# PURE RESIN PC002

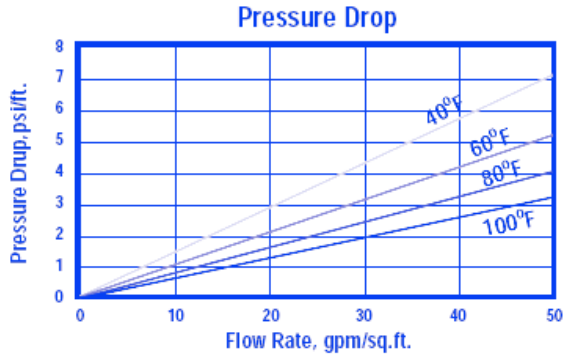
- **REF. RA300;**
- **Gel Strong Acid Cation Exchange Resin;**
- **light coloured;**
- **gel type sulfonated polystyrene cation resin supplied in the sodium form as moist, tough uniform spherical beads.**
- **well suited for industrial, commercial or residential softening applications where free chlorine is not present because of its high capacity and good physical stability.**
- **D.M. n.174 dated 06/04/2004 compliant about materials suitable for contact with water for human consumption;**
- **NSF/ANSI 44&61 certified.**


| Typical Physical & Chemical Characteristics | |
|---|---|
| Polymer Matrix Structure | Polystyrene crosslinked with 7% DVB |
| Functional Group | $R\text{-}(SO_3)^-M^+$ |
| Ionic Form, as shipped | Sodium ($Na^+$) |
| Physical Form and Appearance | Clear Spherical Beads |
| Sphericity | 95% min. |
| Screen Size Range<br>--- U.S. Standard Screen | 16 ÷ 50 mesh, wet |
| Particle Size Range | +1,2 mm < 5%, - 0,3 mm < 1% |
| Uniformity Coefficient | 1,6 max. |
| Water Retention, $Na^+$ form | 45 ÷ 50% |
| Swelling $Na^+ \rightarrow H^+$<br>$Ca^{2+} \rightarrow Na^+$ | 10% max.<br>5% max. |
| Shipping Weight, $Na^+$ form | 770 ÷ 870 g/l (50 lbs/cu.ft, approx.) |
| Total Exchange Capacity, $Na^+$ form | 1,9 eq/l min. |
| pH Range | 0 ÷ 14 |

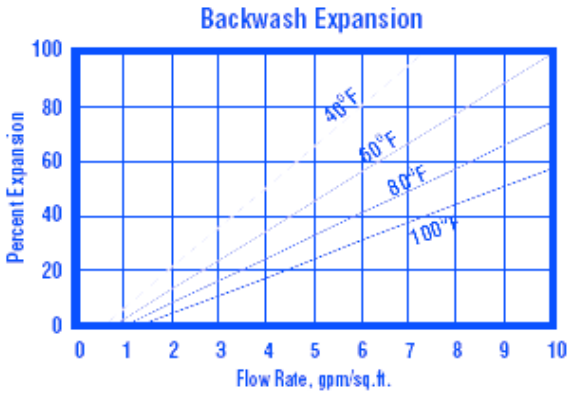
# PURE RESIN PC002

| Suggested Operating Conditions | |
|---|---|
| Maximum Temperature<br>$Na^+$ form<br>$H^+$ form | <br>120ºC (248ºF) max.<br>100ºC (212ºF) max. |
| Minimum Bed Depth | 0,6 m (24 inches) |
| Backwash Rate | 25 ÷ 50% bed expansion |
| Regeneration<br>Regenerant Concentration<br>Flow Rate<br>Contact Time | <br>8 ÷ 20% NaCl or saturated salt water<br>2 ÷ 4 BV/h (0,25 ÷ 0,50 gpm/cu.ft)<br>At least 30 Minutes |
| Displacement Rinse Rate | Same as Regenerant Flow Rate |
| Displacement Rinse Volume | 1 ÷ 2 BV (7,5 ÷ 15 gallons/cu.ft) |
| Fast Rinse Rate | Same as Service Flow Rate |
| Fast Rinse Volume | 3 ÷ 4 BV (22,5 ÷ 30 gallons/cu.ft) |
| Service Flow Rate | 10 ÷ 50 BV/h (1,25 ÷ 6,25 gpm/cu.ft) |

## Hydraulic Properties




**Pressure Drop:** The graph above shows the expected pressure loss per foot of bed depth as a function of flow rate at various temperatures.




**Backwash:** After each cycle the resin bed should be backwashed at a rate that expands the bed 25 to 50 percent. That will remove any foreign matter and reclassify the bed. The graph above shows the expansion characteristics of Pure PC002 in the sodium form.

