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Ion Exchange Resin Product Catalogue

ION EXCHANGE RESIN PRODUCT CATALOGUE

Cation · Anion · Special Resins | Full technical data and model index

45 grades

Total products

3 families

Cation / Anion / Special

13 series

By matrix and acid / base type

12 parameters

Technical data per grade

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About this Catalogue

- This catalogue covers all 45 ion exchange resin grades currently in production, spanning three families — cation, anion and special resins — across 13 series.
- Technical data follows the source specification, including uniformity coefficient, functional group, exchange capacity, particle size, density, moisture, sphericity after attrition and equivalent foreign grade — 12 parameters in total.
- Typical applications are annotated for anion resins in the source data; for cation and special resins they are supplemented from series characteristics for reference.
- Special particle sizes, tailored functional groups or custom packaging can be arranged on request; supply specifications are governed by the confirmed technical agreement.

Series Breakdown

Strong Acid Styrene-Based Cation Resins (SAC)	<div><div></div></div>	8	Weak Acid Phenolic-Based Cation Resins (WAC)	<div><div></div></div>	1
Macroporous Strong Acid Styrene-Based Cation Resins (SAC)	<div><div></div></div>	4	Strong Base Styrene-Based Anion Resins (SBA)	<div><div></div></div>	1
Macroporous Weak Acid Acrylic-Based Cation Resins (WAC)	<div><div></div></div>	5	Weak Base Epoxy-Based Anion Resins (WBA)	<div><div></div></div>	1
Strong Base Styrene-Based Anion Resins (SBA)	<div><div></div></div>	7	Macroporous Styrene-Based Chelating Resins (CHEL)	<div><div></div></div>	2
Macroporous Strong Base Styrene-Based Anion Resins (SBA)	<div><div></div></div>	7	Boron-Selective Resins (CHEL)	<div><div></div></div>	1
Macroporous Weak Base Styrene-Based Anion Resins (WBA)	<div><div></div></div>	4	Catalyst Resins	<div><div></div></div>	1
			Floating Bed White Beads	<div><div></div></div>	3

00 Product Range Overview

PRODUCT OVERVIEW

Cation Exchange Resins

17 grades

- Strong Acid Styrene-Based (SAC) — 8
- Macroporous Strong Acid Styrene-Based (SAC) — 4
- Macroporous Weak Acid Acrylic-Based (WAC) — 5

Functional groups are sulfonic acid (-SO₃H) or carboxyl (-COOH). For softening, demineralization, iron/manganese removal and industrial water treatment.

Anion Exchange Resins

18 grades

- Strong Base Styrene-Based (SBA) — 7
- Macroporous Strong Base Styrene-Based (SBA) — 7
- Macroporous Weak Base Styrene-Based (WBA) — 4

Functional groups are quaternary ammonium or primary, secondary and tertiary amines. For pure/ultrapure water, silica removal and organics control.

Special & Other Resins

10 grades

- Weak Acid Phenolic (WAC) / Strong Base Styrene-Based (SBA) / Weak Base Epoxy-Based (WBA) — 3
- Macroporous Styrene-Based Chelating (CHEL) — 2
- Boron-selective (CHEL), Catalyst, Floating bed bead — 5

Engineered for heavy metals, boron, catalytic oxidation and floating-bed media.

Model Suffix Codes

Suffix	Meaning	Suffix	Meaning
-FC	Floating bed grade	-SC	Stratified bed grade
-MB	Mixed bed grade	-DL	Stratified / floating / moving bed

Quick Selection Guide

Application	Recommended Grade	Selection Notes
General softening / demineralization	001×7, 001×8, 001×10	Gel-type strong acid cation resin; high uniformity and capacity — the most widely applied resin
High-hardness or high-organic raw water	D001 series	Macroporous matrix, high porosity and osmotic-shock tolerance; better fouling resistance than gel type
Dealkalization / high exchange capacity	D113, D111 series	Weak acid carboxyl type; high capacity, efficient regeneration, low acid demand
Pure water preparation	201×7, 201×4	Gel-type strong base anion resin for general industrial pure water
Ultrapure water / food & chemical water	D201, D202 series	Macroporous strong base anion resin; organic-fouling resistant, deep silica removal, high regeneration efficiency
Silica / organics removal	D301, 365B	Macroporous weak base anion resin in free-amine form; regenerable by deamination, strong fouling resistance
Heavy metal removal & recovery	D401, D402	Chelating resin; high selectivity for specific metal ions, large adsorption capacity
Drinking water de-boron	D564	Boron-selective resin with specific affinity for borate
Catalytic oxidation / decolorization / COD removal	S-TR	Catalyst resin combining catalytic and adsorption functions
Floating bed support media	RS-001 ~ RS-003	Uniform white beads, high mechanical strength; RS-003 is cylindrical

