

TELOS 

Flash Chromatography, Synthesis and Work-up Products



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 **Kinesis**
Scientific Experts

Our Company

Kinesis prides itself on the supply of quality synthesis, work-up and flash chromatography products for the organic chemist. Combined with our sample preparation, chromatography consumables, instruments and service, we offer a comprehensive range of products and services to all our customers.

Established in 1997, Kinesis has developed partnerships with leading manufacturers, and combined with our own brand of chromatography accessories, offer a comprehensive range of products and services for all LC and GC markets; these include pharmaceutical, clinical, academic, industrial and environmental customers.

The company has offices in four countries, UK, Germany, United States and Australia and a network of international distributors support all other countries. Being in direct and close contact with our customers and manufacturers alike, Kinesis understand the challenges and demands of modern analysis and continuously work to offer optimal solutions to meet customer needs. Kinesis firmly believes it is no longer sufficient to simply offer only competitive prices. Our philosophy is to add value to our customers by meeting the demands of your core business through our quality, expertise and support services.

Expertise and Support for Synthesis, Work-up and Flash Chromatography

With over 100 combined years of experience in synthesis, work-up, flash chromatography and sample preparation, Kinesis has the know how to work with it's customers and understand their needs. Many of the products in this catalogue were designed and developed following both end-user consultation and knowledge of customer work flows.

Products are supported by a range of documents, or *How to use Guides*, that provide customers with first hand guidance on how to get the most from the products. In addition, we offer tailor-made seminars and training sessions on the technical content of our products. These can be held either at the customer facility, or the Kinesis Office.

Quality and the Environment

As an ISO 9001:2001 accredited company, Kinesis believes quality and service are paramount to our ongoing success and only companies who share the same ethos are used as supply and manufacturing partners. We monitor all our suppliers performance including returns, delivery and quality and this information is then collated and reviewed at our regular business meetings. In addition to our ISO 9001 accreditation Kinesis, has attained the ISO 14001 standard for Environmental Management. We strongly believe that wherever possible we should embrace recycling and energy reduction programmes and have geared our company to meet stringent environmental targets over the coming years.

The Kinesis Solution

Kinesis is able to provide a complete service to organic and analytical customers alike with the added benefits of quality products and best in class technical support. This, we believe, puts Kinesis in an unrivalled position to work with our customers and help achieve their own targets and goals.

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TELOS Flash Chromatography and Work-up Products

This catalogue contains the full range of **TELOS® Flash Chromatography and Work-up Products and KX Microwave Reaction Vials** available from Kinesis. Included are three formats of flash column, dry loading cartridges, a universal flash column holder, glass columns, TLC plates, bulk sorbents, phase separators and a comprehensive range of frits, empty reservoirs, filtration columns and column caps.

Disposable Flash Chromatography Columns

The number of flash chromatography instrument types now available necessitates the need for different flash column formats. Whilst the majority of systems use the universally accepted Luer® inlet/outlet design, some systems still use the SPE or syringe barrel format. Kinesis offer two Luer inlet/outlet designs along with the SPE format – all columns are manufactured with the same silica or bonded phase. See Page 5.

Glass Columns

The range of Diba Industries SolventPlus™ Glass Columns is designed for maximum chemical compatibility. Manufactured from borosilicate glass, PTFE and Chemraz® (O-rings), SolventPlus Columns offer the most inert materials throughout the solvent pathway. The columns are ideal for both normal and reversed phase flash chromatography. See Page 10.

TELOS Universal Column Holder and Dry Loading Columns

Kinesis has developed the Universal Flash Column Holder. Available as a standalone unit or directly attachable to the Isolera™ Systems from Biotage®, the Universal Column Holder is ideal for dry loading using TELOS Dry Loading Cartridges. See Pages 15 and 13 respectively.

Accessories

Kinesis offer a range of 20µm polyethylene frits, empty reservoirs, filtration columns (containing two 20µm polyethylene frits) and column caps (inlet and Luer). The accessories support many of the tasks before and after flash chromatography and are available in a range of sizes and volumes for individual needs. See Page 16.

TLC Plates

Having TLC plates similar in chromatographic behaviour to the main flash chromatography column ensures easy and rapid transfer of solvent systems. Kinesis offer a range of glass-backed TLC plates for both silica and NH₂ (bonded aminopropyl). TELOS TLC Plates are available with or without a fluorescence indicator. See Page 18.

Bulk Sorbents

It is not always possible to load a reaction mixture or sample onto a flash chromatography column in a non-polar solvent. Solid sample or dry loading of reaction mixtures is now commonplace in order to ensure good chromatography and maximise the capacity of the flash column. Kinesis offer a range of sorbents for dry loading, including silica, NH₂ (bonded aminopropyl), C18 and the diatomaceous earth, TELOS NM. See Page 19.

Phase Separators

Aqueous work-up using liquid-liquid extraction is a common technique post synthesis. Traditionally performed in a separating funnel, the use of TELOS Phase Separators improves throughput and removes the need for continually washing/drying glassware. See Page 21.

Microwave Reaction Vials

The use of microwaves is a common approach to decreasing reaction times in organic synthesis. In particular, reactions times using Pd, Pt or other metal catalysts can be reduced significantly. KX Microwave Reaction Vials, vials optimised for such conditions, allow reactions to be performed at temperatures above the boiling point of the solvent used. See page 23.

Vacuum Manifolds

Kinesis offer 12 and 24 position vacuum manifolds for processing SPE format flash and work-up columns. Manufactured from inert materials and supplied complete with a needles and stopcocks, the two manifolds are ideal workstations to support reaction work-up. See page 25.

Resource Centre

Kinesis has a series of documents to support the range of TELOS Flash Chromatography & Work-up Products. These technical resources provide guidance for various aspects of flash chromatography and work-up procedures, including the general principles, transferring TLC solvent systems to flash chromatography columns, dry loading, the use of TELOS Flash NH₂ for flash chromatography and aqueous work-up procedures.

To request or download these documents, please go to the Resources section of your local Kinesis website and follow Expert Tips.