# PURE RESIN PC003

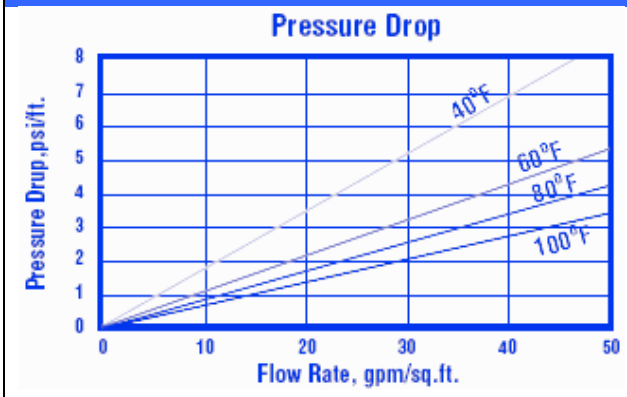
- **REF. RA310;**
- **Gel Strong Acid Cation Exchange Resin;**
- **high capacity premium grade bead form, conventional gel polystyrene sulphonate cation exchange resin supplied in the sodium or hydrogen form;**
- **intended for use in all water softening, dealcalisation, deionization and chemical processing applications, such as the following:**
    1. **in H form (PC003H), can be used in multiple and mixed bed demineralizers with strong base;**
    2. **anion exchangers such as Pure PA101, PA102 and PA103 in OH- form.**
- **well suited for industrial, commercial or residential softening applications because of its high capacity and good physical stability;**
- **D.M. n.174 dated 06/04/2004 compliant about materials suitable for contact with water for human consumption;**
- **NSF/ANSI 44&61 certified.**


| Typical Physical & Chemical Characteristics | |
|---|---|
| Polymer Matrix Structure | Polystyrene crosslinked with 8% DVB |
| Functional Group | $R\text{-}(SO_3)^-M^+$ |
| Ionic Form, as shipped | $Na^+$ / $H^+$ |
| Physical Form and Appearance | Clear Spherical Beads |
| Sphericity | 95% min. |
| Screen Size Range US Standard Screen | 16 ÷ 50 mesh, wet |
| Particle Size Range | +1,2 mm < 5%, - 0,3 mm < 1% |
| Uniformity Coefficient | 1,6 max. |
| Water Retention, $Na^+$ form<br>$H^+$ form | 43 ÷ 48%<br>50 ÷ 56% |
| Swelling $Na^+ \rightarrow H^+$<br>$Ca^{2+} \rightarrow Na^+$ | 10% max.<br>5% max. |
| Shipping Weight, $Na^+$ form<br>$H^+$ form | 780 ÷ 880 g/l (51 lbs/cu.ft, approx.)<br>770 ÷ 870 g/l (50 lbs/cu.ft, approx.) |
| Total Exchange Capacity, $Na^+$ form<br>$H^+$ form | 2,0 eq/l min.<br>1,9 eq/l min. |
| pH Range | 0 ÷ 14 |

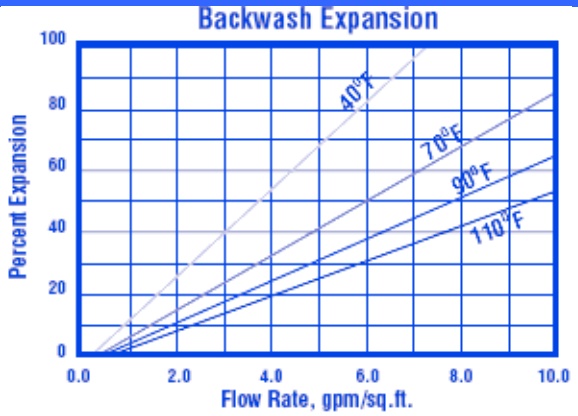
# PURE RESIN PC003

| Suggested Operating Conditions | |
|---|---|
| Maximum Temperature<br>$Na^+$ form<br>$H^+$ form | <br>150ºC (300ºF) max.<br>100ºC (212ºF) max. |
| Minimum Bed Depth | 0,6 m (24 inches) |
| Backwash Rate | 25 ÷ 50% Bed Expansion |
| Regeneration<br>Sodium Cycle<br>Hydrogen Cycle<br>Flow Rate<br>Contact Time | <br>8 ÷ 20% NaCl<br>5 ÷ 10% HCl, 2-8% $H_2SO_4$<br>2 ÷ 7 BV/h (0,25 ÷ 0,90 gpm/cu.ft)<br>At least 30 Minutes |
| Displacement Rinse Rate | Same as Regenerant Flow Rate |
| Displacement Rinse Volume | 1,4 ÷ 2,0 BV (10 ÷ 15 gallons/cu.ft) |
| Fast Rinse Rate | Same as Service Flow Rate |
| Fast Rinse Volume | 4 ÷ 8 BV (30 ÷ 60 gallons/cu.ft) |
| Service Flow Rate | 10 ÷ 50 BV/h (1,25 ÷ 6,25 gpm/cu.ft) |

## Hydraulic Properties




**Pressure Drop:** The graph above shows the expected pressure loss per foot of bed depth as a function of flow rate at various Temperatures.




**Backwash:** After each cycle the resin bed should be backwashed at a rate that expands the bed 25 to 50 percent. That will remove any foreign matter and reclassify the bed. The graph above shows the expansion characteristics of Pure PC003 in the sodium form.

# PURE RESIN PC100NA

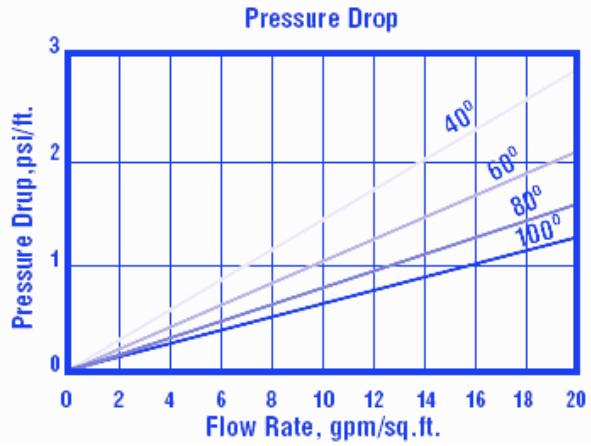
- **REF. RA318;**
- **Macroporous Strong Acid Cation Exchange Resin;**
- **macroporous poly (styrene sulphonate) cation exchange resin with excellent resistance to both osmotic and thermal shock;**
- **supplied as spherical beads;**
- **used for water softening with high level of DVB;**
- **also widely used in mixed bed demineralizers where high hydraulic demands exist and high resistance to mechanical thermal and oxidative stresses are required, such as condensate polishing, chemical processing, hydrometallurgy, sugar treatment.**