I. Cation Exchange Resins

CATION

Cation exchange resins exchange cations in water through negatively charged functional groups, and are widely used for softening, demineralization and industrial water treatment.

Model	Product Name	Uniformity Coeff.	Functional Group	Appearance	Ionic Form	Total Exchange Capacity ≥mmol/g	Volume Exchange Capacity >mmol/mL	Particle Size (mm) ≥95%	Wet True Density g/mL	Wet Bulk Density g/mL	Moisture Content %	Sphericity after Attrition ≥%	Equivalent Foreign Grades
Strong Acid Styrene-Based Cation Resins (SAC) Gel styrene-DVB strong acid cation resin with sulfonic acid groups, offering high exchange capacity and mechanical strength, for softening, demineralization and general industrial water treatment. Regenerant: acid.													
001×7	Strong Acid Styrene-Based	1.60	-SO ₃ H	Amber spherical beads	Na ⁺	4.50	1.90	0.315-1.25	1.25-1.29	0.77-0.87	45-50	95	Amberlite IR-120 / Lewatit S-100
001×7-FC	Strong Acid Styrene-Based	1.60	-SO ₃ H	Amber spherical beads	Na ⁺	4.50	1.90	0.45-1.25	1.25-1.29	0.77-0.87	45-50	95	Amberlite IR-120 / Lewatit S-100
001×7-MB	Strong Acid Styrene-Based	1.40	-SO ₃ H	Amber spherical beads	Na ⁺	4.50	1.80	0.71-1.25	1.25-1.29	0.77-0.87	45-50	95	Amberlite IR-120 / Lewatit S-100
001×7-DL	Strong Acid Styrene-Based	1.40	-SO ₃ H	Amber spherical beads	Na ⁺	4.50	1.70	0.63-1.40	1.24-1.28	0.77-0.87	45-50	90	Amberlite IR-120 / Lewatit S-100
001×4	Strong Acid Styrene-Based	1.40	-SO ₃ H	Amber spherical beads	Na ⁺	4.50	1.40	0.315-1.25	1.18-1.26	0.75-0.85	55-65	90	Amberlite IR-118
001×8	Strong Acid Styrene-Based	1.60	-SO ₃ H	Amber spherical beads	Na ⁺	4.40	1.80	0.315-1.25	1.25-1.30	0.78-0.88	45-50	95	Amberlite IR-118
001×10	Strong Acid Styrene-Based	1.60	-SO ₃ H	Amber spherical beads	Na ⁺	4.20	2.00	0.315-1.25	1.28-1.34	0.80-0.98	40-45	95	Amberlite IR-118
001×16	Strong Acid Styrene-Based	1.60	-SO ₃ H	Amber spherical beads	Na ⁺	3.50	2.00	0.315-1.25	1.28-1.34	0.80-0.98	30-50	90	Amberlite IR-124
Macroporous Strong Acid Styrene-Based Cation Resins (SAC) Macroporous styrene-DVB strong acid cation resin with high porosity, strong fouling resistance and high osmotic-shock tolerance, for raw water with high organics or hardness.													
D001	Macroporous Strong Acid Styrene-Based	1.70	-SO ₃ H	Light brown spherical beads	Na ⁺	4.35	1.75	0.315-1.25	1.23-1.28	0.75-0.85	45-50	90	Amberlite IR-200
D001-FC	Macroporous Strong Acid Styrene-Based	1.60	-SO ₃ H	Light brown spherical beads	Na ⁺	4.35	1.75	0.45-1.25	1.23-1.28	0.75-0.85	45-50	90	Amberlite IR-200
D001-MB	Macroporous Strong Acid Styrene-Based	1.40	-SO ₃ H	Light brown spherical beads	Na ⁺	4.35	1.75	0.63-1.25	1.23-1.28	0.75-0.85	45-50	90	Amberlite IR-200
D001-SC	Macroporous Strong Acid Styrene-Based	1.40	-SO ₃ H	Light brown spherical beads	Na ⁺	4.35	1.75	0.63-1.25	1.23-1.28	0.75-0.85	45-50	90	Amberlite IR-200
Macroporous Weak Acid Acrylic-Based Cation Resins (WAC) Macroporous acrylic weak acid cation resin with carboxyl functional groups, offering high exchange capacity and good regeneration efficiency for dealkalization and hardness reduction.													
D113	Macroporous Weak Acid Acrylic-Based	1.60	-COOH	Light yellow spherical beads	H ⁺	11.00	4.50	0.315-1.25	1.14-1.20	0.72-0.80	45-52	95	Lewatit CNP-80
D113-FC	Macroporous Weak Acid Acrylic-Based	1.60	-COOH	Light yellow spherical beads	H ⁺	11.00	4.50	0.45-1.25	1.14-1.20	0.72-0.80	45-52	95	Lewatit CNP-80
D113-SC	Macroporous Weak Acid Acrylic-Based	1.40	-COOH	Light yellow spherical beads	H ⁺	11.00	4.50	0.63-1.25	1.14-1.20	0.72-0.80	45-52	95	Lewatit CNP-80
D111	Macroporous Weak Acid Acrylic-Based	1.60	-COOH	Light yellow spherical beads	H ⁺	9.50	3.50	0.315-1.25	1.12-1.22	0.72-0.82	40-50	90	Amberlite IRC-84
D111-FC	Macroporous Weak Acid Acrylic-Based	1.60	-COOH	Light yellow spherical beads	H ⁺	9.50	3.50	0.45-1.25	1.12-1.22	0.72-0.82	40-50	90	Amberlite IRC-84