TELOS Flash Chromatography Columns

- Silica, NH₂ (bonded aminopropyl) and C18
- Two formats
- Columns for all commonly used flash instruments
- Comprehensive range of sizes
- Optimised column geometries
- Supporting documents

Introduction

Flash chromatography is a commonly used purification technique for medicinal and organic chemists. The use of a reliable flash column is pivotal to good chromatographic separations.

Flash column quality plays an important role, ensuring valuable compounds are well separated and free of particular impurities.

All TELOS Flash Chromatography column hardware and media are thoroughly QC tested prior to use. The particle size distribution is controlled to ensure normal back pressures are attained with all collected fractions free from particulates. The moisture content of each

batch is carefully controlled and tested to ensure reproducible retention from batch-to-batch.

All these aspects ensure TELOS Flash Columns can be used reliably and trouble-free.

Stationary Phases

TELOS Flash Columns are available packed with silica, NH₂ (bonded aminopropyl) and C18. The materials are a nominal 50µm and an optimised particle size distribution for flash chromatography.

All TELOS Flash Chromatography materials undergo rigorous QC testing to ensure batch-to-batch reproducibility.

The moisture content of all silica columns is strictly controlled to ensure chromatographic consistency from column-to-column and batch-to-batch.

The NH₂ material is a bonded aminopropyl functional group and offers a genuine alternative to traditional silica. Primary, secondary and tertiary amines can be separated using solvent systems that do not require the addition of a basic modifier. In addition, TELOS NH₂ TLC Plates use the same chemistry as TELOS NH₂ Flash Columns, allowing rapid and easy transfer of solvent systems. The loading capacity of TELOS NH₂ is similar to that of TELOS Silica.



TELOS Flash C18 is a bonded octadecyl stationary phase offering reversed phase flash capabilities. Whilst not as common as normal phase, reversed phase flash chromatography is suited to reaction mixtures more soluble in methanol and/or acetonitrile /water solvent systems; the approach is commonly used following the synthesis of synthetic peptides. The standard TELOS Flash C18 is non-encapped, has a pore size of 60Å and a carbon loading of ~18%.

The sorbents used to manufacture TELOS Flash Columns are also available in bulk (see page 19).

Two Formats

Kinesis offer two disposable flash chromatography column formats – TELOS Flash and TELOS Flash-LL. Both column formats are made from polypropylene and have pressure ratings to support common flash chromatography back pressures. The frits are polyethylene.

TELOS Flash

The original TELOS Flash Column. This format has a Luer-lok inlet and a Luer outlet. It can be used on a number of flash chromatography instruments including the CombiFlash Systems from ISCO.

TELOS Flash-LL

The latest addition to the TELOS Flash Column product range. This format has a Luer-lok inlet and outlet. It can be used on a number of flash chromatography instruments including the Isolera from Biotage.

Column Sizes

TELOS Flash and Flash-LL Columns are available in 4, 12*, 20*, 40*, 80*, 120* and 330g options. The columns have been specifically designed for flash chromatography. The ratio of bed length to column diameter has been optimised to ensure maximum sample loading and excellent chromatographic efficiency.

*TELOS Flash-LL options

Supporting Documents

Kinesis offer a number of additional resources to support TELOS Synthesis and Purification Products. Visit your local Kinesis website, click on the Resources tab and follow the link to Synthesis & Flash – highlighted are a number of articles, including How to use Guides that are available for download. For TELOS Flash Columns, please see:

Separation of Basic Organic Compounds using TELOS Flash NH2 Columns – without a modifier

Diatomaceous Earth for Flash Chromatography Dry Loading



TELOS Flash Chromatography Columns – Ordering Information*

TELOS Flash Silica		
PART NUMBER	DESCRIPTION	PACK SIZE
105-004G-015T	TELOS Flash Silica, 4g	20
105-012G-021T	TELOS Flash Silica, 12g	20
105-020G-026T	TELOS Flash Silica, 20g	20
105-040G-031T	TELOS Flash Silica, 40g	10
105-080G-032T	TELOS Flash Silica, 80g	5
105-120G-041T	TELOS Flash Silica, 120g	5
105-330G-055T	TELOS Flash Silica, 330g	1

TELOS Flash Chromatography Columns – Ordering Information Continued

TELOS Flash NH2		
PART NUMBER	DESCRIPTION	PACK SIZE
165-004G-015T	TELOS Flash NH2, 4g	20
165-012G-021T	TELOS Flash NH2, 12g	20
165-020G-026T	TELOS Flash NH2, 20g	20
165-040G-031T	TELOS Flash NH2, 40g	10
165-080G-032T	TELOS Flash NH2, 80g	5
165-120G-041T	TELOS Flash NH2, 120g	5
165-330G-055T	TELOS Flash NH2, 330g	1

TELOS Flash C18		
PART NUMBER	DESCRIPTION	PACK SIZE
215-004G-015T	TELOS Flash C18, 4g	20
215-012G-021T	TELOS Flash C18, 12g	20
215-023G-026T	TELOS Flash C18, 23g	20
215-045G-031T	TELOS Flash C18, 45g	10
215-090G-032T	TELOS Flash C18, 90g	5
215-140G-041T	TELOS Flash C18, 140g	5
215-375G-055T	TELOS Flash C18, 375g	1

* commonly used instruments include the various ISCO CombiFlash® Systems and the Grace Reveleris®

TELOS Flash-LL Chromatography Columns – Ordering Information**

TELOS Flash Silica		
PART NUMBER	DESCRIPTION	PACK SIZE
105-012G-019L	TELOS Flash-LL Silica, 12g	20
105-020G-024L	TELOS Flash-LL Silica, 20g	20
105-040G-028L	TELOS Flash-LL Silica, 40g	10
105-080G-031L	TELOS Flash-LL Silica, 80g	5
105-120G-037L	TELOS Flash-LL Silica, 120g	5

