

- Acquired by Hichrom from Whatman, a division of GE Healthcare, in 2012
- Choice of spherical or irregular silica
- Wide range of surface chemistries

Partisil® and Partisphere® Acquisition

Hichrom acquired the Partisil and Partisphere HPLC column range from Whatman, a division of GE Healthcare, in 2012. Hichrom worked closely with GE Healthcare during the manufacture of these products for a number of years prior to acquisition and, as such, manufacturing protocols, product specifications and part numbers remain unaffected. All column dimensions previously offered by Whatman/GE Healthcare remain available and are detailed on the following pages.

Hichrom Partisil Columns – Non Standard Whatman/GE Healthcare Dimensions

Hichrom have a deserved reputation for the ability to manufacture and supply high efficiency columns packed into non standard dimensions not originally offered by the silica manufacturer. Partisil columns are no exception, as for many years Hichrom have manufactured Partisil columns into a wider range of column dimensions than available from Whatman/GE Healthcare. These additional dimensions will continue to be supported following the acquisition and are detailed on pages 124-125.

Partisil Phases

- Irregular porous silica
- 5 and 10µm particle sizes
- Hichrom high efficiency

Partisil was one of the first commercially available irregular silicas. A large surface area gives it a high loading capacity. Partisil ion-exchange materials are widely referenced and remain one of the most popular choices for analysts. Partisil 10 ODS3 is similar to Waters µBondapak.

Partisil Phases

| Partisil Phase | Functional Group | Particle Size (µm) |
|----------------|----------------------|--------------------|
| Silica | - | 5, 10 |
| C8 | Octyl | 5, 10 |
| ODS | Octadecyl | 10 |
| ODS2 | Octadecyl | 10 |
| ODS3 | Octadecyl | 5, 10 |
| PAC | Amino-cyano | 5, 10 |
| SAX | Tetramethyl ammonium | 5, 10 |
| SCX | Sulphonic acid | 5, 10 |

Partisil ODS is a low carbon load C18 phase, with intentionally unbonded surface silanols adding to the selectivity.

Partisil ODS2 is a high carbon load C18 bonded silica phase which makes it the most non-polar and, therefore, the most retentive of the Partisil reversed-phase columns. The high sample load capacity is suitable for preparative work.

Partisil ODS3 is an intermediate carbon load C18 phase used for pharmaceutical, natural products, food, biological and environmental pollutants applications. Partisil 10 ODS3 is similar to Waters µBondapak.

Partisil C8 is recommended for ion-pair chromatography.

Partisil PAC is a Polar Amino Cyano bonded phase with secondary amine groups for good thermal and chemical stability. Fast equilibration enables multiple separation mechanisms, including adsorption, reversed-phase and weak anion-exchange, to be used. The phase is particularly suitable for carbohydrate separations.

Partisil SAX is a strong anion-exchange phase based on quaternary ammonium groups. It is stable over the pH range 1.5 to 7.5. At intermediate pH, use of a Solvecon eluent conditioning column (see part number 4250-001) is recommended to further enhance column lifetime. Typical applications include nucleic acids, organic acids and inorganic anions.

Partisil SCX is a strong cation-exchange phase based on benzenesulphonic acid groups and is stable over the pH range 1.5 to 7.0. At intermediate pH, use of a Solvecon eluent conditioning column (see part number 4251-001) is recommended to further enhance column lifetime. Suitable applications include nucleosides, amino acids, polyamines, drugs and other cationic species.

See page 122 for ordering information for Partisil columns in WCS hardware and dimensions previously offered by Whatman/GE Healthcare. See pages 124-125 for Hichrom Partisil columns in a wider range of dimensions.

Partisphere® Phases

- Spherical 5µm porous silica
- Unique void sealing cartridge hardware
- Convenient and easy to use – hand tightened fittings
- Increased column lifetime

Partisphere® was one of the first commercially available spherical silicas and continues to provide reproducible, high efficiency separations. Partisphere columns are available in a wide range of surface chemistries, including two application specific phases: TAC-1 (Taxane Analysis Column) for the analysis of paclitaxel and other taxanes, and WAX (MAX-1) for corn and soy protein.