| Typical Physical & Chemical Characteristics | |
|---|---|
| Polymer Matrix Structure | Polystyrene crosslinked with 8% DVB |
| Functional Group | $R\text{-}(SO_3)^-M^+$ |
| Ionic Form, as shipped | $Na^+$ |
| Physical Form and Appearance | Clear Spherical Beads |
| Sphericity | 95% min. |
| Screen Size Range US Standard Screen | 16 ÷ 50 mesh, wet |
| Particle Size Range | +1,2 mm < 5%, - 0,3 mm < 1% |
| Uniformity Coefficient | 1,6 max. |
| Water Retention | 45 ÷ 55% |
| Swelling $Na^+ \rightarrow H^+$ | 10% max. |
| Shipping Weight | 760 ÷ 830 g/l (50 lbs/cu.ft, approx.) |
| Total Exchange Capacity | 1,8 eq/l min. |
| pH Range | 0 ÷ 14 |

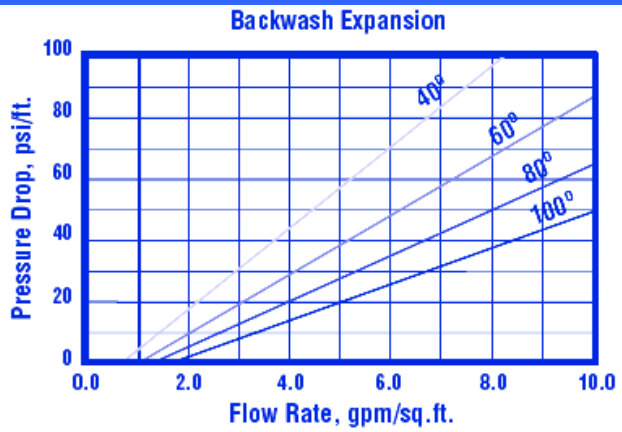
# PURE RESIN PC100NA

| Suggested Operating Conditions | |
|---|---|
| Maximum Temperature | 150ºC (300ºF) max. |
| Minimum Bed Depth | 0,6 m (24 inches) |
| Backwash Rate | 25 ÷ 50% Bed Expansion |
| Regeneration<br>Flow Rate<br>Contact Time | 8 ÷ 20% NaCl<br>2 ÷ 7 BV/h (0,25 ÷ 0,90 gpm/cu.ft)<br>At least 20 Minutes |
| Displacement Rinse Rate | Same as Regenerant Flow Rate |
| Displacement Rinse Volume | 1,4 ÷ 2,0 BV (10 ÷ 15 gallons/cu.ft) |
| Fast Rinse Rate | Same as Service Flow Rate |
| Fast Rinse Volume | 4 ÷ 8 BV (30 ÷ 60 gallons/cu.ft) |
| Service Flow Rate | 10 ÷ 50 BV/h (1,25 ÷ 6,25 gpm/cu.ft) |

## Hydraulic Properties




**Pressure Drop:** The graph above shows the expected pressure loss per foot of bed depth as a function of flow rate at various temperatures.




**Backwash:** After each cycle the resin bed should be backwashed at a rate that expands the bed 25 to 50 percent. That will remove any foreign matter and reclassify the bed. The graph above shows the expansion characteristics of Pure PC100.

# PURE RESIN PC100H

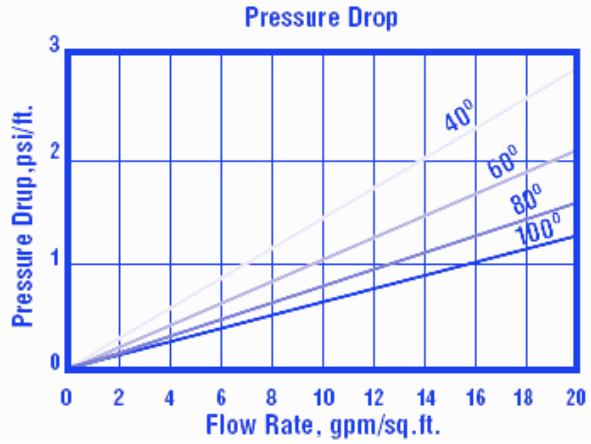
- **REF. RA320;**
- **Macroporous Strong Acid Cation Exchange Resin;**
- **macroporous poly (styrene sulphonate) cation exchange resin with excellent resistance to both osmotic and thermal shock;**
- **supplied as spherical beads;**
- **used for water softening with high level of DVB;**
- **also widely used in mixed bed demineralizers where high hydraulic demands exist and high resistance to mechanical thermal and oxidative stresses are required, such as condensate polishing, chemical processing, hydrometallurgy, sugar treatment.**


| Typical Physical & Chemical Characteristics | |
|---|---|
| Polymer Matrix Structure | Polystyrene crosslinked with 8% DVB |
| Functional Group | $R\text{-}(SO_3)^-M^+$ |
| Ionic Form, as shipped | $H^+$ |
| Physical Form and Appearance | Clear Spherical Beads |
| Sphericity | 95% min. |
| Screen Size Range US Standard Screen | 16 ÷ 50 mesh, wet |
| Particle Size Range | +1,2 mm < 5%, - 0,3 mm < 1% |
| Uniformity Coefficient | 1,6 max. |
| Water Retention | 50 ÷ 60% |
| Swelling $Na^+ \rightarrow H^+$ | 10% max. |
| Shipping Weight, $Na^+$ form | 760 ÷ 830 g/l (50 lbs/cu.ft, approx.) |
| Total Exchange Capacity | 1,7 eq/l min. |
| pH Range | 0 ÷ 14 |