TELOS Flash NH2		
PART NUMBER	DESCRIPTION	PACK SIZE
165-012G-019L	TELOS Flash-LL NH2, 12g	20
165-020G-024L	TELOS Flash-LL NH2, 20g	20
165-040G-028L	TELOS Flash-LL NH2, 40g	10
165-080G-031L	TELOS Flash-LL NH2, 80g	5
165-120G-037L	TELOS Flash-LL NH2, 120g	5

TELOS Flash C18		
PART NUMBER	DESCRIPTION	PACK SIZE
215-012G-019L	TELOS Flash-LL C18, 12g	20
215-023G-024L	TELOS Flash-LL C18, 23g	20
215-045G-028L	TELOS Flash-LL C18, 45g	10
215-090G-031L	TELOS Flash-LL C18, 90g	5
215-140G-037L	TELOS Flash-LL C18, 140g	5

** commonly used instruments include the SP and Isolera™ Systems from Biotage®

TELOS Flash Chromatography Columns (SPE Format)

- Silica, NH₂ (bonded aminopropyl) and C18
- SPE format for use on vacuum manifolds
- Available from 5g/25ml to 70g/150ml
- Ideal for first stage clean-up columns post synthesis using a vacuum manifold
- Compatible with FlashMaster™ II and FlashPack™ column holder
- Supporting documents

Introduction

Flash chromatography and work-up are commonly used purification techniques for medicinal and organic chemists. The use of a reliable disposable column is pivotal to good chromatographic separations and rapid work-up. Column quality plays an important role, ensuring valuable compounds are well purified and free of particular impurities.

All TELOS Flash Chromatography column hardware and media are thoroughly QC tested prior to use. The particle size distribution is controlled to ensure normal back pressures are attained, and all collected fractions are free from particulates. The moisture content of each batch is carefully controlled and tested to ensure reproducible retention from batch-to-batch.

When used as a silica work-up column, reaction mixtures can be processed using gravity flow/minimal vacuum.

Stationary Phases

TELOS Flash Columns (SPE Format) are available packed with silica, NH₂ (bonded aminopropyl) or C18. The materials are a nominal 50µm and an optimised particle size distribution for flash chromatography.

The moisture content of all silica columns is strictly controlled to ensure chromatographic consistency from column-to-column and batch-to-batch.

The NH₂ material is a bonded aminopropyl functional group and offers a genuine alternative to traditional silica. Primary, secondary and tertiary amines can be separated using solvent systems that do not require the addition of a basic modifier. In addition, TELOS NH₂ TLC Plates use the same chemistry as TELOS NH₂ Flash Columns, allowing rapid and easy transfer of solvent systems. The loading capacity of TELOS NH₂ is similar to that of TELOS Silica.

TELOS Flash C18 is a bonded octadecyl stationary phase offering reversed phase flash capabilities. Whilst not as common as normal phase, reversed phase flash chromatography is suited to reaction mixtures more soluble in methanol and/or acetonitrile/water solvent systems; the approach is commonly used following the synthesis of synthetic peptides. The standard TELOS Flash C18 is non-endcapped, has a pore size of 60Å and a carbon loading of ~18%.

The sorbents used to manufacture TELOS Flash Columns are also available in bulk (see page 19).



Column Sizes

TELOS Flash Columns are available in the following column sizes, 5g/25ml, 10g/70ml, 20g/70ml, 50g/150ml and 70g/150ml.

Compatibility – Flash Chromatography

The columns have a Luer outlet, allowing the columns to be connected to flash chromatography systems with a column plunger design such as the FlashMaster™ II from Biotage.

The columns can be used on a rack or stand using gravity flow.

Compatibility – Silica Work-up

TELOS Flash Columns (SPE Format) are compatible with the vacuum processing stations from Kinesis (see page 25), an ideal combination for silica work-up.

The columns are made from polypropylene and fitted with polyethylene frits.

Supporting Documents

Kinesis offer a number of additional resources to support TELOS Synthesis & Purification Products. Visit your local Kinesis website, click on the Resources tab and follow the link to Synthesis and Flash – highlighted are a number of articles, including How to use Guides that are available for download. For TELOS Flash Columns, please see:

Separation of Basic Organic Compounds using TELOS Flash NH₂ Columns – without a modifier

Diatomaceous Earth for Flash Chromatography Dry Loading

TELOS Flash Silica Columns and Processing Station - Ready to use Clean up Solution Following Organic Synthesis

TELOS Flash Chromatography Columns (SPE Format) – Ordering Information

TELOS Silica Flash Chromatography Columns (SPE Format)		
PART NUMBER	DESCRIPTION	PACK SIZE
105-005G-020T	TELOS Flash Silica 5g/25ml	20
105-010G-027T	TELOS Flash Silica 10g/70ml	16
105-020G-027T	TELOS Flash Silica 20g/70ml	16
105-050G-037T	TELOS Flash Silica 50g/150ml	8
105-070G-037T	TELOS Flash Silica 70g/150ml	8

TELOS NH ₂ Flash Chromatography Columns (SPE Format)		
PART NUMBER	DESCRIPTION	PACK SIZE
165-005G-020T	TELOS Flash NH ₂ 5g/25ml	20
165-010G-027T	TELOS Flash NH ₂ 10g/70ml	16
165-020G-027T	TELOS Flash NH ₂ 20g/70ml	16
165-050G-037T	TELOS Flash NH ₂ 50g/150ml	8
165-070G-037T	TELOS Flash NH ₂ 70g/150ml	8

TELOS C18 Flash Chromatography Columns (SPE Format)		
PART NUMBER	DESCRIPTION	PACK SIZE
215-005G-020T	TELOS Flash C18 5g/25ml	20
215-010G-027T	TELOS Flash C18 10g/70ml	16
215-020G-027T	TELOS Flash C18 20g/70ml	16
215-050G-037T	TELOS Flash C18 50g/150ml	8
215-070G-037T	TELOS Flash C18 70g/150ml	8

Omnifit® Labware SolventPlus™ Glass Columns

- Ready to use
- Fixed and adjustable endpieces
- Ideal lengths and internal diameters for flash chromatography
- Normal and reversed phase compatible
- Easy height adjustment
- Can be used up to 900psi (60bar) working pressure*

Simplicity

The attraction of Omnifit® Labware SolventPlus™ Glass Columns is their simplicity of design. Minimal individual parts allows for ease of use and results in flexibility for a variety of applications.