Partisphere Phases

| Partisphere Phase | Functional Group | Particle Size (µm) |
|-------------------|---------------------|--------------------|
| Silica | - | 5 |
| C8 | Octyl | 5 |
| C18 | Octadecyl | 5 |
| PAC | Amino-cyano | 5 |
| SAX | Quaternary ammonium | 5 |
| SCX | Sulphonic acid | 5 |
| TAC-1 (PFP) | Pentafluorophenyl | 5 |
| WAX (MAX-1) | Proprietary | 5 |

Unique Void-sealing Cartridge System

Partisphere columns are available in a unique void sealing (WVS) hardware. If a void eventually forms at the top of the column bed, a simple hand tightening of the inlet fitting moves the frit assembly downwards and recompresses the packed bed, thus removing the void and restoring column efficiency. Large knurled end fittings allow ready hand tightening of the system. All WVS cartridge columns are shipped without end fittings and require end fitting kit, catalogue no. 4631-1001. This item can be interchanged with additional WVS columns.

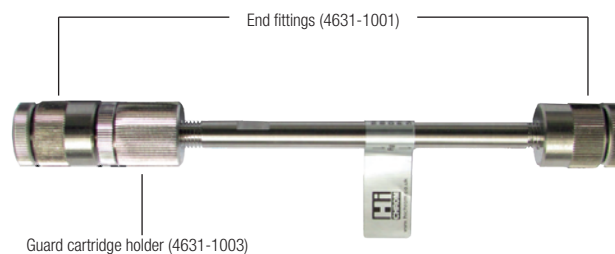


Figure 1. Partisphere WVS hardware cartridge system

Partisphere Guard Cartridge System

Additional installation of the unique WVS guard cartridge holder (catalogue no. 4631-1003) allows the use of guard cartridges (see Figure 1).

Ordering Information - Partisil® and Partisphere®

Partisil 5µm Analytical Columns

| Catalogue No. | Description |
|---------------|---|
| 4222-225 | Partisil 5µm ODS3 column, 100 x 4.6mm (WCS hardware - RAC-II) |
| 4222-227 | Partisil 5µm SAX column, 100 x 4.6mm (WCS hardware - RAC-II) |
| 4222-228 | Partisil 5µm SCX column, 100 x 4.6mm (WCS hardware - RAC-II) |
| 4222-232 | Partisil 5µm C8 column, 100 x 4.6mm (WCS hardware - RAC-II) |
| 4215-001 | Partisil 5µm SIL column, 250 x 4.6mm (WCS hardware) |
| 4235-001 | Partisil 5µm PAC column, 250 x 4.6mm (WCS hardware) |
| 4238-001 | Partisil 5µm ODS3 column, 250 x 4.6mm (WCS hardware) |
| 4239-001 | Partisil 5µm C8 column, 250 x 4.6mm (WCS hardware) |

Partisil 10µm Analytical Columns

| Catalogue No. | Description |
|---------------|--|
| 4216-001 | Partisil 10µm SIL column, 250 x 4.6mm (WCS hardware) |
| 4223-001 | Partisil 10µm ODS column, 250 x 4.6mm (WCS hardware) |
| 4224-001 | Partisil 10µm ODS2 column, 250 x 4.6mm (WCS hardware) |
| 4225-001 | Partisil 10µm PAC column, 250 x 4.6mm (WCS hardware) |
| 4226-001 | Partisil 10µm SAX column, 250 x 4.6mm (WCS hardware) |
| 4227-001 | Partisil 10µm SCX column, 250 x 4.6mm (WCS hardware) |
| 4228-001 | Partisil 10µm ODS3 column, 250 x 4.6mm (WCS hardware) |
| 4229-001 | Partisil 10µm C8 column, 250 x 4.6mm (WCS hardware) |
| 4141-001 | Partisil 10µm SCX column (S-P), 250 x 4.6mm (WCS hardware) |

Ordering Information - Partisil® and Partisphere® (continued)