II. Anion Exchange Resins

ANION

Anion exchange resins exchange anions in water through positively charged functional groups, and are widely used for pure water preparation, silica removal and ultrapure water treatment.

Model	Product Name	Uniformity Coeff.	Functional Group	Appearance	Ionic Form	Total Exchange Capacity ≥mmol/g	Volume Exchange Capacity >mmol/mL	Particle Size (mm) ≥95%	Wet True Density g/mL	Wet Bulk Density g/mL	Moisture Content %	Sphericity after Attrition ≥%	Equivalent Foreign Grades	Typical Applications
Strong Base Styrene-Based Anion Resins (SBA) Gel styrene-DVB strong base anion resin with quaternary ammonium groups (Type I for -N(CH ₃) ₃ , Type II where the group bears a hydroxyethyl substituent), for pure water preparation and general water treatment. Regenerant: caustic.														
201×7	Strong Base Styrene-Based	1.60	-N(CH ₃) ₃	Light yellow spherical beads	Cl ⁻	3.60	1.35	0.315-1.25	1.07-1.10	0.67-0.73	42-48	95	Amberlite IRA-400	Pure water, wastewater treatment, pharmaceutical separation
201×7-FC	Strong Base Styrene-Based	1.60	-N+(CH ₃) ₃	Light yellow spherical beads	Cl ⁻	3.60	1.35	0.45-1.25	1.07-1.10	0.67-0.73	42-48	92	Amberlite IRA-400	Floating bed resin
201×7-MB	Strong Base Styrene-Based	1.40	-N+(CH ₃) ₃	Light yellow spherical beads	Cl ⁻	3.60	1.35	0.45-0.90	1.07-1.10	0.67-0.73	42-48	92	Amberlite IRA-400	Mixed bed resin
201×7-SC	Strong Base Styrene-Based	1.40	-N+(CH ₃) ₃	Light yellow spherical beads	Cl ⁻	3.60	1.35	0.63-1.25	1.07-1.10	0.67-0.73	42-48	92	Amberlite IRA-400	Stratified bed resin
201×7-DL	Strong Base Styrene-Based	1.40	-N+(CH ₃) ₃	Light yellow spherical beads	Cl ⁻	3.60	1.30	0.63-1.40	1.07-1.10	0.67-0.73	42-48	92	Amberlite IRA-400	Stratified bed, floating bed, moving bed
201×4	Strong Base Styrene-Based	1.60	-N(CH ₃) ₃	Light yellow spherical beads	Cl ⁻	3.80	1.10	0.315-1.25	1.07-1.10	0.67-0.73	53-63	90	Lewatit M504MB	Pure and ultrapure water, chemical manufacture, etc.
202	Strong Base Styrene-Based	1.60	-N(CH ₃) ₂ CH ₂ CH ₂ OH	Light yellow spherical beads	Cl ⁻	3.50	1.25	0.315-1.25	1.07-1.10	0.67-0.73	40-50	90	Amberlite IRA-410	Pure water, sugar liquor decolorization