Complete and Ready to Use

All SolventPlus Glass Columns are supplied fully assembled. Also included are Tubing and Fittings Kits, allowing immediate connection to most LC systems. The two kits include the following:

Fittings Kit:

- 2m x 1/16 OD PTFE tubing; 1/4"-28 UNF fitting (ETFE) at one end
- 0.5m x 1/16 OD PTFE tubing; 1/4"-28 UNF fitting (ETFE) at one end

Frit Kit:

- 2 x 30µm PTFE frits
- 2 x 10µm PTFE frits
- 2 x 10µm Polyethylene frits

Each endpiece is manufactured from PTFE and accepts 1/4"-28 UNF threaded fittings.

Configurations

All SolventPlus Glass Columns are available with the following configurations:

- Fixed endpieces at both ends (-FF)
- Adjustable endpieces at both ends (-AA)
- One adjustable and one fixed endpiece at each end (-AF)**

*column geometry dependent

**most common combination

Solvent Compatibility

The use of inert materials in the flow path, including borosilicate glass, PTFE and Chemraz® allows SolventPlus Glass Columns to be used for both normal and reversed phase chromatography applications.

Height Adjustment

Each adjustable endpiece allows for a length adjustment of the column bed of 80mm.

Replacement Parts

All column components are available separately, giving the user complete flexibility to replace lost or worn parts, or to utilise columns across a number of applications. This modular approach gives SolventPlus Glass Columns an extremely long life and great flexibility in use. Each column can be configured specially for individual applications.



Omnifit Labware SolventPlus Glass Columns – Ordering Information

Complete Column with x2 Fixed Endpieces						
Length (mm)	Internal Diameter (mm)					
	6.6	10	15	25	35	50
50	006SCC-06-05-FF	-	-	-	-	-
100	006SCC-06-10-FF	006SCC-10-10-FF	006SCC-15-10-FF	006SCC-25-10-FF	-	-
150	006SCC-06-15-FF	006SCC-10-15-FF	006SCC-15-15-FF	006SCC-25-15-FF	006SCC-35-15-FF	-
250	006SCC-06-25-FF	006SCC-10-25-FF	006SCC-15-25-FF	006SCC-25-25-FF	006SCC-35-25-FF	006SCC-50-25-FF
400	006SCC-06-40-FF	006SCC-10-40-FF	006SCC-15-40-FF	006SCC-25-40-FF	006SCC-35-40-FF	006SCC-50-40-FF
500	-	006SCC-10-50-FF	006SCC-15-50-FF	006SCC-25-50-FF	-	006SCC-50-50-FF

Complete Column with x1 Adjustable and x1 Fixed Endpiece						
Length (mm)	Internal Diameter (mm)					
	6.6	10	15	25	35	50
50	006SCC-06-05-AF	-	-	-	-	-
100	006SCC-06-10-AF	006SCC-10-10-AF	006SCC-15-10-AF	006SCC-25-10-AF	-	-
150	006SCC-06-15-AF	006SCC-10-15-AF	006SCC-15-15-AF	006SCC-25-15-AF	006SCC-35-15-AF	-
250	006SCC-06-25-AF	006SCC-10-25-AF	006SCC-15-25-AF	006SCC-25-25-AF	006SCC-35-25-AF	006SCC-50-25-AF
400	006SCC-06-40-AF	006SCC-10-40-AF	006SCC-15-40-AF	006SCC-25-40-AF	006SCC-35-40-AF	006SCC-50-40-AF
500	-	006SCC-10-50-AF	006SCC-15-50-AF	006SCC-25-50-AF	-	006SCC-50-50-AF

Complete Column with x2 Adjustable Endpieces						
Length (mm)	Internal Diameter (mm)					
	6.6	10	15	25	35	50
50	006SCC-06-05-AA	-	-	-	-	-
100	006SCC-06-10-AA	006SCC-10-10-AA	006SCC-15-10-AA	006SCC-25-10-AA	-	-
150	006SCC-06-15-AA	006SCC-10-15-AA	006SCC-15-15-AA	006SCC-25-15-AA	006SCC-35-15-AA	-
250	006SCC-06-25-AA	006SCC-10-25-AA	006SCC-15-25-AA	006SCC-25-25-AA	006SCC-35-25-AA	006SCC-50-25-AA
400	006SCC-06-40-AA	006SCC-10-40-AA	006SCC-15-40-AA	006SCC-25-40-AA	006SCC-35-40-AA	006SCC-50-40-AA
500	-	006SCC-10-50-AA	006SCC-15-50-AA	006SCC-25-50-AA	-	006SCC-50-50-AA

Replacement Endpieces						
Endpiece Type	Internal Diameter (mm)					
	6.6	10	15	25	35	50
Fixed	006SAE-06	006SAE-10	006SAE-15	006SAE-25	006SAE-35	006SAE-50
Adjustable	006SFE-06	006SFE-10	006SFE-15	006SFE-25	006SFE-35	006SFE-50

Omnifit Labware SolventPlus Glass Columns – Ordering Information Continued

Glass Column Replacement PTFE Frits						
Frit Porosity (µm)	Internal Diameter (mm)					
	6.6	10	15	25	35	50
5	006RG-06-05	-	-	-	-	-
10	006RG-06-10	006RG-10-10	006RG-15-10	006RG-25-10	-	-
20	006RG-06-15	006RG-10-15	006RG-15-15	006RG-25-15	006RG-35-15	-
30	006RG-06-25	006RG-10-25	006RG-15-25	006RG-25-25	006RG-35-25	006RG-50-25
50	006RG-06-40	006RG-10-40	006RG-15-40	006RG-25-40	006RG-35-40	006RG-50-40

Glass Column Replacement Polyethylene Frits						
Frit Porosity (µm)	Internal Diameter (mm)					
	6.6	10	15	25	35	50
25	006FR-06-25-PE	006FR-10-25-PE	006FR-15-25-PE	006FR-25-25-PE	006FR-35-25-PE	006FR-50-25-PE

Glass Column Replacement Chemraz O-rings						
Pack Size	Internal Diameter (mm)					
	6.6	10	15	25	35	50
Pk/2	006OR-06-C	006OR-10-C	006OR-15-C	006OR-25-C	006OR-35-C	006OR-50-C

TELOS Dry Loading Columns and Accessories

- Attach dry loading columns directly to flash column
- Multiple sizes to suit all reaction scales
- Two column format options
- Bulk diatomaceous earth for optimised dry loading
- Fully compatible with TELOS Universal Column Holder

Introduction

The range of TELOS Dry Loading Columns, Bulk Sorbents and Universal Column Holders provide a complete solution for dry loading in flash chromatography.