Partisil 10µm Semi-Prep Columns

| Catalogue No. | Description |
|---------------|--|
| 4230-120 | Partisil 10µm SIL column, 250 x 9.4mm (Magnum-9 hardware) |
| 4230-124 | Partisil 10µm ODS2 column, 250 x 9.4mm (Magnum-9 hardware) |
| 4230-125 | Partisil 10µm ODS3 column, 250 x 9.4mm (Magnum-9 hardware) |
| 4230-126 | Partisil 10µm PAC column, 250 x 9.4mm (Magnum-9 hardware) |
| 4230-220 | Partisil 10µm SIL column, 500 x 9.4mm (Magnum-9 hardware) |
| 4230-224 | Partisil 10µm ODS2 column, 500 x 9.4mm (Magnum-9 hardware) |
| 4230-225 | Partisil 10µm ODS3 column, 500 x 9.4mm (Magnum-9 hardware) |
| 4232-125 | Partisil 10µm ODS3 column, 250 x 20mm (Magnum-20 hardware) |
| 4232-220 | Partisil 10µm SIL column, 500 x 20mm (Magnum-20 hardware) |

Partisphere 5µm Analytical Columns (note: WVS cartridge columns require end fitting kit p/n 4631-1001)

| Catalogue No. | Description |
|---------------|--|
| 4120-001 | Partisphere 5µm WAX (MAX-1) column, 250 x 4.6mm (WCS hardware) |
| 4601-1001 | Partisphere 5µm TAC-1 (PFP) cartridge column, 265 x 4.6mm (WVS hardware) |
| 4621-0501 | Partisphere 5µm SIL cartridge column, 125 x 4.6mm (WVS hardware) |
| 4621-0502 | Partisphere 5µm C18 cartridge column, 125 x 4.6mm (WVS hardware) |
| 4621-0503 | Partisphere 5µm C8 cartridge column, 125 x 4.6mm (WVS hardware) |
| 4621-0505 | Partisphere 5µm SAX cartridge column, 125 x 4.6mm (WVS hardware) |
| 4621-0507 | Partisphere 5µm SCX cartridge column, 125 x 4.6mm (WVS hardware) |
| 4621-0508 | Partisphere 5µm PAC cartridge column, 125 x 4.6mm (WVS hardware) |
| 4621-1501 | Partisphere 5µm SIL cartridge column, 250 x 4.6mm (WVS hardware) |
| 4621-1502 | Partisphere 5µm C18 cartridge column, 250 x 4.6mm (WVS hardware) |
| 4621-1505 | Partisphere 5µm SAX cartridge column, 250 x 4.6mm (WVS hardware) |
| 4621-1507 | Partisphere 5µm SCX cartridge column, 250 x 4.6mm (WVS hardware) |
| 4621-1508 | Partisphere 5µm PAC cartridge column, 250 x 4.6mm (WVS hardware) |

Partisil Analytical Cartridge Columns (note: WVS cartridge columns require end fitting kit p/n 4631-1001)

| Catalogue No. | Description |
|---------------|---|
| 4681-0502 | Partisil 5µm ODS3 cartridge column, 125 x 4.6mm (WVS hardware) |
| 4681-0505 | Partisil 5µm SAX cartridge column, 125 x 4.6mm (WVS hardware) |
| 4681-1501 | Partisil 5µm SIL cartridge column, 250 x 4.6mm (WVS hardware) |
| 4681-1502 | Partisil 5µm ODS3 cartridge column, 250 x 4.6mm (WVS hardware) |
| 4681-1505 | Partisil 5µm SAX cartridge column, 250 x 4.6mm (WVS hardware) |
| 4681-1507 | Partisil 5µm SCX cartridge column, 250 x 4.6mm (WVS hardware) |
| 4681-1509 | Partisil 5µm ODS2 cartridge column, 250 x 4.6mm (WVS hardware) |
| 4682-1502 | Partisil 10µm ODS3 cartridge column, 250 x 4.6mm (WVS hardware) |
| 4682-1505 | Partisil 10µm SAX cartridge column, 250 x 4.6mm (WVS hardware) |
| 4682-1507 | Partisil 10µm SCX cartridge column, 250 x 4.6mm (WVS hardware) |

