

HPLC and UHPLC Columns



- Comprehensive range of high density bonded phases producing robust materials
- Wide range of selectivities utilising bonded phases from C8, C18, C18 Acid/Base Deactivated and C18 Polar phases to Silica HILIC and Cyano
- Unique selectivities of Phenyl Hexyl and Penta Fluoro Phenyl
- Available in 1.8, 3 and 5µm particle sizes and 120Å pore diameter
- 100, 150, 250mm x 4.6mm column geometries for 3 and 5µm materials and 50 and 100mm x 2.1mm for 1.8µm materials

Kinesis has developed a range of TELOS® HPLC and UHPLC Columns. Expertise in high purity silica selection, surface modification, high density bonding technology and column packing technology has enabled Kinesis to produce high quality materials which encompass a vast range in selectivities. TELOS HPLC and UHPLC Columns provide superior reliability, reproducibility and performance, with excellent selectivity.

PRODUCT OVERVIEW

All **TELOS HPLC Columns** are individually tested, confirming efficiency and peak asymmetry, and ensuring the columns pass the Kinesis rigorous QC standards. Each column is supplied with a test chromatogram which outlines the test conditions and analytes for customer reproduction and a Column Care and Use Guide which outlines the recommended conditioning, storage and cleaning procedures for the TELOS Columns.

The TELOS HPLC and UHPLC Column range of bonded phases includes:

TELOS C8 and C18 - highly base deactivated phases, resulting in the most inert silica based C8 and C18 materials available. High density bonding levels ($4\mu\text{mol}/\text{m}^2$) result in columns with superior peak shapes, reproducibility and selectivity over a wide pH range (pH 1-12).

TELOS C18 AB-D - specially deactivated to produce superior peak shapes and performance for amines and acids. Kinesis ultra pure silica selection, proprietary bonding, endcapping reagents and procedures yield columns that are much more resistant to degradation by acidic and basic mobile phase compositions, while improving peak shapes for amines and acids as a result of the reduced negative surface interactions.

TELOS C18 Polar - a high density packing specifically engineered for the retention of polar analytes, producing superior hydrophobic performance even when utilising 100% aqueous mobile phases.

TELOS PFP - Penta Fluoro Phenyl (PFP) is a hydrophobic phase with alternative selectivity when compared to classical C18 materials. The separation process is based on 4 different retention mechanisms (π - π , dipole-dipole, polar (H bonds) and hydrophobic interactions). The PFP phase is recommended for the separation of aromatic and unsaturated compounds, phenols, halogenated compounds, isomers, polar compounds and the retention of basic compounds.

TELOS Phenyl Hexyl - exhibits unique selectivity and comprises a hexyl linker and a phenyl ring. The Kinesis dense bonding process and the presence of the hexyl linker reduces bonded phase hydrolysis and increases chemical stability. Applications include an increased retention for polar, aromatic and amine compounds.

TELOS Cyano - because of its properties, Cyano may be employed in both normal phase and reversed phase. When it is used as normal phase, the rapid equilibration with mobile phase will make it more convenient to use than silica columns, especially for gradient elution applications. It is ideal for the separation of aromatic alcohols, pesticides and broad ranges of pharmaceuticals, including steroids and analgesics. In reversed phase applications TELOS Cyano is less retentive than C18 and C8. Applications include the retention and separation of strongly basic analytes, fast elution of hydrophobic molecules, a unique selectivity, good peak shape for polar and compatibility with highly aqueous mobile phases.

TELOS Silica HILIC - used in conjunction with highly concentrated organic mobile phases (>85%, v/v acetonitrile) to enhance the retention of polar analytes which are unretained in reverse phase conditions.

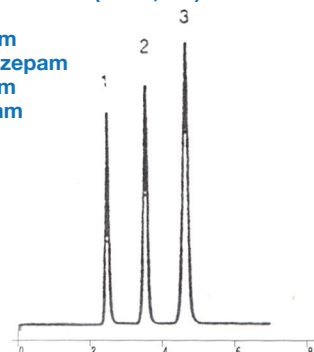
TELOS HPLC COLUMNS

- Available from stock in 3 and 5µm particle sizes
- Available from stock in Silica, C8, C18 AB-D, C18 Polar, PFP (Penta Fluoro Phenyl), Phenyl Hexyl, CN and HILIC bonded phases
- TELOS Columns are also available in Phenyl bonded materials upon special request

TELOS HPLC COLUMNS

TELOS Phenyl Hexyl 150 X 4.6mm 5µm

Mobile Phase : Acetonitrile / Water (80:20, v/v)
Flow Rate : 1.0ml/min
Detection : UV @ 235nm
Sample : 1. Lormetazepam
 2. Diazepam
 3. Oxazepam