A range of dry loading columns, which attach directly to the main flash column, accommodate the majority of reaction scales. Used in conjunction with either TELOS Bulk Silica, or the diatomaceous earth, TELOS NM, reaction mixtures can be easily and rapidly applied to the flash chromatography system.

For more information on the TELOS Universal Column Holder, please see page 15.

TELOS Flash and Flash-LL Dry Loading Columns

Available in two formats and four sizes for each format, TELOS Dry Loading Columns allow dry

loading on all commonly used flash chromatography systems. The TELOS Flash Dry Loading Columns are compatible with systems such as the CombiFlash Systems from ISCO and the Reveleris from Grace. The TELOS Flash-LL Dry Loading Columns are for use with the SP and Isolera Systems from Biotage.

Used in conjunction with the TELOS Universal Column Holder, the dry loading columns can be attached directly to the main flash column using standard Luer connections.

TELOS Dry Loading Columns are available in 4, 12, 20 and 40g sizes*. The columns are pre-fitted with the bottom frit, so all the user has to do is add the reaction mixture/support, put the top frit in place and screw the top in place. Replacement top frits are also available.

Supporting Documents

Kinesis offer a number of additional resources to support TELOS Synthesis and Purification Products. Visit your local Kinesis website, click on the Resources tab and follow the link to Synthesis and Flash – highlighted are a number of articles, including How to use Guides that are available for download. For TELOS Dry Loading Columns, please see:

Separation of Basic Organic Compounds using TELOS Flash NH₂ Columns – without a modifier
Diatomaceous Earth for Flash Chromatography Dry Loading

TELOS Flash Dry Loading Column and Accessories – Ordering Information

TELOS Flash Dry Loading Columns **		
PART NUMBER	DESCRIPTION	PACK SIZE
976-004G-015T	TELOS Dry Loading Cartridge, 4g*	20
976-012G-021T	TELOS Dry Loading Cartridge, 12g*	20
976-020G-026T	TELOS Dry Loading Cartridge, 20g*	20
976-040G-031T	TELOS Dry Loading Cartridge, 40g*	10

TELOS Flash-LL Dry Loading Columns***		
PART NUMBER	DESCRIPTION	PACK SIZE
976-012G-019L	TELOS Flash-LL Dry Loading Cartridge, 12g	20
976-020G-024L	TELOS Flash-LL Dry Loading Cartridge, 20g	20
976-040G-028L	TELOS Flash-LL Dry Loading Cartridge, 40g	10

TELOS Flash Dry Loading Column Accessories		
PART NUMBER	DESCRIPTION	PACK SIZE
810-004G-015T	TELOS 4g Dry Loading Cartridge, top frit	100
810-012G-021T	TELOS 12g Dry Loading Cartridge, top frit	100
810-020G-026T	TELOS 20g Dry Loading Cartridge, top frit	100
810-040G-031T	TELOS 40g Dry Loading Cartridge, top frit	50

*nominal weight based on silica

**commonly used instruments include the various ISCO CombiFlash® Systems and the Grace Reveleris®

***commonly used instruments include the SP and Isolera™ Systems from Biotage®

TELOS Flash-LL Dry Loading Column Accessories		
PART NUMBER	DESCRIPTION	PACK SIZE
810-012G-019L	TELOS Flash-LL 12g Dry Loading Cartridge, top frit	100
810-020G-024L	TELOS Flash-LL 20g Dry Loading Cartridge, top frit	100
810-040G-038L	TELOS Flash-LL 40g Dry Loading Cartridge, top frit	50

TELOS NM – Diatomaceous Earth

TELOS NM is an inert support that can be used in the same way as silica-based materials, but has the added benefits of no chemical interactions and will not cause peak broadening. The initial solvent passing through the column removes the sample and pre-concentrates the components at the head of the column. This provides improved separation and can increase the capacity of the flash chromatography column.

TELOS NM		
PART NUMBER	DESCRIPTION	PACK SIZE
980-0195-004	TELOS Flash NM, 1kg	1
980-0195-006	TELOS Flash NM, 5kg	1

TELOS Universal Flash Column Holder

- Standalone and Biotage Isolera options
- Versatile design allows rapid TELOS Flash Column installation
- Attach dry loading column directly to the main flash column
- Luer to Luer connections ensure leak-free chromatography
- Increase column capacity with two flash columns in series

Holder Options

The TELOS Universal Column Holder is available as either a standalone system or a ready to install Biotage Isolera add-on.

The standalone system has a sturdy 24 x 22cm base that can be placed next to or on top of the chromatography system. The holder uses standard solvent resistant connectors at both the column inlet and outlet – attach the pump, detector and fraction collector and be up and running in minutes

The Biotage Isolera Column Holder attaches directly to the side of the flash system using supplied guides. Simply release the guides with an allen key, locate the guides in the Isolera column holder slots, tighten and the holder is attached. The required number of holders can be attached to the Isolera single or four column systems.

Versatile System

The TELOS Flash Column Holder can accommodate all combinations of TELOS Dry Loading Columns (4 to 40g) and TELOS Flash Columns (4 to 330g).

Flash Column capacity can be increased by installing two 120g columns in series. The first column can also act as a pre-column in order to re-use the second

column; a useful option if reversed phase columns are used.