Accessories

| Catalogue No. | Description |
|---------------|---|
| 4250-001 | Partisil 10µm SAX column with Solvecon Kit |
| 4251-001 | Partisil 10µm SCX column with Solvecon Kit |
| 4631-1001 | Wrenchless WVS End Fitting Kit |
| 4631-1003 | WVS Guard Cartridge Holder |
| 4631-1004 | WCS Guard Cartridge Holder |
| 4641-0001 | Silica Guard Cartridge (5 pack) |
| 4641-0002 | Reverse Phase Guard Cartridge (5 pack) |
| 4641-0005 | Anion Guard Cartridge (5 pack) |
| 4641-0007 | Cation Phase Guard Cartridge (5 pack) |
| 4641-0008 | PAC Guard Cartridge (5 pack) |
| HI-050X | PEEK Fingertight Fitting (10 pack) – suitable for connection of all Partisil and Partisphere columns to all 1/16" o.d. tubing types – slip free to 6000psi. |

See also pages 124 and 125 for additional Partisil column dimensions and ordering information.

Hichrom Partisil® Columns – Non Standard Whatman/GE Healthcare Dimensions

Hichrom have a deserved reputation for the ability to manufacture and supply high efficiency columns packed into non standard dimensions not originally offered by the silica manufacturer. Partisil® columns are no exception and for many years Hichrom have manufactured Partisil columns into a wider range of column dimensions than was originally available from Whatman/GE Healthcare. These additional dimensions continue to be supported following the acquisition and are detailed below. Please contact Hichrom for any column dimension not listed.



Ordering Information – Partisil Additional Dimensions

Partisil 2.1mm i.d. Columns

| Partisil Phase | Column Dimensions (mm) | | | | Guard Cartridges ^{1,2} (For 2.1mm i.d. Columns) |
|------------------|------------------------|---------------|---------------|---------------|---|
| | 50 x 2.1 | 100 x 2.1 | 150 x 2.1 | 250 x 2.1 | |
| Partisil 5 SIL | P5-50AM | P5-100AM | P5-150AM | P5-250AM | P5-10CM5 |
| Partisil 5 C8 | P5C8-50AM | P5C8-100AM | P5C8-150AM | P5C8-250AM | P5C8-10CM5 |
| Partisil 5 ODS3 | P5ODS3-50AM | P5ODS3-100AM | P5ODS3-150AM | P5ODS3-250AM | P5ODS3-10CM5 |
| Partisil 5 PAC | P5PAC-50AM | P5PAC-100AM | P5PAC-150AM | P5PAC-250AM | P5PAC-10CM5 |
| Partisil 5 SAX | P5SAX-50AM | P5SAX-100AM | P5SAX-150AM | P5SAX-250AM | P5SAX-10CM5 |
| Partisil 5 SCX | P5SCX-50AM | P5SCX-100AM | P5SCX-150AM | P5SCX-250AM | P5SCX-10CM5 |
| Partisil 10 SIL | P10-50AM | P10-100AM | P10-150AM | P10-250AM | P10-10CM5 |
| Partisil 10 C8 | P10C8-50AM | P10C8-100AM | P10C8-150AM | P10C8-250AM | P10C8-10CM5 |
| Partisil 10 ODS | P10ODS-50AM | P10ODS-100AM | P10ODS-150AM | P10ODS-250AM | P10ODS-10CM5 |
| Partisil 10 ODS2 | P10ODS2-50AM | P10ODS2-100AM | P10ODS2-150AM | P10ODS2-250AM | P10ODS2-10CM5 |
| Partisil 10 ODS3 | P10ODS3-50AM | P10ODS3-100AM | P10ODS3-150AM | P10ODS3-250AM | P10ODS3-10CM5 |
| Partisil 10 PAC | P10PAC-50AM | P10PAC-100AM | P10PAC-150AM | P10PAC-250AM | P10PAC-10CM5 |
| Partisil 10 SAX | P10SAX-50AM | P10SAX-100AM | P10SAX-150AM | P10SAX-250AM | P10SAX-10CM5 |
| Partisil 10 SCX | P10SCX-50AM | P10SCX-100AM | P10SCX-150AM | P10SCX-250AM | P10SCX-10CM5 |

