

Unique New C30 HPLC Columns

Develosil RPAQUEOUS (pH3 - pH8)

Develosil RPAQUEOUS-AR (pH2 - pH7)

Develosil C30-UG, Combi-RP

Develosil C30 phases are suitable for not only polar compounds such as sugars and nucleotides, but also fat-soluble compounds such as tocopherols and carotenoids.

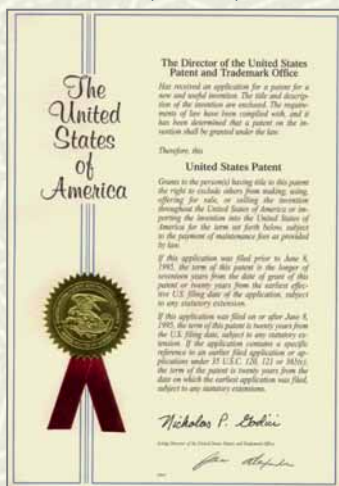
Characteristics

| | Particle size | Ligand | End-capping (TMS) | Carbon content (%) | Silica | | |
|--------------|---------------|---|-------------------|--------------------|----------------------------------|--------------------|--------------------|
| | | | | | Surface area (m ² /g) | Pore volume (mL/g) | Pore diameter (nm) |
| C30-UG | 3 um, 5 um | -Si (CH ₃) ₂ C ₃₀ H ₆₁ | yes | 18 | 300 | 1.15 | 14 |
| RPAQUEOUS | 5 um | -Si (CH ₃) ₂ C ₃₀ H ₆₁ | yes | 18 | 300 | 1.15 | 14 |
| RPAQUEOUS-AR | 3 um, 5 um | ≡ Si C ₃₀ H ₆₁ | yes | 18 | 300 | 1.15 | 14 |
| Combi-RP | 3 um, 5 um | -Si (CH ₃) ₂ C ₃₀ H ₆₁ | yes | 18 | 300 | 1.15 | 14 |

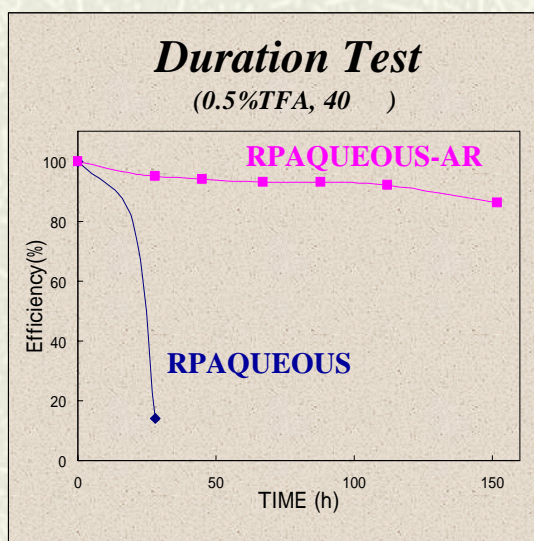
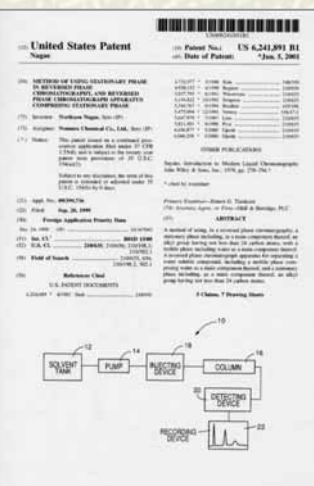
*C30-UG, RPAQUEOUS and Combi-RP are same materials. Only name is different each other.

*RPAQUEOUS-AR is more stable than the other C30 phases under acidic conditions because of trifunctional bonded phase.