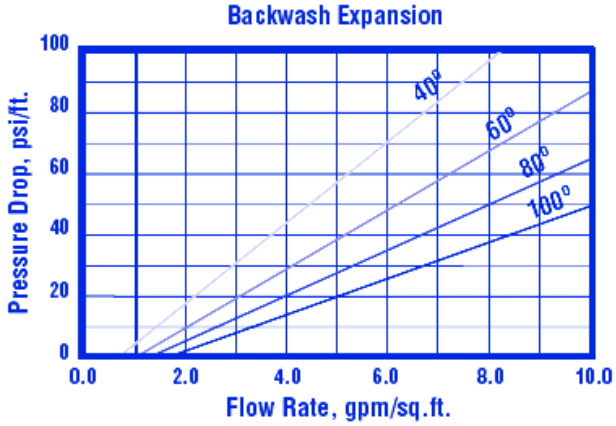
# PURE RESIN PC100H

| Suggested Operating Conditions | |
|---|---|
| Maximum Temperature | 120ºC (248ºF) max. |
| Minimum Bed Depth | 0,6 m (24 inches) |
| Backwash Rate | 25 ÷ 50% Bed Expansion |
| Regeneration<br>Flow Rate<br>Contact Time | 5 ÷ 10% HCl, 2 ÷ 8% $H_2SO_4$<br>2 ÷ 7 BV/h (0,25 ÷ 0,90 gpm/cu.ft)<br>At least 20 Minutes |
| Displacement Rinse Rate | Same as Regenerant Flow Rate |
| Displacement Rinse Volume | 1,4 ÷ 2,0 BV (10 ÷ 15 gallons/cu.ft) |
| Fast Rinse Rate | Same as Service Flow Rate |
| Fast Rinse Volume | 4 ÷ 8 BV (30 ÷ 60 gallons/cu.ft) |
| Service Flow Rate | 10 ÷ 50 BV/h (1,25 ÷ 6,25 gpm/cu.ft) |

## Hydraulic Properties




**Pressure Drop:** The graph above shows the expected pressure loss per foot of bed depth as a function of flow rate at various temperatures.




**Backwash:** After each cycle the resin bed should be backwashed at a rate that expands the bed 25 to 50 percent. That will remove any foreign matter and reclassify the bed. The graph above shows the expansion characteristics of Pure PC100.

# PURE RESIN PC200FD

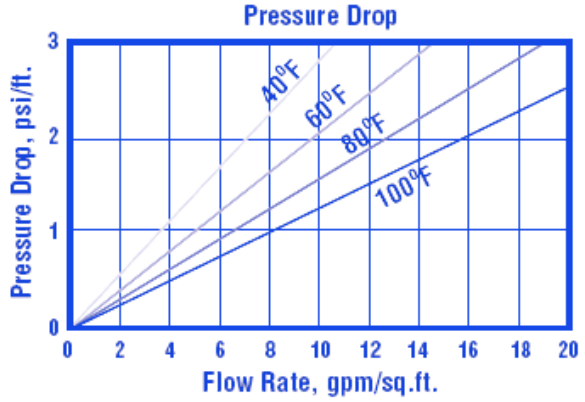
- **REF. RA330;**
- **Macroporous Weak Acid Cation Exchange Resin;**
- **macroporous poly-acrylic weak acid cation resin;**
- **it can be supplied in the hydrogen (H+) form or sodium (Na+) as spherical beads;**
- **in H cycle is used for dealcalisation, deionization and chemical processing applications;**
- **supplied in sodium cycle for use in applications such as softening and heavy metal cations removal. This requires a two stage regeneration process using a strong acid first and then a neutralization rinse to put the resin into the sodium form and is especially effective in high solids softening applications.**


| Typical Physical & Chemical Characteristics | |
|---|---|
| Polymer Matrix Structure | Acrylic-Divinylbenzene |
| Functional Group | $R\text{-}(COOH)^-$ |
| Ionic Form, as shipped | $H^+$ |
| Physical Form and Appearance | Clear Spherical Beads |
| Sphericity | 95% min. |
| Screen Size Range US Standard Screen | 16 ÷ 50 mesh, wet |
| Particle Size Range | +1,2 mm < 5%, - 0,3 mm < 1% |
| Uniformity Coefficient | 1,6 max. |
| Water Retention, $H^+$ form | 50 ÷ 60% |
| Swelling $Na^+ \rightarrow H^+$ | 65% max. |
| Shipping Weight, $H^+$ form | 700 ÷ 780 g/l (45 lbs/cu.ft, approx.) |
| Total Exchange Capacity, $H^+$ form | 3,5 eq/l min. |
| pH Range | 4 ÷ 14 |