¹ Use with holder HI-161 and column coupler HI-081

² 5/pk – Starter kits also available – see p.21

Partisil 3.2mm i.d. Columns

| Partisil Phase | Column Dimensions (mm) | | | | Guard Cartridges ^{1,2} (For 3.2-4.6mm i.d. Columns) |
|------------------|------------------------|---------------|---------------|---------------|---|
| | 50 x 3.2 | 100 x 3.2 | 150 x 3.2 | 250 x 3.2 | |
| Partisil 5 SIL | P5-50AS | P5-100AS | P5-150AS | P5-250AS | P5-10C5 |
| Partisil 5 C8 | P5C8-50AS | P5C8-100AS | P5C8-150AS | P5C8-250AS | P5C8-10C5 |
| Partisil 5 ODS3 | P5ODS3-50AS | P5ODS3-100AS | P5ODS3-150AS | P5ODS3-250AS | P5ODS3-10C5 |
| Partisil 5 PAC | P5PAC-50AS | P5PAC-100AS | P5PAC-150AS | P5PAC-250AS | P5PAC-10C5 |
| Partisil 5 SAX | P5SAX-50AS | P5SAX-100AS | P5SAX-150AS | P5SAX-250AS | P5SAX-10C5 |
| Partisil 5 SCX | P5SCX-50AS | P5SCX-100AS | P5SCX-150AS | P5SCX-250AS | P5SCX-10C5 |
| Partisil 10 SIL | P10-50AS | P10-100AS | P10-150AS | P10-250AS | P10-10C5 |
| Partisil 10 C8 | P10C8-50AS | P10C8-100AS | P10C8-150AS | P10C8-250AS | P10C8-10C5 |
| Partisil 10 ODS | P10ODS-50AS | P10ODS-100AS | P10ODS-150AS | P10ODS-250AS | P10ODS-10C5 |
| Partisil 10 ODS2 | P10ODS2-50AS | P10ODS2-100AS | P10ODS2-150AS | P10ODS2-250AS | P10ODS2-10C5 |
| Partisil 10 ODS3 | P10ODS3-50AS | P10ODS3-100AS | P10ODS3-150AS | P10ODS3-250AS | P10ODS3-10C5 |
| Partisil 10 PAC | P10PAC-50AS | P10PAC-100AS | P10PAC-150AS | P10PAC-250AS | P10PAC-10C5 |
| Partisil 10 SAX | P10SAX-50AS | P10SAX-100AS | P10SAX-150AS | P10SAX-250AS | P10SAX-10C5 |
| Partisil 10 SCX | P10SCX-50AS | P10SCX-100AS | P10SCX-150AS | P10SCX-250AS | P10SCX-10C5 |

¹ Use with holder HI-161 and column coupler HI-081

² 5/pk – Starter kits also available – see p.21

Ordering Information – Partisil® Additional Dimensions (continued)