USP 6,241,891



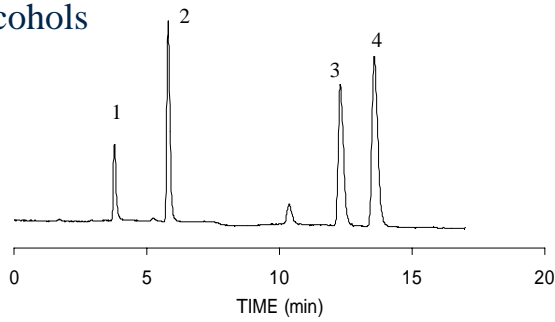
Nomura Chemical has U.S. Patent.



Nomura Chemical Co., Ltd.

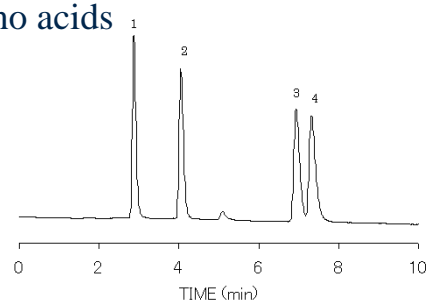
Applications

Alcohols



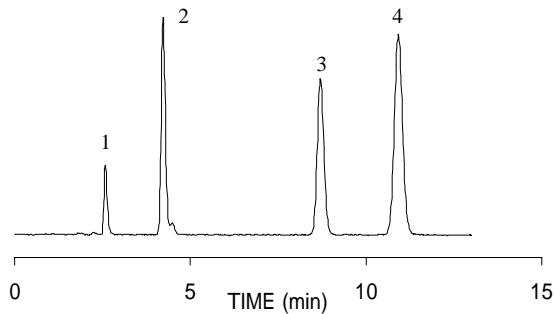
Column: **Develosil RPAQUEOUS (C30-UG-5)** 250 x 4.6 mm
 Mobile phase: water
 Flow rate: 1.0 mL/min
 Temperature: 40 °C
 Detection: RI
 Sample volume: 3 µL
 Sample: 1. Methanol, 2. Ethanol 1%, 3. 1-Propanol 1%, 4. 2-Propanol 1%

Amino acids



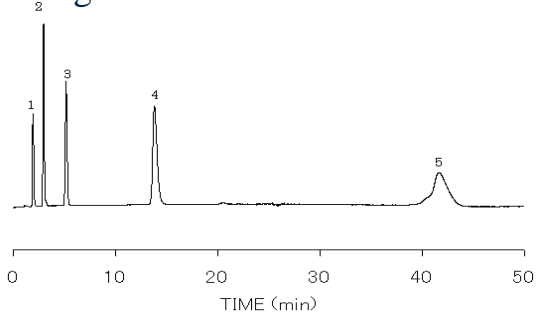
Column: **Develosil RPAQUEOUS (C30-UG-5)** 250 x 4.6 mm
 Mobile phase: water
 Flow rate: 1.0 mL/min
 Temperature: 40 °C
 Detection: RI
 Sample volume: 10 µL
 Sample: 1. alanine 0.2%, 2. valine 0.2%, 3. isoleucine 0.2%, 4. leucine 0.2%

Catecholamines



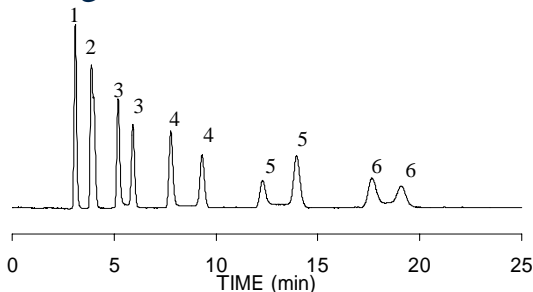
Column: **Develosil RPAQUEOUS (C30-UG-5)** 150 x 4.6 mm
 Mobile phase: 0.1M KH₂PO₄, pH2.6 with H₃PO₄
 Flow rate: 1.0 mL/min
 Temperature: 30 °C
 Detection: UV@210nm
 Sample: 1. Norepinephrine, 2. Epinephrine, 3. Dopamine, 4. L-DOPA