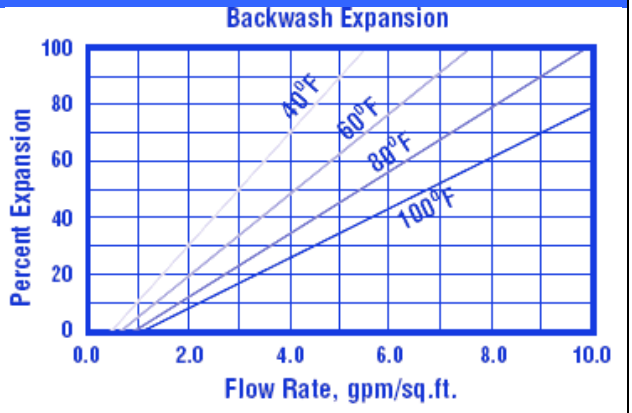
# PURE RESIN PC200FD

| Suggested Operating Conditions | |
|---|---|
| Maximum Temperature, $H^+$ form | 120ºC (248ºF) max. |
| Minimum Bed Depth | 0,8 m (30 inches) |
| Backwash Rate | 25 ÷ 50% Bed Expansion |
| Regeneration, Hydrogen Cycle<br>Flow Rate<br>Contact Time | 5 ÷ 10% HCl, 0,5 ÷ 1% $H_2SO_4$<br>2 ÷ 7 BV/h 8 ÷ 20 BV/h<br>At least 30 Minutes |
| Displacement Rinse Rate | Same as Regenerant Flow Rate |
| Displacement Rinse Volume | 1,4 ÷ 2 BV (10 ÷ 15 gallons/cu.ft) |
| Fast Rinse Rate | Same as Service Flow Rate |
| Fast Rinse Volume | 4 ÷ 8 BV (30 ÷ 60 gallons/cu.ft) |
| Service Flow Rate | 10 ÷ 50 BV/h (1,25 ÷ 6,25 gpm/cu.ft) |

## Hydraulic Properties




**Pressure Drop:** The graph above shows the expected pressure loss per foot of bed depth as a function of flow rate at various temperatures.




**Backwash:** After each cycle the resin bed should be backwashed at a rate that expands the bed 25 to 50 percent. That will remove any foreign matter and reclassify the bed. The graph above shows the expansion characteristics of Pure PC200FD.

# PURE RESIN PA103OH

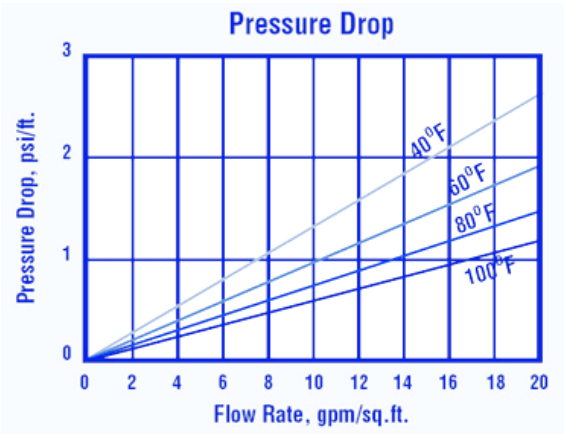
- **REF. RA340;**
- **Gel Strong Base Anion Exchange Resin;**
- **it is a Type II, gel strong-base anion exchange resin, with high capacity and excellent regeneration efficiency;**
- **supplied as spherical beads in the hydroxyl form;**
- **it removes all ions including silica and $CO_2$, anyway, it operates best on waters having a high percentage of strong acids (FMA);**
- **intended for use in all type of dealcalisation, demineralization, deionization and chemical processing applications.**


| Typical Physical & Chemical Characteristics | |
|---|---|
| Polymer Matrix Structure | Polystyrene crosslinked with divinylbenzene |
| Functional Group | $R\text{-}N(CH_3)_2\,(C_2O_4H)^+$ |
| Ionic Form, as shipped | Hydroxyl ($OH^-$) |
| Physical Form and Appearance | Clear Spherical Beads |
| Sphericity | 95% min. |
| Screen Size Range US Standard Screen | 16 ÷ 50 mesh, wet |
| Particle Size Range | +1,2 mm < 5%, - 0,3 mm < 1% |
| Uniformity Coefficient | 1,6 max. |
| Water Retention, $Cl^-$ form | 45 ÷ 51% |
| Swelling $Cl^- \rightarrow OH^-$ | 15% max. |
| Weight, $Cl^-$ form | 680 ÷ 760 g/l (44 lbs/cu.ft, approx.) |
| Total Exchange Capacity, $Cl^-$ form | 1,3 eq/l min. |
| pH Range | 0 ÷ 14 |