Partisil 4.0mm i.d. Columns

| Partisil Phase | Column Dimensions (mm) | | | | Guard Cartridges ^{1,2} (For 3.2-4.6mm i.d. Columns) |
|------------------|------------------------|---------------|---------------|---------------|---|
| | 50 x 4.0 | 100 x 4.0 | 150 x 4.0 | 250 x 4.0 | |
| Partisil 5 SIL | P5-50AF | P5-100AF | P5-150AF | P5-250AF | P5-10C5 |
| Partisil 5 C8 | P5C8-50AF | P5C8-100AF | P5C8-150AF | P5C8-250AF | P5C8-10C5 |
| Partisil 5 ODS3 | P5ODS3-50AF | P5ODS3-100AF | P5ODS3-150AF | P5ODS3-250AF | P5ODS3-10C5 |
| Partisil 5 PAC | P5PAC-50AF | P5PAC-100AF | P5PAC-150AF | P5PAC-250AF | P5PAC-10C5 |
| Partisil 5 SAX | P5SAX-50AF | P5SAX-100AF | P5SAX-150AF | P5SAX-250AF | P5SAX-10C5 |
| Partisil 5 SCX | P5SCX-50AF | P5SCX-100AF | P5SCX-150AF | P5SCX-250AF | P5SCX-10C5 |
| Partisil 10 SIL | P10-50AF | P10-100AF | P10-150AF | P10-250AF | P10-10C5 |
| Partisil 10 C8 | P10C8-50AF | P10C8-100AF | P10C8-150AF | P10C8-250AF | P10C8-10C5 |
| Partisil 10 ODS | P10ODS-50AF | P10ODS-100AF | P10ODS-150AF | P10ODS-250AF | P10ODS-10C5 |
| Partisil 10 ODS2 | P10ODS2-50AF | P10ODS2-100AF | P10ODS2-150AF | P10ODS2-250AF | P10ODS2-10C5 |
| Partisil 10 ODS3 | P10ODS3-50AF | P10ODS3-100AF | P10ODS3-150AF | P10ODS3-250AF | P10ODS3-10C5 |
| Partisil 10 PAC | P10PAC-50AF | P10PAC-100AF | P10PAC-150AF | P10PAC-250AF | P10PAC-10C5 |
| Partisil 10 SAX | P10SAX-50AF | P10SAX-100AF | P10SAX-150AF | P10SAX-250AF | P10SAX-10C5 |
| Partisil 10 SCX | P10SCX-50AF | P10SCX-100AF | P10SCX-150AF | P10SCX-250AF | P10SCX-10C5 |

¹ Use with holder HI-161 and column coupler HI-081² 5/pk – Starter kits also available – see p.21

Partisil 4.6mm i.d. Columns

| Partisil Phase | Column Dimensions (mm) | | | | Guard Cartridges ^{1,2} (For 3.2-4.6mm i.d. Columns) |
|------------------|------------------------|--------------|--------------|--------------|---|
| | 50 x 4.6 | 100 x 4.6 | 150 x 4.6 | 250 x 4.6 | |
| Partisil 5 SIL | P5-50A | P5-100A | P5-150A | P5-250A | P5-10C5 |
| Partisil 5 C8 | P5C8-50A | P5C8-100A | P5C8-150A | P5C8-250A | P5C8-10C5 |
| Partisil 5 ODS3 | P5ODS3-50A | P5ODS3-100A | P5ODS3-150A | P5ODS3-250A | P5ODS3-10C5 |
| Partisil 5 PAC | P5PAC-50A | P5PAC-100A | P5PAC-150A | P5PAC-250A | P5PAC-10C5 |
| Partisil 5 SAX | P5SAX-50A | P5SAX-100A | P5SAX-150A | P5SAX-250A | P5SAX-10C5 |
| Partisil 5 SCX | P5SCX-50A | P5SCX-100A | P5SCX-150A | P5SCX-250A | P5SCX-10C5 |
| Partisil 10 SIL | P10-50A | P10-100A | P10-150A | P10-250A | P10-10C5 |
| Partisil 10 C8 | P10C8-50A | P10C8-100A | P10C8-150A | P10C8-250A | P10C8-10C5 |
| Partisil 10 ODS | P10ODS-50A | P10ODS-100A | P10ODS-150A | P10ODS-250A | P10ODS-10C5 |
| Partisil 10 ODS2 | P10ODS2-50A | P10ODS2-100A | P10ODS2-150A | P10ODS2-250A | P10ODS2-10C5 |
| Partisil 10 ODS3 | P10ODS3-50A | P10ODS3-100A | P10ODS3-150A | P10ODS3-250A | P10ODS3-10C5 |
| Partisil 10 PAC | P10PAC-50A | P10PAC-100A | P10PAC-150A | P10PAC-250A | P10PAC-10C5 |
| Partisil 10 SAX | P10SAX-50A | P10SAX-100A | P10SAX-150A | P10SAX-250A | P10SAX-10C5 |
| Partisil 10 SCX | P10SCX-50A | P10SCX-100A | P10SCX-150A | P10SCX-250A | P10SCX-10C5 |

¹ Use with holder HI-161 and column coupler HI-081² 5/pk – Starter kits also available – see p.21

Please also see pages 122 and 123 for alternative Partisil columns.

Please contact Hichrom for ordering information on any column dimension not listed.