Macroporous Strong Base Styrene-Based Anion Resins (SBA) Macroporous styrene-DVB strong base anion resin with excellent organic-fouling resistance and easy regeneration, for ultrapure water and food / chemical process water.														
D201	Macroporous Strong Base Styrene-Based	1.60	-N+(CH ₃) ₃	Amber spherical beads	Cl ⁻	3.80	1.15	0.315-1.25	1.06-1.10	0.65-0.73	50-60	90	Amberlite IRA-900	Ultrapure water, food and chemical manufacture
D201-FC	Macroporous Strong Base Styrene-Based	1.60	-N(CH ₃) ₃	Milky white beads	Cl ⁻	3.80	1.15	0.45-1.25	1.06-1.10	0.65-0.73	50-60	90	Amberlite IRA-900	Floating bed resin
D201-MB	Macroporous Strong Base Styrene-Based	1.60	-N(CH ₃) ₃	Milky white beads	Cl ⁻	3.80	1.15	0.45-0.90	1.06-1.10	0.65-0.73	50-60	90	Amberlite IRA-900	Mixed bed resin, water treatment
D201-SC	Macroporous Strong Base Styrene-Based	1.60	-N(CH ₃) ₃	Milky white beads	Cl ⁻	3.80	1.10	0.63-1.25	1.06-1.10	0.65-0.73	50-60	92	Amberlite IRA-900	Stratified bed resin
D202	Macroporous Strong Base Styrene-Based	1.60	-N/(CH ₃) ₂ CH ₂ OH	Milky white beads	Cl ⁻	3.50	1.20	0.315-1.25	1.07-1.12	0.68-0.74	47-57	90	Amberlite IRA-910	Pure water, sugar liquor separation
D202-FC	Macroporous Strong Base Styrene-Based	1.60	-N(CH ₃) ₂ CH ₂ OH	Milky white beads	Cl ⁻	3.50	1.20	0.45-1.25	1.07-1.12	0.68-0.74	47-57	90	Amberlite IRA-910	Floating bed resin
D202-SC	Macroporous Strong Base Styrene-Based	1.40	-N(CH ₃) ₂ CH ₂ OH	Milky white beads	Cl ⁻	3.50	1.20	0.63-1.25	1.07-1.12	0.68-0.74	47-57	90	Amberlite IRA-910	Stratified bed system
Macroporous Weak Base Styrene-Based Anion Resins (WBA) Macroporous weak base anion resin supplied in free-base form, regenerable by deamination, for strong mineral acid removal and as a lead bed ahead of SBA polishing.														
D301	Macroporous Weak Base Styrene-Based	1.60	-N+(CH ₃) ₂ ·H ₂ O	Milky white beads	Free base	4.80	1.40	0.315-1.25	1.03-1.06	0.65-0.72	48-58	95	Amberlite IRA-94	Pure water, sugar liquor decolorization, etc.
D301-FC	Macroporous Weak Base Styrene-Based	1.60	-N(CH ₃) ₂ ·H ₂ O	Milky white beads	Free base	4.80	1.40	0.45-1.25	1.03-1.06	0.65-0.72	48-58	95	Amberlite IRA-94	Floating bed resin