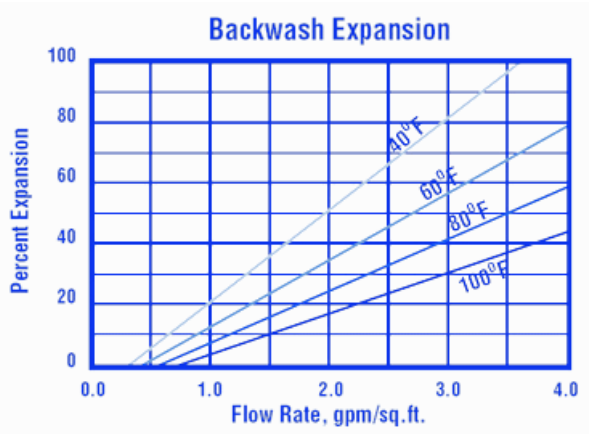
# PURE RESIN PA103OH

| Suggested Operating Conditions | |
|---|---|
| Maximum Temperature, $Cl^-$ form<br>$OH^-$ form | 60ºC (176ºF) max.<br>40ºC (105ºF) max. |
| Minimum Bed Depth | 0,6 m (24 inches) |
| Backwash Rate | 50 ÷ 75% Bed Expansion |
| Regeneration, Regenerant Concentration<br>Flow Rate<br>Contact Time | 2 ÷ 6% NaOH<br>2 ÷ 4 BV/h (0,25 ÷ 0,50 gpm/cu.ft)<br>At least 60 Minutes |
| Displacement Rinse Rate | Same as Regenerant Flow Rate |
| Displacement Rinse Volume | 1,4 ÷ 2 BV (10 ÷ 15 gallons/cu.ft) |
| Fast Rinse Rate | Same as Service Flow Rate |
| Fast Rinse Volume | 4 ÷ 8 BV (30 ÷ 60 gallons/cu.ft) |
| Service Flow Rate | 10 ÷ 50 BV/h (1,25 ÷ 6,25 gpm/cu.ft) |

## Hydraulic Properties




**Pressure Drop:** The graph above shows the expected pressure loss per foot of bed depth as a function of flow rate at various temperatures.




**Backwash:** After each cycle the resin bed should be backwashed at a rate that expands the bed 50 to 75 percent. That will remove any foreign matter and reclassify the bed. The graph above shows the expansion characteristics of Pure PA103.

# PURE RESIN PA300

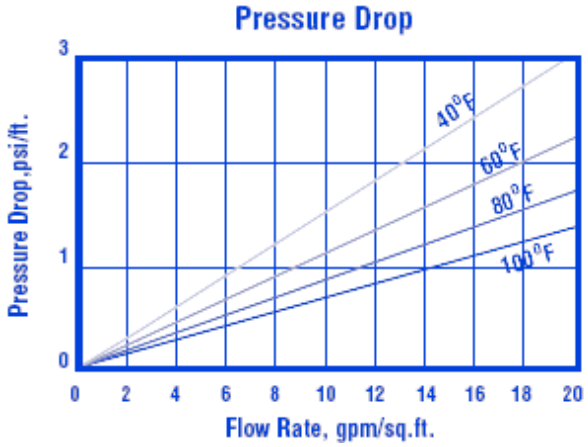
- **REF. RA350;**
- **Macroporous Weak Base Anion Exchange Resin;**
- **it is a macroporous polystyrene weak-base anion exchange resin having tertiary amine functionality;**
- **it has superior kinetics and greater resistance to oxidation and osmotic shock, high chemical and physical stability;**
- **intended primarily for use in multiple bed demineralizers;**
- **it can be used in a two-bed system following a strong acid cation exchanger such as Pure PC003 where weak acid ions (silica and carbon dioxide) do not have to be removed;**
- **it can also be used in a separate bed, ahead of the strong base exchanger to remove organics and strong acid ions.**


| Typical Physical & Chemical Characteristics | |
|---|---|
| Polymer Matrix Structure | Macroporous Polystyrene with DVB |
| Functional Group | R-N-$(CH_3)_2^+$ |
| Ionic Form, as shipped | Free Base |
| Physical Form and Appearance | Spherical Beads |
| Sphericity | 95% min. |
| Screen Size Range US Standard Screen | 16 ÷ 50 mesh, wet |
| Particle Size Range | +1,2 mm < 5%, - 0,3 mm < 1% |
| Uniformity Coefficient | 1,6 max. |
| Water Retention, Free Base | 50 ÷ 60% |
| Swelling $Na^+ \rightarrow Cl^-$ | 25% max. |
| Shipping Weight | 650 ÷ 720 g/l (42 lbs/cu.ft, approx.) |
| Total Exchange Capacity, Free Base | 1,4 eq/l min. |
| pH Range | 0 ÷ 14 |

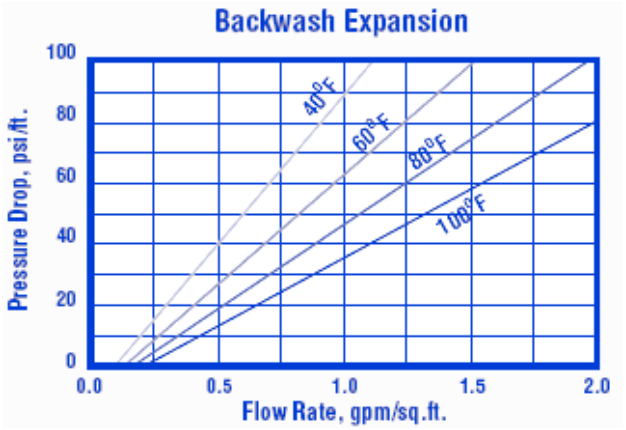
# PURE RESIN PA300

| Suggested Operating Conditions | |
|---|---|
| Maximum Temperature<br>Free Base | <br>100ºC (212ºF) max. |
| Minimum Bed Depth | 0,6 m (24 inches) |
| Backwash Expansion | 50 ÷ 75% |
| Regeneration<br>Regenerant Concentration<br>Flow Rate<br>Contact Time | <br>2 ÷ 6% NaOH<br>2 ÷ 8 BV/h (0,25 ÷ 1,0 gpm/cu.ft)<br>At least 60 Minutes |
| Displacement Rinse Rate | Same as Regenerant Flow Rate |
| Displacement Rinse Volume | 1,4 ÷ 2 BV (10 ÷ 15 gallons/cu.ft) |
| Fast Rinse Rate | Same as Service Flow Rate |
| Fast Rinse Volume | 4,9 ÷ 8 BV (35 ÷ 60 gallons/cu.ft) |
| Service Flow Rate | 16 ÷ 32 BV/h (2,0 ÷ 4,0 gpm/cu.ft) |

## Hydraulic Properties




**Pressure Drop:** The graph above shows the expected pressure loss per foot of bed depth as a function of flow rate at various temperatures.