Leak Free Connections

All liquid connections (fittings and columns) on the TELOS Column Holders are either Luer or Luer-lok. This universally accepted connection provides leak free unions, and combined with TELOS Flash Columns, provide trouble-free purifications time after time.

Rapid Column Installation

The TELOS Column Holder column guides use finger-tight fittings. A quick release allows the guide to be moved up or down, the column installed and the guide placed in the right position and tightened. If used, the TELOS Dry Loading Column is attached and an additional column guide used to locate it in position. Both columns are then fixed in position.

Supporting Documents

Kinesis offer a number of additional resources to support TELOS Synthesis and Purification Products. Visit your local Kinesis website, click on the Resources tab and follow the link to Synthesis & Flash – highlighted are a number articles, including How to use Guides that are available for download. For TELOS Universal Flash Column Holder, please see:

Diatomaceous Earth for Flash Chromatography Dry Loading



TELOS Universal Column Holders and Accessories – Ordering Information

TELOS Universal Column Holders		
PART NUMBER	DESCRIPTION	PACK SIZE
996-0010-0000	TELOS Flash Column Holder for Isolera	1
996-0020-0000	TELOS Universal Flash Column Holder (standalone unit)	1

TELOS Universal Column Holder Accessories		
PART NUMBER	DESCRIPTION	PACK SIZE
996-0000-0010	1/4"-28 Female - Male Luer Assembly	1
996-0000-0020	1/4"-28 Female to Female Luer	1
996-0000-0110	Flangeless Black Delrin 1/8	10

Full details of the TELOS Dry Loading Columns and Bulk Sorbents can be found on pages 13 and 19 respectively.

TELOS Flash Chromatography Accessories

- Isolate precipitated compounds
- Remove reagents and scavengers
- Extend solvent reservoir volumes
- Seal flash columns before disposal

Kinesis provides a range of accessories for flash chromatography dry loading, filtration and large volume processing. All TELOS Empty Reservoirs and Filtration Columns are fully compatible with the vacuum processing station from Kinesis. See page 25.

TELOS 20 μ m Polyethylene Frits

TELOS 20 μ m Polyethylene Frits are fully compatible with all TELOS Flash Columns (SPE Format). The frits make an interference fit and can be easily inserted into the column as part of the (sample) dry loading process.

TELOS Polyethylene Frits can also be used with TELOS Empty Reservoirs to create filtration devices for specific applications. Standard double fritted TELOS Filtration Columns are available (see below).

The frits are compatible with all solvents used in an organic chemistry laboratory.



PART NUMBER	DESCRIPTION	PACK SIZE
810-0000-013T	TELOS 20 μ m Polyethylene Frits, 6ml	100
810-0000-016T	TELOS 20 μ m Polyethylene Frits, 15ml	100
810-0000-020T	TELOS 20 μ m Polyethylene Frits, 25ml	100
810-0000-027T	TELOS 20 μ m Polyethylene Frits, 70ml	100
810-0000-037T	TELOS 20 μ m Polyethylene Frits, 150ml	50

TELOS Empty Reservoirs

TELOS Empty Reservoirs facilitate the processing of larger columns of solvent in an organic chemistry laboratory. Manufactured from polypropylene, the reservoirs are available in a range of volumes from 6 to 150ml and have a standard Luer outlet.



PART NUMBER	DESCRIPTION	PACK SIZE
850-0000-013T	TELOS Empty Reservoir, 6ml	100
850-0000-016T	TELOS Empty Reservoir, 15ml	100
850-0000-020T	TELOS Empty Reservoir, 25ml	100
850-0000-027T	TELOS Empty Reservoir, 70ml	50
850-0000-037T	TELOS Empty Reservoir, 150ml	25

TELOS Filtration Columns

TELOS Filtration Columns comprise two 20µm polyethylene frits pre-fitted into the appropriate TELOS Empty Reservoir.

The columns are ideally suited to the removal of a range of solid materials, including precipitated compounds and solid supported silica- and resin-based reagents and scavengers.

TELOS Filtration Columns are available in a range of volumes from 6 to 150ml and have a standard Luer outlet. The frits are compatible with all solvents used in an organic chemistry laboratory.



PART NUMBER	DESCRIPTION	PACK SIZE
900-0000-013T	TELOS Filtration Column (2 x 20µm PE Frits), 6ml	100
900-0000-016T	TELOS Filtration Column (2 x 20µm PE Frits), 15ml	100
900-0000-020T	TELOS Filtration Column (2 x 20µm PE Frits), 25ml	100
900-0000-027T	TELOS Filtration Column (2 x 20µm PE Frits), 70ml	50
900-0000-037T	TELOS Filtration Column (2 x 20µm PE Frits), 150ml	25

TELOS Column Caps

Kinesis offer a range of caps that seal both the inlet and outlet of TELOS Empty Reservoirs, Filtration and Flash Columns (SPE Format).

The versatile caps can be used for sealing TELOS Empty Reservoirs for room temperature reactions and the safe disposal of TELOS Flash Columns (SPE Format) after use.



PART NUMBER	DESCRIPTION	PACK SIZE
975-0010-013T	TELOS Column Caps, 6ml	100
975-0010-016T	TELOS Column Caps, 15ml	100
975-0010-020T	TELOS Column Caps, 25ml	100
975-0010-027T	TELOS Column Caps, 70ml	100
975-0010-037T	TELOS Column Caps, 150ml	100
975-0000-0000	TELOS Luer Caps	100

TELOS TLC Plates

- Silica and NH₂ (bonded aminopropyl)
- Identical chemistry to TELOS Flash Columns
- Glass backed
- Range of sizes
- Available with or without GF254 indicator

Introduction

TELOS TLC Plates are used to easily and rapidly transfer TLC solvent systems to flash chromatography methods using TELOS Flash Chromatography Columns.

Media

TELOS TLC Plates are available with silica and NH₂ (bonded aminopropyl). The plates use the same chemistry as TELOS Flash, Flash-LL and SPE Format Columns, allowing rapid transfer of solvent systems.

With moisture content a critical aspect of silica retention behaviour, all TELOS TLC Plates are fully sealed to ensure moisture content consistency and full compatibility with TELOS Flash Columns.