Fructooligosaccharides



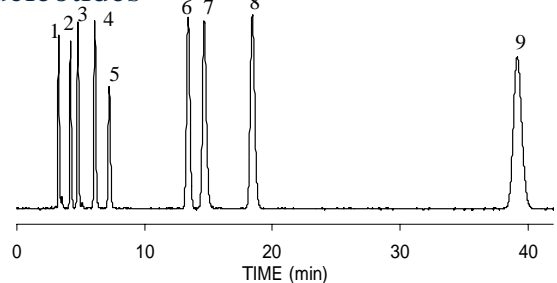
Column: **Develosil RPAQUEOUS (C30-UG-5)** 250 x 4.6 mm
 Mobile phase: water
 Flow rate: 1.0 mL/min
 Temperature: 30 °C
 Detection: RI
 Sample volume: 10 µL
 Sample: 1. Glucose 0.04%, 2. Saccharose 0.1%, 3. 1-Kestose 0.1%, 4. nystose 0.2%, 5. 1F-Fructofuranosylnystose 0.4%

Maltooligosaccharides



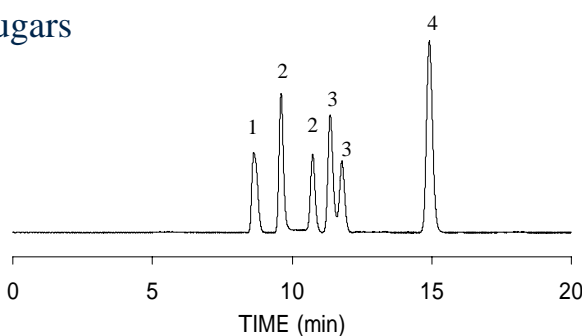
Column: **Develosil RPAQUEOUS (C30-UG-5)** 250 x 4.6 mm
 Mobile phase: water
 Flow rate: 1.0 mL/min
 Temperature: 30 °C
 Detection: RI
 Sample volume: 20 µL
 Sample: 1. Glucose 0.07%, 2. Maltose 0.1%, 3. Maltotriose 0.1%, 4. Maltotetraose 0.1%, 5. Maltopentaose 0.1%, 6. Maltohexaose 0.1%

Nucleotides



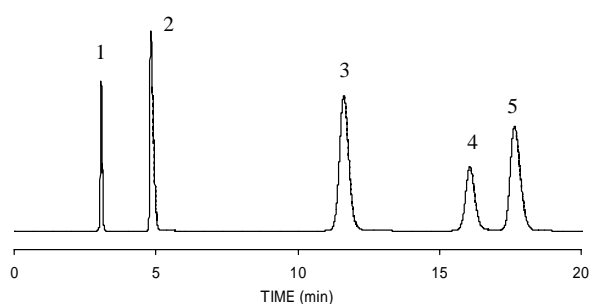
Column: **Develosil RPAQUEOUS (C30-UG-5)** 250 x 4.6 mm
 Mobile phase: 0.1M K₂HPO₄ with KOH, pH6.0
 Flow rate: 1.0 mL/min
 Temperature: 30 °C
 Detection: UV@260nm
 Sample: 1. 5'-CTP, 2. 5'-CDP, 3. 5'-CMP, 4. 5'-GTP, 5. 5'-GDP, 6. 5'-GMP, 7. 5'-ATP, 8. 5'-ADP, 9. 5'-AMP

Sugars



Column: **Develosil RPAQUEOUS (C30-UG-5)** 250 x 4.6 mm + 250 x 4.6 mm
 Mobile phase: water
 Flow rate: 0.7 mL/min
 Temperature: 25 °C
 Detection: RI
 Sample volume: 10 µL
 Sample: 1. Glucose, 2. Lactose, 3. Maltose, 4. Saccharose