Description	Part Number
TELOS C18	
TELOS C18 5µm 250 x 4.6mmid	3000-5-250-046
TELOS C18 5µm 150 x 4.6mmid	3000-5-150-046
TELOS C18 5µm 100 x 4.6mmid	3000-5-100-046
TELOS C18 3µm 150 x 4.6mmid	3000-3-150-046
TELOS C18 3µm 100 x 4.6mmid	3000-3-100-046
TELOS C18 AB-D	
TELOS C18 AB-D C18 5µm 250 x 4.6mmid	3001-5-250-046
TELOS C18 AB-D C18 5µm 150 x 4.6mmid	3001-5-150-046
TELOS C18 AB-D C18 5µm 100 x 4.6mmid	3001-5-100-046
TELOS C18 AB-D C18 3µm 150 x 4.6mmid	3001-3-150-046
TELOS C18 AB-D C18 3µm 100 x 4.6mmid	3001-3-100-046
TELOS C18 Polar	
TELOS C18 Polar 5µm 250 x 4.6mmid	3002-5-250-046
TELOS C18 Polar 5µm 150 x 4.6mmid	3002-5-150-046
TELOS C18 Polar 5µm 100 x 4.6mmid	3002-5-100-046
TELOS C18 Polar 3µm 150 x 4.6mmid	3002-3-150-046
TELOS C18 Polar 3µm 100 x 4.6mmid	3002-3-100-046
TELOS C8	
TELOS C8 5µm 250 x 4.6mmid	3019-5-250-046
TELOS C8 5µm 150 x 4.6mmid	3019-5-150-046
TELOS C8 5µm 100 x 4.6mmid	3019-5-100-046
TELOS C8 3µm 150 x 4.6mmid	3019-3-150-046
TELOS C8 3µm 100 x 4.6mmid	3019-3-100-046

Description	Part Number
TELOS PFP	
TELOS PFP 5µm 250 x 4.6mmid	3017-5-250-046
TELOS PFP 5µm 150 x 4.6mmid	3017-5-150-046
TELOS PFP 5µm 100 x 4.6mmid	3017-5-100-046
TELOS PFP 3µm 150 x 4.6mmid	3017-3-150-046
TELOS PFP 3µm 100 x 4.6mmid	3017-3-100-046
TELOS Phenyl Hexyl	
TELOS Phenyl Hexyl 5µm 250 x 4.6mmid	3037-5-250-046
TELOS Phenyl Hexyl 5µm 150 x 4.6mmid	3037-5-150-046
TELOS Phenyl Hexyl 5µm 100 x 4.6mmid	3037-5-100-046
TELOS Phenyl Hexyl 3µm 150 x 4.6mmid	3037-3-150-046
TELOS Phenyl Hexyl 3µm 100 x 4.6mmid	3037-3-100-046
TELOS Cyano	
TELOS Cyano 5µm 250 x 4.6mmid	3038-5-250-046
TELOS Cyano 5µm 150 x 4.6mmid	3038-5-150-046
TELOS Cyano 5µm 100 x 4.6mmid	3038-5-100-046
TELOS Cyano 3µm 150 x 4.6mmid	3038-3-150-046
TELOS Cyano 3µm 100 x 4.6mmid	3038-3-100-046
TELOS Silica HILIC	
TELOS Silica HILIC 5µm 250 x 4.6mmid	3046-5-250-046
TELOS Silica HILIC 5µm 150 x 4.6mmid	3046-5-150-046
TELOS Silica HILIC 5µm 100 x 4.6mmid	3046-5-100-046
TELOS Silica HILIC 3µm 150 x 4.6mmid	3046-3-150-046
TELOS Silica HILIC 3µm 100 x 4.6mmid	3046-3-100-046

TELOS HPLC COLUMNS METHOD DEVELOPMENT KIT

The TELOS HPLC Method Development Kit permits the chromatographer to rapidly evaluate a selection of bonded phases with different selectivities for routine analysis. Once resolution is obtained (either partial or total) with a particular phase then the exact column configuration and size can be determined to perfect the HPLC separation.

Description	Part Number
TELOS HPLC Method Development Kit 3µm 100 x 4.6mmid*	9000-3-100-046

*includes one column of each of the following:

1. TELOS C18
2. TELOS PFP
3. TELOS C18 Polar
4. TELOS Silica HILIC
5. TELOS Cyano

TELOS UHPLC COLUMNS

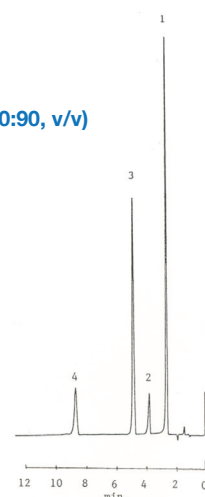
- Available from stock in 1.8µm particle size
- Available from stock in Silica, C8, C18 AB-D, C18 Polar, PFP (Penta Fluoro Phenyl), Phenyl Hexyl, CN and HILIC bonded phases
- TELOS Columns are also available in Phenyl bonded materials on special request
- TELOS UHPLC columns provide the highest resolution over a wide variety of flow rate conditions and mobile phase compositions

TELOS UHPLC 1.8µm columns are specifically designed for use with ultra high pressure liquid chromatographs. These columns have been engineered for chromatography at pressures up to 19000psi. Expertise in high purity silica selection, surface modification, high density bonding technology and column packing technology has enabled Kinesis to develop high quality materials based on the 1.8µm particle technology. TELOS UHPLC Columns offer the broadest selectivity spectrum available for UHPLC.