Backing

All TELOS TLC plates are glass backed.

Indicator Options

All TELOS TLC Plates are available either with or without a fluorescence indicator (GF254).

Dimensions

TELOS TLC Plates are available in three popular sizes 75 x 25mm, 100 x 100mm and 200 x 200mm.



TELOS TLC Plates – Ordering Information

TELOS Flash Silica		
PART NUMBER	DESCRIPTION	PACK SIZE
978-0105-001	TELOS Silica TLC Plate, 25 x 75mm, glass backed, with GF254 indicator	50
978-0105-002	TELOS Silica TLC Plate, 25 x 75mm, glass backed, without indicator	50
978-0105-003	TELOS Silica TLC Plate, 100 x 100mm, glass backed, with GF254 indicator	20
978-0105-004	TELOS Silica TLC Plate, 100 x 100mm, glass backed, without indicator	20
978-0105-005	TELOS Silica TLC Plate, 200 x 200mm, glass backed, with GF254 indicator	10
978-0105-006	TELOS Silica TLC Plate, 200 x 200mm, glass backed, without indicator	10

TELOS Flash NH ₂		
PART NUMBER	DESCRIPTION	PACK SIZE
978-0165-001	TELOS NH ₂ TLC Plate, 25 x 75mm, glass backed, with GF254 indicator	50
978-0165-002	TELOS NH ₂ TLC Plate, 25 x 75mm, glass backed, without indicator	50
978-0165-003	TELOS NH ₂ TLC Plate, 100 x 100mm, glass backed, with GF254 indicator	20
978-0165-004	TELOS NH ₂ TLC Plate, 100 x 100mm, glass backed, without indicator	20
978-0165-005	TELOS NH ₂ TLC Plate, 200 x 200mm, glass backed, with GF254 indicator	10
978-0165-006	TELOS NH ₂ TLC Plate, 200 x 200mm, glass backed, without indicator	10

TELOS Bulk Sorbents

- Suitable for dry loading and for packing home-built columns
- Silica, NH₂ (bonded aminopropyl) and C18
- Same chemistry as TELOS Flash Columns
- Diatomaceous earth option

Introduction

An increasing number of flash chromatography methods require samples to be pre-adsorbed onto loose or bulk sorbents. The sorbents used to manufacture TELOS Flash Chromatography Columns are available as loose material.

The materials allow samples to be pre-adsorbed, the solvent removed and the resulting sample-sorbent blend to be applied to the sample loading device or directly onto the top frit of the flash column.

Sorbents

TELOS Bulk Sorbents are available in silica, NH₂ (bonded aminopropyl), C18 and the diatomaceous earth, TELOS NM.

Consistency

The availability of the same sorbents used to manufacture TELOS Flash Chromatography Columns ensures consistency and identical selectivity for all separations.

Specifications

The following table includes the chemical and physical characteristics for TELOS Flash Bulk Sorbents:

Sorbent	Particle Size	Pore Size	Surface Area	Moisture Content (%)	% Carbon	% Nitrogen
TELOS Flash Silica	40 - 60µm*	60Å	500m ² /g*	6% ±1%	-	-
TELOS Flash NH ₂	40 - 60µm*	60Å	500m ² /g*	-	6%	2%
TELOS Flash C18	40 - 60µm*	60Å	500m ² /g*	-	18%	-
TELOS NM	-	-	-	<1%	-	-

*nominal value

TELOS NM for Dry Loading

TELOS NM is an inert support that can be used in the same way as silica-based materials, but has the added benefit of no chemical interactions. The initial solvent passing through the column removes the sample and pre-concentrates the components at the head of the column. This provides improved separation and can increase the capacity of the flash chromatography column.

Please see pages 13 and 14 for full details of TELOS NM and TELOS Dry Loading Columns and Accessories.

Please see page 15 for full details of the TELOS Universal Flash Column Holder.

Supporting Documents

Kinesis offer a number of additional resources to support TELOS Synthesis and Purification Products. Visit your local Kinesis website, click on the Expert Tips tab and follow the link to Synthesis and Flash – highlighted are a number of articles, including How to use Guides that are available for download. For TELOS Bulk Sorbents, please see:

Diatomaceous Earth for Flash Chromatography Dry Loading

TELOS Bulk Sorbents – Ordering Information

TELOS Flash Silica		
PART NUMBER	DESCRIPTION	PACK SIZE
980-0105-004	TELOS Flash Silica, 1kg	1
980-0105-006	TELOS Flash Silica, 5kg	1

TELOS Flash NH2		
PART NUMBER	DESCRIPTION	PACK SIZE
980-0165-002	TELOS Flash NH2, 100g	1
980-0165-004	TELOS Flash NH2, 1kg	1

TELOS Flash C18		
PART NUMBER	DESCRIPTION	PACK SIZE
980-0215-002	TELOS Flash C18, 100g	1
980-0215-004	TELOS Flash C18, 1kg	1

TELOS NM – Diatomaceous Earth		
PART NUMBER	DESCRIPTION	PACK SIZE
980-0195-004	TELOS NM, 1kg	1
980-0195-006	TELOS NM, 5kg	1



TELOS Phase Separator Columns and Plates

- Rapid aqueous work-up
- Partition aqueous and halogenated solvents
- Aqueous-free chlorinated solvent fractions
- Individual reservoir volumes and 96-well plate format
- Gravity flow filtration process, no vacuum required
- Simple phase separation with highly discoloured samples

Introduction

Liquid-liquid extraction is a common technique used as part of reaction work-up. TELOS Phase Separators allow the rapid and easy separation of aqueous and chlorinated solvents without the need for separating funnels and re-washing glassware.

Simply apply the two solvents to the appropriate size column, wait for a few seconds and start to collect the chlorinated solvent. The aqueous layer will remain in the TELOS Phase Separator, separating the two phases and allowing additional work-up.

Formats

Available in five reservoir volumes: 6, 15, 25, 70 and 150ml, TELOS Phase Separators support a variety of reaction work-up scales.