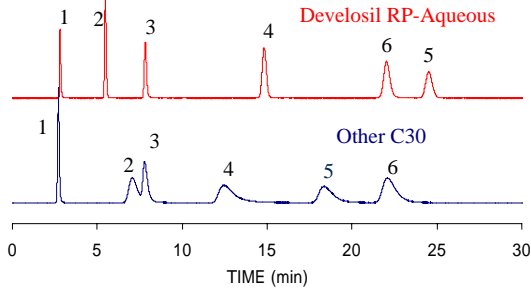
Water-soluble vitamins



Column: **Develosil RPAQUEOUS (C30-UG-5)** 150 x 4.6 mm
 Mobile phase: 50 mM sodium phosphate (pH6.9)
 Flow rate: 1.0 mL/min
 Temperature: 30 °C
 Detection: UV @254 nm
 Sample: 1. Orotic acid, 2. Nicotinic acid, 3. Pyridoxal HCl, 4. Pyridoxine HCl, 5. Nicotinamide

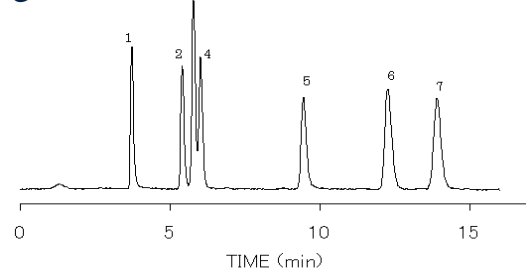
Applications

Nucleic acid bases



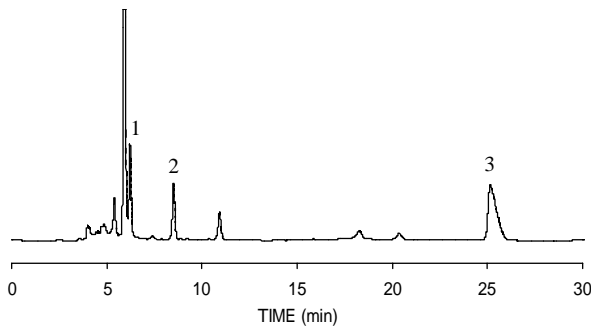
Column: **Develosil RPAQUEOS (C30-UG-5)** 250 x 4.6 mm
 other C30 250 x 4.6 mm
 Mobile phase: 10 mM NaH₂PO₄ with H₃PO₄, pH7.0
 Flow rate: 1.0 mL/min
 Temperature: 30 °C
 Detection: UV@254nm
 Sample: 1. Sodium Nitrite, 2. Cytosine, 3. Uracil, 4. Cytidine, 5. Uridine
 6. Thymine

Organic acids



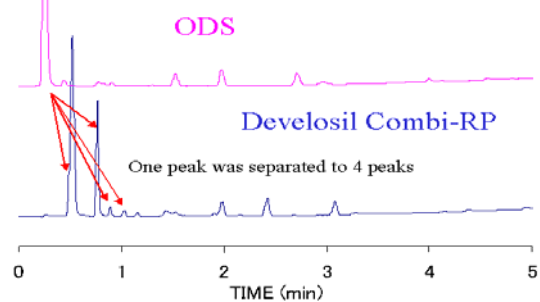
Column: **Develosil RPAQUEOUS (C30-UG-5)** 250 x 4.6 mm
 Mobile phase: 0.05M NH₄H₂PO₄ with H₃PO₄, pH2.4
 Flow rate: 1.0 mL/min
 Temperature: 30 °C
 Detection: UV@210nm
 Sample volume: 2 µL
 Sample: 1. Fomic acid, 2. Malonic acid, 3. Lactic acid, 4. Acetic acid
 5. Maleic acid, 6. Citric acid, 7. Fumaric acid