Model	Product Name	Uniformity Coeff.	Functional Group	Appearance	Ionic Form	Total Exchange Capacity ≥mmol/g	Volume Exchange Capacity >mmol/mL	Particle Size (mm) ≥95%	Wet True Density g/mL	Wet Bulk Density g/mL	Moisture Content %	Sphericity after Attrition ≥%	Equivalent Foreign Grades	Typical Applications
D301-SC	Macroporous Weak Base Styrene-Based	1.40	-N(CH ₃) ₂ ·H ₂ O	Milky white beads	Free base	4.80	1.40	0.315-0.63	1.03-1.06	0.65-0.72	48-58	95	Amberlite IRA-94	Stratified bed resin
365B	Macroporous Weak Base Styrene-Based	1.60	-N(CH ₃) ₂ ·H ₂ O	Milky white beads	Free base	4.20	1.40	0.315-1.25	1.04-1.10	0.65-0.72	50-60	95	Amberlite IRA-94	Pure water, decolorization, etc.

III. Special & Other Resins

SPECIAL

This group covers resins with special functions or dedicated duties, including chelating, boron-selective and catalyst grades, and floating bed support media.

Model	Product Name	Uniformity Coeff.	Functional Group	Appearance	Ionic Form	Total Exchange Capacity ≥mmol/g	Volume Exchange Capacity >mmol/mL	Particle Size (mm) ≥95%	Wet True Density g/mL	Wet Bulk Density g/mL	Moisture Content %	Sphericity after Attrition ≥%	Equivalent Foreign Grades
Weak Acid Phenolic-Based Cation Resins (WAC) Phenolic weak acid cation resin with good thermal stability, for iron and manganese removal and special water treatment processes.													
122	Weak Acid Phenolic-Based	—	-COOH	Orange to brown spherical beads	H ⁺	4.00	—	0.315-1.25	1.05-1.15	0.65-0.75	60-70	90	Duolite S-300
Strong Base Styrene-Based Anion Resins (SBA) Strong base anion exchange resin for ultrapure water preparation and deep impurity removal such as silica and iron.													
D296	Strong Base Styrene-Based	—	-N+(CH ₃) ₃	—	Cl ⁻	3.60	—	0.315-1.25	1.05-1.10	0.65-0.75	60-70	95	—
Weak Base Epoxy-Based Anion Resins (WBA) Epoxy weak base anion resin with good alkali resistance and mechanical strength, for silica and organics removal.													
330	Weak Base Epoxy-Based	—	-NH(CH ₃) ₂ ·H ₂ O	Orange to brown spherical beads	—	9.00	—	0.315-1.25	1.04-1.10	0.65-0.75	58-68	90	Wofatit L-165
Macroporous Styrene-Based Chelating Resins (CHEL) Macroporous chelating resin with high selectivity for heavy metal ions — iminodiacetic (IDA) type for D401, aminophosphonic (AMP) type for D402 — for heavy metal removal and recovery.													
D401	Macroporous Styrene-Based Chelating	1.80	—N(CH ₂ COOH) ₂	Beige yellow beads	Na ⁺	—	—	0.315-1.25	1.10-1.20	0.72-0.76	41-52	90	—
D402	Macroporous Styrene-Based Chelating	1.80	—N(CH ₂) ₂ —P(=O)(OH) ₂	Beige yellow beads	Na ⁺	—	2.30	0.315-1.25	1.10-1.20	0.70-0.80	50-60	90	Lewatit TP-260
Boron-Selective Resins (CHEL) Boron-selective resin with specific affinity for borate, for drinking water de-boron and boron-bearing industrial streams.													
D564	Boron-Selective	1.80	—	—	—	—	—	0.315-1.25	1.05-1.15	—	50-60	90	—
Catalyst Resins Catalyst resin combining catalytic and adsorption functions, for catalytic oxidation, COD removal and decolorization.													
S-TR	Catalyst	—	—	—	—	—	—	0.70-1.90	—	0.67-0.72	≤6	90	Ambersep 359 / Duolite 3TR
Floating Bed White Beads Floating-bed inert white bead with uniform particle size and high mechanical strength, for floating-bed ion exchange units.													
RS-001	Floating Bed White Bead	—	—	—	Spherical	—	—	0.80-2.0	0.15-1.35	—	≤6	90	—
RS-002	Floating Bed White Bead	—	—	—	Spherical	—	—	1.0-2.5	0.25-0.40	—	≤6	90	—
RS-003	Floating Bed White Bead	—	—	—	Cylindrical	—	—	φ13±0.14	0.88-0.92	0.50-0.57	≤6	90	—

IV Model Index

MODEL INDEX

All 45 grades listed by family and model number for quick reference, with the equivalent overseas designation for cross-checking.

