥18.0 MΩ·cm(in 30 min.)		Guaranteed ≥18.1 MΩ·cm(in 30 min.)		Guaranteed ≥18.2 MΩ·cm(in 30 min.)		Guaranteed ≥18.2 MΩ·cm(in 30 min.)	
	△TOC	-		<5 ppb (in 120min.)		<1 ppb(in 180min.)		<1 ppb (in 180min.)	

Product Name		QuantumPure™ GMB-200		QuantumPure™ GMB-210		QuantumPure™ GMB-300	
Matrix		Styrene-divinylbenzene, Gel					
Functional Group		Sulfonic Acid	Type 1 (Trimethylammonium)	Sulfonic Acid	Type 1 (Trimethylammonium)	Sulfonic Acid	Type 1 (Trimethylammonium)
Ionic Form		H^+	OH^-	H^+	OH^-	H^+	OH^-
Average Diameter (μm)		300–1,200	300–1,200	300–1,200	300–1,200	300–1,200	300–1,200
Uniformity Coefficient		≤1.6	≤1.6	≤1.6	≤1.6	≤1.6	≤1.6
Ionic Conversion (%)	H^+	99.0 Min	-	99.0 Min	-	99.0 Min	-
	OH^-	-	90.0 Min	-	95.0 Min	-	95.0 Min
	Cl^-	-	1.0 Max	-	1.0 Max	-	1.0 Max
Mixed Ratio		1:1 (by equivalents) Cation : Anion		1:1 (by equivalents) Cation : Anion		1:1 (by equivalents) Cation : Anion	
Inlet Condition	Specific Flow Rate	SV36		SV36		SV36	
	Conductivity	150 μs/cm		150 μs/cm		10 μs/cm	
Outlet Condition	Resistivity	Guaranteed: ≥10.0 MΩ·cm (in 10min.) Actual: ≥15.0 MΩ·cm (in 10min.)		Guaranteed: ≥10.0 MΩ·cm (in 10min.) Actual: ≥15.0 MΩ·cm (in 10min.)		Guaranteed: ≥15.0 MΩ·cm (in 10min.) Actual: ≥17.0 MΩ·cm (in 10min.)	

Product Name	QuantumPure™ IR-30	QuantumPure™ IR-70
Resin Type	Inert	Inert
Matrix	Methyl Methacrylate-divinylbenzene	Polyethylene
Average Diameter (μm)	700–900	≥1200
Specific Gravity*	1.13–1.15	0.85–0.95
Shipping Weight (g/ℓ)*	670–720	500–600
Max. Operating Temperature	100°C / 212°F	90°C / 194°F
Operating pH Range	0–14	0–14
Application	Boundary layer in a mixed bed system for resin layer separation.	Top layer in packed bed system for resin leakage prevention and regenerant chemicals dispersion.

*The values specified are for reference only and does not guarantee performance.

IX Resins with Gaussian Distribution

Reliable Quality:

With a uniformity coefficient below 1.6, our product ensures consistent performance across various applications.

Cost-Effective Solution:

Economical choice for diverse water treatment needs with high-quality performance.

Flexible Applications:

Available in three resin types – SAC, SBA, and WBA, designed for versatile applications across a wide array of water treatment needs.

Product Name	QuantumPure™ GC-07	QuantumPure™ GC-08	QuantumPure™ GC-70	QuantumPure™ GC-80
Resin Type	SAC			
Matrix	Styrene-divinylbenzene, Gel			
Functional Group	Sulfonic Acid			
Ionic Form	Na^+	Na^+	Na^+	Na^+
Total Capacity, min. (eq/ℓ)	1.90	2.00	1.90	2.00
Uniformity Coefficient	≤1.6			
Average Diameter (μm)	300–1200			
Specific Gravity*	1.25	1.25	1.25	1.25
Shipping Weight (g/ℓ)*	800	800	800	800
Max. Operating Temperature	120°C / 248°F			
Operating pH Range	0-14			
Moisture Retention (%)	45–50	43–50	45–50	43–50
Swelling Rate*	9% ($Na^+ \rightarrow H^+$)	8% ($Na^+ \rightarrow H^+$)	8-9% ($Na^+ \rightarrow H^+$)	8-9% ($Na^+ \rightarrow H^+$)

Product Name	QuantumPure™ GA-10	QuantumPure™ GA-20	QuantumPure™ GWC-10L	QuantumPure™ GWA-30
Resin Type	SBA		WAC	WBA
Matrix	Styrene-divinylbenzene, Gel		Acrylic Acid-divinylbenzene, Porous	Styrene-divinylbenzene, Porous
Functional Group	Trimethyl Ammonium (Type 1)	Dimethylethanol Ammonium (Type 2)	Carboxylic Acid	Tertiary Amine
Ionic Form	Cl^-	Cl^-	H^+	Free Base
Total Capacity, min. (eq/ℓ)	1.35	1.30	4.50	1.50
Uniformity Coefficient	≤1.6	≤1.6	≤1.6	≤1.6
Average Diameter (μm)	300–1200	300–1200	425–1200	300–1200
Specific Gravity*	1.11	1.13	1.19	1.05
Shipping Weight (g/ℓ)*	670	700	720	635
Max. Operating Temperature	80°C /176°F (Cl^-); 60°C / 140°F (OH^-)	60°C / 140°F (Cl^-); 40°C / 104° (OH^-)	120°C / 248°F	60°C / 140°F
Operating pH Range	0–14	0–14	4–14	0–9
Moisture Retention (%)	42–48	40–50	45–55	48–58
Swelling Rate*	24% ($Cl^- \rightarrow OH^-$)	15% ($Cl^- \rightarrow OH^-$)	10% ($H^+ \rightarrow Ca^{2+}$)	20% (FB → Cl^-)

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