Organic acids 2



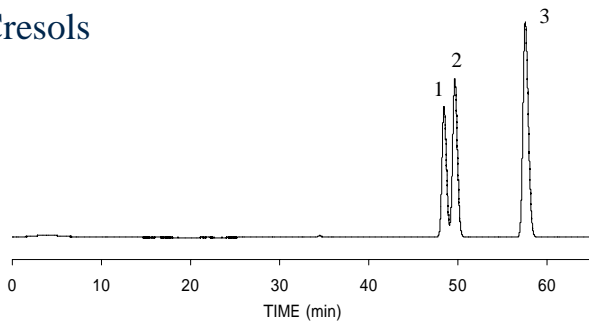
Column: **Develosil RPAQUEOUS-AR-3** 250 x 4.6 mm
 Mobile phase: 0.1% H₃PO₄
 Flow rate: 0.6 mL/min
 Temperature: 20 °C
 Detection: UV@210nm
 Sample: Organic acids extracted from Kiwi fruit
 (1. Quinic acid, 2. Malic acid, 3. Citric acid)

High through put analysis



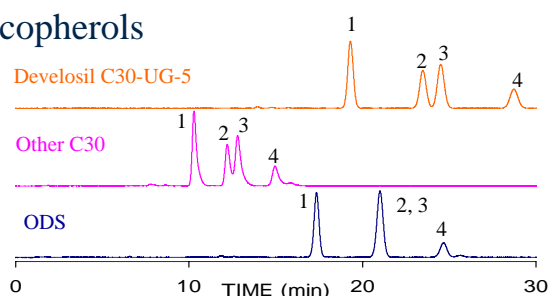
Column: **Develosil Combi-RP-5** 50 x 4.6 mm, ODS 50 x 4.6 mm
 Mobile phase: A) 0.1% TFA in water, B) Acetonitrile
 Combi-RP: %B 0 to 100% in 5min
 ODS: %B 10% to 100% in 5 min
 Flow rate: 3.0 mL/min
 Temperature: 30 °C
 Detection: UV@254nm
 Sample: drink

Cresols



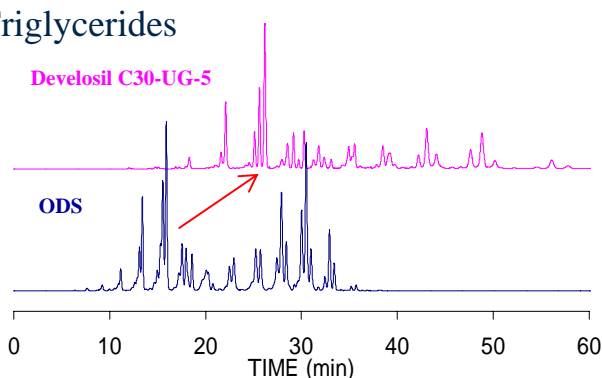
Column: **Develosil C30-UG-5** 250 x 4.6 mm x 2
 Mobile phase: THF/methanol/water(10:45:45)
 Flow rate: 0.4 mL/min
 Pressure: 20MPa
 Temperature: 15 °C
 Detection: UV@254nm
 Sample: 1. p-Cresol, 2. m-Cresol, 3. o-Cresol

Tocopherols



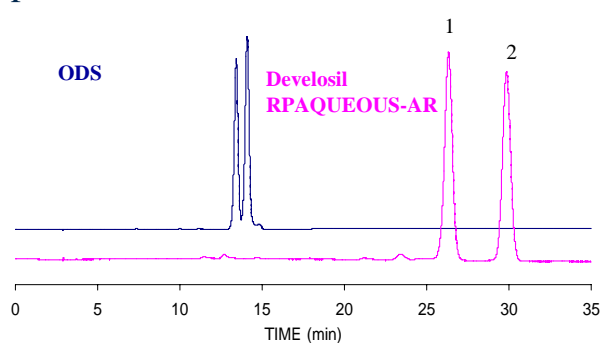
Column: **Develosil C30-UG-5 (RPAQUEOUS)** 250 x 4.6 mm
 other C30 250 x 4.6 mm, ODS 250 x 4.6 mm
 Mobile phase: methanol/water(97:3)
 Flow rate: 1.0 mL/min
 Temperature: 30 °C
 Detection: UV@295nm
 Sample volume: 1 µL
 Sample: Tocopherol, 1. Delta, 2. Gamma, 3. Beta, 4. Alpha