**Backwash:** After each cycle the resin bed should be backwashed at a rate that expands the bed 50 to 75 percent. That will remove any foreign matter and reclassify the bed. The graph above shows the expansion characteristics of Pure PA300.

# PURE RESIN PA202

- **REF. RA360;**
- **Nitrate Selective Resin**
- **macroporous strong base anion exchange resin supplied in the chloride form as moist, tough, spherical beads, specially designed for the removal of nitrates from water for potable processes;**
- **the macroporous matrix and special ion exchange group functionality imparts ideal nitrate selectivity to Pure PA202 making this resin particularly suitable for nitrate removal even when moderate to high sulphate concentrations are present.**


| Typical Physical & Chemical Characteristics | |
|---|---|
| Polymer Matrix Structure | Macroporous, Styrene with DVB |
| Functional Group | $R\text{-}N\text{-}R_3^+ Cl^-$ |
| Ionic Form, as shipped | $Cl^-$ |
| Physical Form and Appearance | Clear Spherical Beads |
| Sphericity | 95% min. |
| Screen Size Range US Standard Screen | 16 ÷ 50 mesh, wet |
| Particle Size Range | +1,2 mm < 5%, - 0,3 mm < 1% |
| Uniformity Coefficient | 1,6 max. |
| Water Retention, $Cl^-$ form | 52 ÷ 56% |
| Shipping Weight | 680 ÷ 730 g/l (42 ÷ 45,5 lbs/cu.ft, approx.) |
| Total Exchange Capacity | 1,0 eq/l min. |
| Max Operating Temperature | 100°C (212°F) max. |
| pH Range | 0 ÷ 14 |

# PURE RESIN PA202

| Suggested Operating Conditions | |
|---|---|
| Maximum Operating Temperature | 100ºC (212ºF) max. |
| Working Exchange Capacity @ 25°C | ≥ 0,3 meq/l (wet) |
| Concentration of Regenerate Solution | NaCl: 8 ÷ 10% |
| Consumption of Regenerate | NaCl (8 ÷ 10%) Vol. : Resin Vol. = 2÷3 : 1 |
| Flow Rate of Regenerate Solution | 4 ÷ 6 (m/hr) |
| Regenerate Contact time | 30 ÷ 60 (minute) |
| Rinse Flow Rate | 15 ÷ 25 (m/hr) |
| Rinse Time (minute) | 25 (approx.) |
| Operating Flow Rate | 15 ÷ 25(m/hr) |

# PURE RESIN PMB101-2

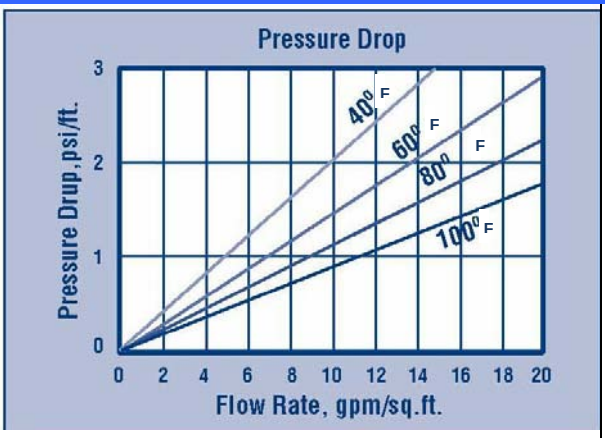
- **REF. RA370;**
- **Mixed Bed Resin;**
- **it is a high capacity mixed bed ion exchange resin consisting of a mixture of a gel, Type I strong base anion resin and a gel strong acid cation resin for direct water purification;**
- **the conductivity is around 0,1 us/cm;**
- **suitable for use in regenerable or non-regenerable cartridges, for deionization with high silica removal efficiency and refine water for electrical home applications.**


| Typical Physical & Chemical Characteristics | |
|---|---|
| Polymer Matrix Structure | Gel polystyrene crosslinked with DVB |
| Functional Group: Cation<br>Anion | $R\text{-}SO_3^- H^+$<br>$R_4\text{-}N\text{-}OH^-$ |
| Ionic Form, as shipped | $H^+$ / $OH^-$ |
| Physical Form and Appearance | Spherical Beads |
| Sphericity | 95% min. |
| Screen Size Range US Standard Screen | 16 ÷ 50 mesh, wet |
| Particle Size Range | +1,2 mm < 5%, - 0,3 mm < 1% |
| Volume Ratio (as shipped)<br>Cation<br>Anion | <br>40% PC003H<br>60% PA101OH |
| Total Exchange Capacity,<br>Cation (in $Na^+$ form)<br>Anion (in $Cl^-$ form) | <br>2,0 eq/l min.<br>1,3 eq/l min. |
| Water Retention, $H^+$ form<br>$OH^-$ form | 45 ÷ 50%<br>53 ÷ 60% |
| Shipping Weight (Approx.) | 700 ÷ 740 g/l (44 ÷ 46 lbs/cu.ft, approx.) |
| Temperature limit:<br>Non regenerative bed<br>Regenerative bed | <br>100°C (212°F) max.<br>60°C (140°F) max. |
| pH Range | 0 ÷ 14 |