Model	Product Name	Family	Equivalent Foreign Grades
001×4	Strong Acid Styrene-Based	Cation	Amberlite IR-118
001×7	Strong Acid Styrene-Based	Cation	Amberlite IR-120 / Lewatit S-100
001×7-DL	Strong Acid Styrene-Based	Cation	Amberlite IR-120 / Lewatit S-100
001×7-FC	Strong Acid Styrene-Based	Cation	Amberlite IR-120 / Lewatit S-100
001×7-MB	Strong Acid Styrene-Based	Cation	Amberlite IR-120 / Lewatit S-100
001×8	Strong Acid Styrene-Based	Cation	Amberlite IR-118
001×10	Strong Acid Styrene-Based	Cation	Amberlite IR-118
001×16	Strong Acid Styrene-Based	Cation	Amberlite IR-124
D001	Macroporous Strong Acid Styrene-Based	Cation	Amberlite IR-200
D001-FC	Macroporous Strong Acid Styrene-Based	Cation	Amberlite IR-200
D001-MB	Macroporous Strong Acid Styrene-Based	Cation	Amberlite IR-200
D001-SC	Macroporous Strong Acid Styrene-Based	Cation	Amberlite IR-200
D111	Macroporous Weak Acid Acrylic-Based	Cation	Amberlite IRC-84
D111-FC	Macroporous Weak Acid Acrylic-Based	Cation	Amberlite IRC-84
D113	Macroporous Weak Acid Acrylic-Based	Cation	Lewatit CNP-80
D113-FC	Macroporous Weak Acid Acrylic-Based	Cation	Lewatit CNP-80
D113-SC	Macroporous Weak Acid Acrylic-Based	Cation	Lewatit CNP-80
201×4	Strong Base Styrene-Based	Anion	Lewatit M504MB
201×7	Strong Base Styrene-Based	Anion	Amberlite IRA-400
201×7-DL	Strong Base Styrene-Based	Anion	Amberlite IRA-400
201×7-FC	Strong Base Styrene-Based	Anion	Amberlite IRA-400
201×7-MB	Strong Base Styrene-Based	Anion	Amberlite IRA-400
201×7-SC	Strong Base Styrene-Based	Anion	Amberlite IRA-400
202	Strong Base Styrene-Based	Anion	Amberlite IRA-410
365B	Macroporous Weak Base Styrene-Based	Anion	Amberlite IRA-94

Model	Product Name	Family	Equivalent Foreign Grades
D201	Macroporous Strong Base Styrene-Based	Anion	Amberlite IRA-900
D201-FC	Macroporous Strong Base Styrene-Based	Anion	Amberlite IRA-900
D201-MB	Macroporous Strong Base Styrene-Based	Anion	Amberlite IRA-900
D201-SC	Macroporous Strong Base Styrene-Based	Anion	Amberlite IRA-900
D202	Macroporous Strong Base Styrene-Based	Anion	Amberlite IRA-910
D202-FC	Macroporous Strong Base Styrene-Based	Anion	Amberlite IRA-910
D202-SC	Macroporous Strong Base Styrene-Based	Anion	Amberlite IRA-910
D301	Macroporous Weak Base Styrene-Based	Anion	Amberlite IRA-94
D301-FC	Macroporous Weak Base Styrene-Based	Anion	Amberlite IRA-94
D301-SC	Macroporous Weak Base Styrene-Based	Anion	Amberlite IRA-94
122	Weak Acid Phenolic-Based	Special	Duolite S-300
330	Weak Base Epoxy-Based	Special	Wofatit L-165
D296	Strong Base Styrene-Based	Special	—
D401	Macroporous Styrene-Based Chelating	Special	—
D402	Macroporous Styrene-Based Chelating	Special	Lewatit TP-260
D564	Boron-Selective	Special	—
RS-001	Floating Bed White Bead	Special	—
RS-002	Floating Bed White Bead	Special	—
RS-003	Floating Bed White Bead	Special	—
S-TR	Catalyst	Special	Ambersep 359 / Duolite 3TR