TELOS UHPLC Chromatograms

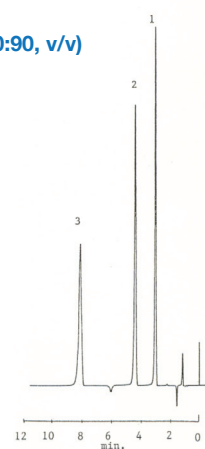
TELOS C18 Polar 1.8µm 10cm x 2.1mm
Mobile Phase: CH₃CN/0.05M KH₂PO₄ (10:90, v/v)
pH = 3.2
Flow Rate = 0.4ml/min
Detection: uv @ 254nm
Temperature: Ambient

1. Procainamide HCL
2. (+)-V-Ephedrine HCL
3. Acetaminophen
4. Caffeine



TELOS PFP 1.8µm 10cm x 2.1mm
Mobile Phase: CH₃CN/0.05M KH₂PO₄ (10:90, v/v)
pH = 3.2
Flow Rate = 0.4ml/min
Detection: uv @ 254nm
Temperature: Ambient

1. Theobromine
2. Theophylline
3. Caffeine



Description	Part Number
TELOS C18	
TELOS C18 1.8µm 100 x 2.1mmid	3000-2-100-021
TELOS C18 1.8µm 50 x 2.1mmid	3000-2-050-021
TELOS C18 AB-D C18 1.8µm 100 x 2.1mmid	3001-2-100-021
TELOS C18 AB-D C18 1.8µm 50 x 2.1mmid	3001-2-050-021
TELOS C8	
TELOS C8 1.8µm 100 x 2.1mmid	3019-2-100-021
TELOS C8 1.8µm 50 x 2.1mmid	3019-2-050-021
TELOS PFP	
TELOS PFP 1.8µm 100 x 2.1mmid	3017-2-100-021
TELOS PFP 1.8µm 50 x 2.1mmid	3017-2-050-021

Description	Part Number
TELOS Phenyl Hexyl	
TELOS Phenyl Hexyl 1.8µm 100 x 2.1mmid	3037-2-100-021
TELOS Phenyl Hexyl 1.8µm 50 x 2.1mmid	3037-2-050-021
TELOS Cyano	
TELOS Cyano 1.8µm 100 x 2.1mmid	3038-2-100-021
TELOS Cyano 1.8µm 50 x 2.1mmid	3038-2-050-021
TELOS Silica	
TELOS Silica HILIC 1.8µm 100 x 2.1mmid	3046-2-100-021
TELOS Silica HILIC 1.8µm 50 x 2.1mmid	3046-2-050-021
TELOS C18 Polar	
TELOS C18 Polar 1.8µm 100 x 2.1mmid	3002-2-100-021
TELOS C18 Polar 1.8µm 50 x 2.1mmid	3002-2-050-021

TELOS UHPLC COLUMNS METHOD DEVELOPMENT KIT

The TELOS UHPLC Method Development Kit permits the chromatographer to rapidly evaluate a selection of bonded phases with different selectivities for routine UHPLC analysis. Once resolution is obtained (either partial or total) with a particular phase then the exact column configuration and size can be determined to perfect the UHPLC separation.

Description	Part Number
TELOS UHPLC Method Development Kit 1.8µm 50 x 2.1mmid*	9100-2-050-021

*includes one column of each of the following:

1. TELOS C18
2. TELOS PFP
3. TELOS C18 Polar
4. TELOS Silica HILIC
5. TELOS Cyano

GUARD CARTRIDGES

All TELOS HPLC Columns are supported by 1cm guard cartridges packed with the identical packing material. Guard cartridges are available as a pack of 5 and are used with a direct connect cartridge holder (see below).

TELOS HPLC Guard Column Cartridges have a standard part number system, utilising the TELOS HPLC Column product code.

Example Description: TELOS PFP 5µm 100 x 4.6mmid
Part Number **3017**-5-100-046
product code

The product code in the above example is **3017**

The part number for the relevant guard cartridge is **3017-5-5-046**.

GUARD CARTRIDGE HOLDER

The direct connect TELOS Guard Cartridge Holder is used with the 4.6mmid TELOS Guard Cartridges. Ordering information is as follows:

Description	Part Number
TELOS Guard Cartridge Holder	9000-1-001

SPECIFICATIONS

Full specifications for the TELOS materials and columns are available at www.kinesis.co.uk

EVALUATION COLUMNS

Kinesis TELOS HPLC and UHPLC columns are available for evaluation. To find out further information go to www.kinesis.co.uk



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