# PURE RESIN PMB101-2

| Suggested Operating Conditions | |
|---|---|
| Maximum Temperature | 80ºC (175ºF) max. |
| Minimum Bed Depth | 0,6 m (24 inches) |
| Service Flow Rate | 16 ÷ 80 BV/h (2,0 ÷ 10,0 gpm/cu.ft) |
| Limitations | Extended exposure to strong oxidizers, such as chlorine, hydrogen peroxide and concentrated nitric acid, degrade the structural backbone of the resin and should be avoided |

## Hydraulic Properties




**Pressure Drop:** The graph above shows the expected pressure loss per foot of bed depth as a function of flow rate at various temperatures.

# PURE RESIN PA201 (CL)

- **REF. RA342;**
- **Macroporous Strong Base Anion Exchange Resin;**
- **it is a Type II, gel strong-base anion exchange resin;**
- **supplied wet as spherical beads in the chloride form;**
- **it has a high operating capacity, especially on high-FMA feedwaters, as well as a high reversible sorptive capacity for complex organic materials, such as the fulvic and humic acids which occur in many surface water supplies;**
- **it is recommended for use in waters with low silica loads. For high silica waters, a type I anion resin such as Pure PA200 is recommended.**


| Typical Physical & Chemical Characteristics | |
|---|---|
| Polymer Matrix Structure | Macroporous polystyrene crosslinked with divinylbenzene |
| Functional Group | $R\text{-}N(CH_3)_2\,(C_2H_4OH)^+$ |
| Ionic Form, as shipped | Chloride ($Cl^-$) |
| Physical Form and Appearance | Opaque light yellowish spherical beads |
| Sphericity | 95% min. |
| Screen Size Range US Standard Screen | 16 ÷ 50 mesh, wet |
| Particle Size Range | +1,2 mm < 5%, - 0,3 mm < 1% |
| Uniformity Coefficient | 1,6 max. |
| Water Retention, $Cl^-$ form | 47 ÷ 57% |
| Swelling $Cl^- \rightarrow OH^-$ | 10% max. |
| Weight, $Cl^-$ form | 660 ÷ 730 g/l (43 lbs/cu.ft, approx.) |
| Total Exchange Capacity, $Cl^-$ form | 1,2 eq/l min. |
| pH Range | 0 ÷ 14 |

# PURE RESIN PA201 (CL)

| Suggested Operating Conditions | |
|---|---|
| Maximum Temperature, $Cl^-$ form<br>$OH^-$ form | 60ºC (140ºF) max.<br>40ºC (105ºF) max. |
| Minimum Bed Depth | 0,8 m (2,6 ft) |
| Backwash Rate | 50 ÷ 75% Bed Expansion |
| Regeneration, Regenerant Concentration | 2 ÷ 5% NaOH |
| Service/fast rinse | 5 ÷ 50 m/h (2 ÷ 20 gpm/$ft^2$) |
| Co-current regeneration/displacement rinse | 1 ÷ 10 m/h (0,4 ÷ 4 gpm/$ft^2$) |
| Total rinse requirement | 3 ÷ 5 Bed volumes |
| Temperature | Ambient up to 35°C (95°F) for silica removal |

# PURE RESIN PS400

- **REF. RA376;**
- **Selective removal of polyvalent ions;**
- **Macroporous Weak Acid Cation Exchange Resin;**
- **it is based on the iminodiacetatic acid functional group, which has chelating properties for heavy metal ions even against high concentrations of calcium;**
- **it finds use in processes for extraction and recovery of metals from ores, galvanic plating solutions, picking baths and effluents.**


| Typical Physical & Chemical Characteristics | |
|---|---|
| Polymer Matrix Structure | Macroporous, Styrene / DVB |
| Functional Group | Iminodiacetatic |
| Ionic Form, as shipped | $Na^+$ |
| Physical Form and Appearance | Milky White Spherical Beads |
| Sphericity | 95% min. |
| Screen Size Range US Standard Screen | 16 ÷ 40 mesh, wet |
| Particle Size Range | 0,40 ÷ 1,25 mm ≥ 95 |
| Uniformity Coefficient | 1,6 max. |
| Water Retention, $Na^+$ form | 52 ÷ 58% |
| Reversible Swelling $H^+ \rightarrow Na^+$ | 40% max. |
| Shipping Weight | 720 ÷ 780 g/l (45 lbs/cu.ft, approx.) |
| Total Exchange Capacity, $Na^+$ form | ≥ 1.95 meq/g (Chelated $Cu^{2+}$) |
| pH Range | 3 ÷ 12 |

# PURE RESIN PS400

| Suggested Operating Conditions | |
|---|---|
| Maximum Temperature, $H^+$ form | 100ºC (212ºF) max. |
| Operating Flow Rate | 15 ÷ 45 (m/hr) |
| Method of Regeneration | pass 1 eq/l HCl 2~4 BV in 1~1,5 hours, rinse with DI water or soft water until pH = 3~4; pass 1 eq/l NaOH 2~4 BV in 1,5~2 hours, rinse with DI water or soft water until pH = 9 |