V Technical Notes

TECHNICAL NOTES

Field Definitions

Field	Description
Model	Grade designation of the resin
Uniformity Coefficient	Ratio describing the uniformity of the particle size distribution; the lower the value, the more uniform the beads
Functional Group	Active exchange groups on the resin matrix, determining the ion exchange characteristics
Ionic Form	Na / H for cation resins; Cl for strong base anion resins; free amine for weak base anion resins
Total Exchange Capacity	Total exchangeable ions per unit mass of dry resin, ≥mmol/g (mass basis)
Volume Exchange Capacity	Total exchangeable ions per unit volume of wet resin, >mmol/mL (volume basis)
Particle Size	Particle size distribution range of the finished resin in mm, with ≥95% within the range
Wet True Density	Density of the resin particle itself in the fully swollen state, excluding the voids between particles, g/mL
Wet Bulk Density	Bulk density of the fully swollen resin, including inter-particle voids, g/mL; used to calculate resin volume required for a bed
Moisture Content	Percentage of water contained in the resin as supplied, determined by oven drying at 105 ± 5 °C
Sphericity after Attrition	Whole spherical beads retained after the attrition test (GB/T 12598 rate of sphericity after attrition), ≥%
Equivalent Foreign Grades	Comparable overseas product designation, for cross-reference during selection
Structure	Polymer matrix: gel styrene-DVB, macroporous styrene-DVB, macroporous acrylic or epoxy
Typical Applications	Typical duty. Source data annotate anion resins only; cation and special resins supplemented from series characteristics

Specification Notes

The specifications listed are general product parameters for reference during selection. Actual supply specifications are governed by the technical agreement confirmed between both parties and the outgoing inspection report. Special particle sizes, tailored functional groups or custom packaging can be arranged on request. In the event of updates, the latest product catalogue prevails.

Glossary of Terms

Term	Description
Gel-type resin	Micropores with high cross-linking; high exchange capacity and mechanical strength, suited to clean feed water
Macroporous resin	Continuous macropores throughout the matrix; resistant to fouling and tolerant of high osmotic shock, for raw water with high organics
Strong acid / weak acid	Strong acid groups (sulfonic, -SO ₃ H) dissociate and exchange over the full pH range; weak acid groups (carboxyl, -COOH) dissociate only above neutral pH
Strong base / weak base	Strong base groups (quaternary ammonium) cannot be deaminated on regeneration; weak base groups are supplied in free-amine form and regenerable by deamination
Floating bed (FC)	Resin bed fluidized in the expanded state with counter-current regeneration; high efficiency, compact footprint
Mixed bed (MB)	Cation and anion resins blended and regenerated together, for terminal demineralization and high outlet purity
Stratified bed (SC)	Weak base resin layered over strong base resin, so regeneration of the anion resin does not contaminate the strong base layer
Free amine form	As-supplied form of weak base anion resin; it must be converted to the Cl ⁻ form before use
Attrition	Simulates the mutual friction of resin during operation, to assess mechanical strength and fines generation
Sphericity	Share of particles still fully spherical after attrition, indicating resistance to mechanical damage
Uniformity coefficient	Ratio of the 40% retained sieve opening to the effective particle size; the closer to 1, the narrower the particle size distribution
Working exchange capacity	Exchange capacity under actual operating conditions; typically 50–90% of total exchange capacity
SAC / WAC / SBA / WBA / CHEL	Family codes: Strong Acid Cation, Weak Acid Cation, Strong Base Anion, Weak Base Anion, Chelating
Type I / Type II anion resin	Type I bears trimethylammonium groups; Type II bears a hydroxyethyl substituent — higher alkaline stability, lower thermal stability
Effective particle size	Sieve opening at which 10% of the sample by mass passes
Whole beads	Uncracked spherical beads; a measure of mechanical integrity
Regenerant	Acid for cation resins, caustic for anion resins



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For technical consultation, sample requests and commercial quotations, please contact Haitron Chemicals. We provide resin selection advice, sample support and technical data.