Triglycerides



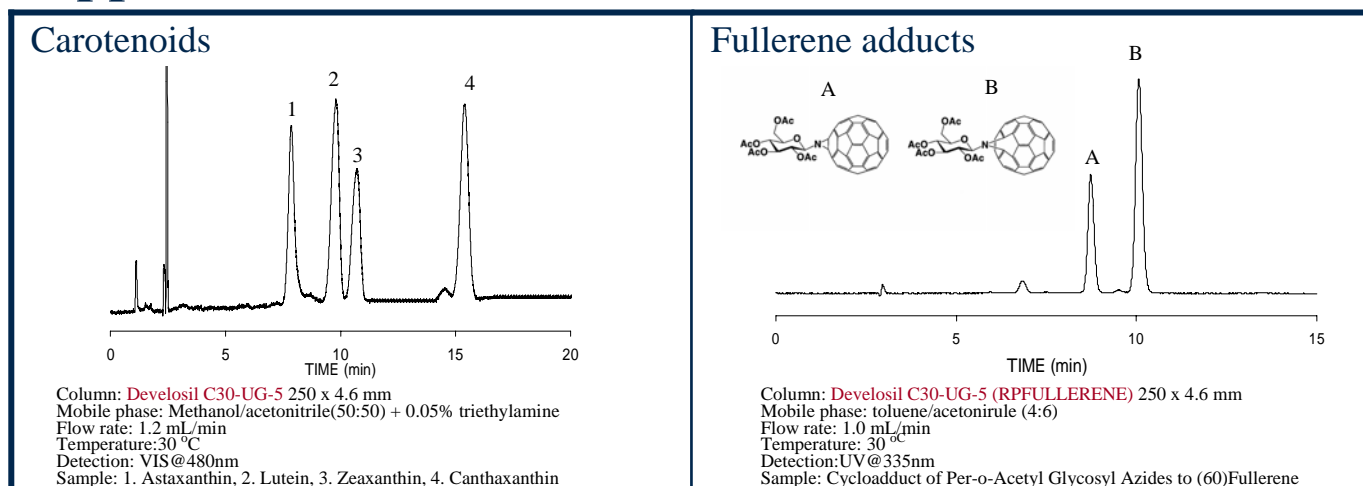
Column: **Develosil C30-UG-5** 250 x 4.6 mm, ODS 250 x 4.6 mm
 Mobile phase: A) Acetonitrile, B) Acetone
 %B 30% to 70% in 60 min
 Flow rate: 1.0 mL/min
 Temperature: 40 °C
 Detection: ELSD
 Sample: Milk

Alpha-Carotene and Beta-Carotene



Column: **Develosil RPAQUEOUS-AR-5** 250 x 4.6 mm, ODS 250 x 4.6mm
 Mobile phase: acetonitrile/chloroform (8:2)
 Flow rate: 1.0 mL/min
 Temperature: 30 °C
 Detection: UV@450nm
 Sample: 1. Alpha-carotene, 2. Beta-carotene

Applications



C30 phase can separate fullerene adducts which an exclusive use column for fullerene can not separate.

Ordering information

Develosil column, length: 10 mm to 250 mm, inner diameter: 0.15 mm to 28 mm

| Dimension | Part Number | | | | | | |
|---------------------|-------------|--------------|-------------|-------------|-------------|-------------|-------------|
| | RPAQUEOUS | RPAQUEOUS-AR | | C30-UG | | Combi-RP | |
| | 5 um | 3um | 5um | 3um | 5um | 3um | 5um |
| 150 x 0.15 mm | RPAQ502150W | | RPAR502150W | | UG17502150W | | |
| 150 x 0.3 mm | RPAQ503150W | RPAR303150W | RPAR503150W | UG17303150W | UG17503150W | | |
| 150 x 1.0 mm | RPAQ510150W | RPAR310150W | RPAR510150W | UG17310150W | UG17510150W | | |
| 150 x 1.5 mm | RPAQ515150W | RPAR315150W | RPAR515150W | UG17315150W | UG17515150W | | |
| 10 x 1.5 mm (guard) | RPAQ515010W | | | | UG17515010W | | |
| 35 x 2.0 mm | RPAQ520035W | RPAR320035W | RPAR520035W | UG17320035W | UG17520035W | COMB320035W | COMB520035W |
| 50 x 2.0 mm | RPAQ520050W | RPAR320050W | RPAR520050W | UG17320050W | UG17520050W | COMB320050W | COMB520050W |
| 100 x 2.0 mm | RPAQ520100W | RPAR320100W | RPAR520100W | UG17320100W | UG17520100W | | |
| 150 x 2.0 mm | RPAQ520150W | RPAR320150W | RPAR520150W | UG17320150W | UG17520150W | | |
| 250 x 2.0 mm | RPAQ520250W | | RPAR520250W | UG17320250W | UG17520250W | | |
| 10 x 4.0 mm (guard) | RPAQ540010W | | | | UG17540010W | | |
| 35 x 4.6 mm | RPAQ546035W | RPAR346035W | RPAR546035W | UG17346035W | UG17546035W | COMB346035W | COMB546035W |
| 50 x 4.6 mm | RPAQ546050W | RPAR346050W | RPAR546050W | UG17346050W | UG17546050W | COMB346050W | COMB546050W |
| 100 x 4.6 mm | RPAQ546100W | RPAR346100W | RPAR546100W | UG17346100W | UG17546100W | | |
| 150 x 4.6 mm | RPAQ546150W | RPAR346150W | RPAR546150W | UG17346150W | UG17546150W | | |
| 250 x 4.6 mm | RPAQ546250W | | RPAR546250W | UG17346250W | UG17546250W | | |
| 100 x 6.0 mm | RPAQ560100W | RPAR360100W | RPAR560100W | UG17360100W | UG17560100W | | |
| 150 x 6.0 mm | RPAQ560150W | RPAR360150W | RPAR560150W | UG17360150W | UG17560150W | | |
| 250 x 6.0 mm | RPAQ560250W | | RPAR560250W | | UG17560250W | | |
| 10 x 8.0 mm (guard) | RPAQ580010W | | RPAR580010W | | UG17580010W | | |
| 250 x 8.0 mm | RPAQ580250W | | RPAR580250W | | UG17580250W | | |
| 250 x 10.0 mm | RPAQ5P1250W | | RPAR5P1250W | | UG175P1250W | | |
| 50 x 20 mm | RPAQ5P2050W | | RPAR5P2050W | | UG175P2050W | | COMB5P2050W |
| 100 x 20 mm | RPAQ5P2100W | | RPAR5P2100W | | UG175P2100W | | COMB5P2100W |
| 150 x 20 mm | RPAQ5P2150W | | RPAR5P2150W | | UG175P2150W | | COMB5P2150W |
| 250 x 20 mm | RPAQ5P2250W | | RPAR5P2250W | | UG175P2250W | | COMB5P2250W |
| 100 x 28 mm | | | | | | | COMB5P3100W |
| 150 x 28 mm | | | | | | | COMB5P3150W |
| 250 x 28 mm | RPAQ5P3250W | | RPAR5P3250W | | UG175P3250W | | |

Could you contact us directly when you need the column except for the column in the above list.

Nomura Chemical Co., Ltd. *Develosil*
 15 Hinode-cho, Seto 489-0004 Japan
 Phone:+81 561 48 1853 Fax:+81 561 48 1434
<http://www.develosil.net> Email:info@develosil.net