In addition to single column formats, a 96-well plate is available for high throughput work-up.

Proprietary Frit

A proprietary hydrophobic frit allows the chlorinated solvent to pass through under gravity to the collection vessel. As soon as the aqueous layer reaches the frit, the flow stops, separating the two solvents.



Reliability

Aqueous-chlorinated mixtures can be applied to the column, the solvents left to separate and left unattended whilst the chlorinated solvent passes into the collection vessel. The collected fraction will be free of aqueous solvent. TELOS Phase Separators will hold up water for more than 48 hours.

Easy to Use

Place the appropriate TELOS Phase Separator on a sample processing manifold. Following liquid-liquid extraction or work-up, apply the mixture to the correct size column, allow the two solvents to separate and collect the halogenated fraction – it is that simple! The aqueous layer will remain in the column.

Supporting Documents

Kinesis offer a number of additional resources to support TELOS Synthesis and Purification Products. Visit your local Kinesis website, click on the Expert Tips tab and follow the link to Synthesis and Flash – highlighted are a number of articles, including How to use Guides that are available for download. For TELOS Phase Separators, please see:

Phase Separator Columns and Plates

TELOS Phase Separators – Ordering Information

TELOS Phase Separator Columns		
PART NUMBER	DESCRIPTION	PACK SIZE
950-0000-013T	TELOS Phase Separator, 6ml	100
950-0000-016T	TELOS Phase Separator, 15ml	100
950-0000-020T	TELOS Phase Separator, 25ml	100
950-0000-027T	TELOS Phase Separator, 70ml	50
950-0000-037T	TELOS Phase Separator, 150ml	25

TELOS Phase Separator Plates		
PART NUMBER	DESCRIPTION	PACK SIZE
950-0000-096P	TELOS Phase Separator, Fixed-well Plate	1

KX Microwave Reaction Vials

- 0.5-2, 2-5 and 10-20ml volume options
- Rated to a working pressure of 30bar (3MPa / 435psi)^{1,3}
- Temperature operating range of 40-300°C^{2,3}
- Manufactured from contamination free 1st class hydrolytic borosilicate glass
- Re-sealable septa for multiple reagent additions and reaction monitoring
- Alternative reaction vial in an oil bath or on a hot plate⁴

Introduction

The use of microwaves is a common approach to decreasing reaction times in organic synthesis. In particular, reactions times using Pd, Pt or other metal catalysts can be reduced significantly. Using vials optimised for such conditions allows reactions to be performed at temperatures above the boiling point of the solvent used – this cannot be performed using standard reaction devices, e.g. under reflux.

Quality

KX Microwave Reaction Vials from Kinesis are the high quality cost effective alternative for use with compatible systems. KX Microwave Reaction Vials can be used at temperatures of up to 300°C² and a working pressure of up to 30bar (even over extended reaction times).

All KX Microwave Reaction Vials are manufactured from high quality glass which does not contaminate reaction mixtures.

Re-sealable Silicone/PTFE Crimp Caps

The use of re-sealable silicone/PTFE septa allows the multiple addition of reagents and sampling to monitor reaction progress (whilst maintaining sealed reaction conditions). All KX Microwave Reaction Vials are supplied with 20mm crimp caps; additional crimp caps are available as either pk/100 or pk/1000.

Stirrer Bars

Kinesis offer stirrer bars for all KX Microwave Reaction Vials. The PTFE coated stirrer bars provide a homogeneous reaction mixture, ensuring reactions are driven to completion in the minimum time.

Crimping and Decapping Options

Kinesis offers tools for crimping and decapping KX Microwave Reaction Vials. The crimping tool is fully compatible with KX Microwave Reaction Vials, providing securely crimped vials.

¹ Pressure range is 0-20 bar for the 10-20ml vial

² Temperature range is 40–250°C for the 10-20ml vial

³ Used with suitable hardware

⁴ Used under controlled conditions



KX Microwave Reaction Vials and Accessories – Ordering Information

KX Microwave Reaction Vials and Caps		
PART NUMBER	DESCRIPTION	PACK SIZE
VMW02-C-100	KX Microwave Vials, 0.5 – 2ml with cap	100
VMW05-C-100	KX Microwave Vials, 2 – 5ml with cap	100
VMW20-C-50	KX Microwave Vials, 10 – 20ml with cap	50
CMW20-04B	Silicone/PTFE Crimp Caps, 20mm	1000
CMW20-04B-100	Silicone/PTFE Crimp Caps, 20mm	100

Stirrer Bars		
PART NUMBER	DESCRIPTION	PACK SIZE
SB-02	PTFE Stirrer Bar for 0.5 – 2ml Vial	25
SB-05	PTFE Stirrer Bar for 2 – 5ml Vial	25
SB-20	PTFE Stirrer Bar for 10 – 20ml Vial	5

Crimper and Decapper		
PART NUMBER	DESCRIPTION	PACK SIZE
CRT-20	Crimping Tool (20mm)	EACH
DCT-20	Decapper Tool (20mm)	EACH

Vacuum Manifolds for SPE and Off-line Purification

- 12 and 24 position systems
- Adjustable rack
- Individual column flow control
- Compatible with all syringe barrel columns with standard Luer outlet, e.g. TELOS Flash SPE Format Columns
- Glass tank allows all operations to be monitored
- Separate waste vessel prevents tank contamination
- Complete and ready to use

12 and 24 position Systems

Kinesis Vacuum Manifolds are available as 12 and 24 position systems. Unrequired ports can be isolated using port sealing plugs or stopcocks (both supplied).

Standard Luer Fittings

Each of the 12 or 24 positions accept a standard Luer outlet, e.g. TELOS SPE or Flash Column.

Individual Flow Control

As well as controlling flow rates by adjusting the vacuum supply to the manifold, each port on the vacuum manifold can be fitted with a stopcock (supplied as standard). This allows individual column control or isolation. The stopcocks are made of inert materials which do not contaminate the samples.

Separate Waste Container

Each vacuum manifold is supplied with a separate waste container for TELOS SPE column processing prior to analyte or compound elution.

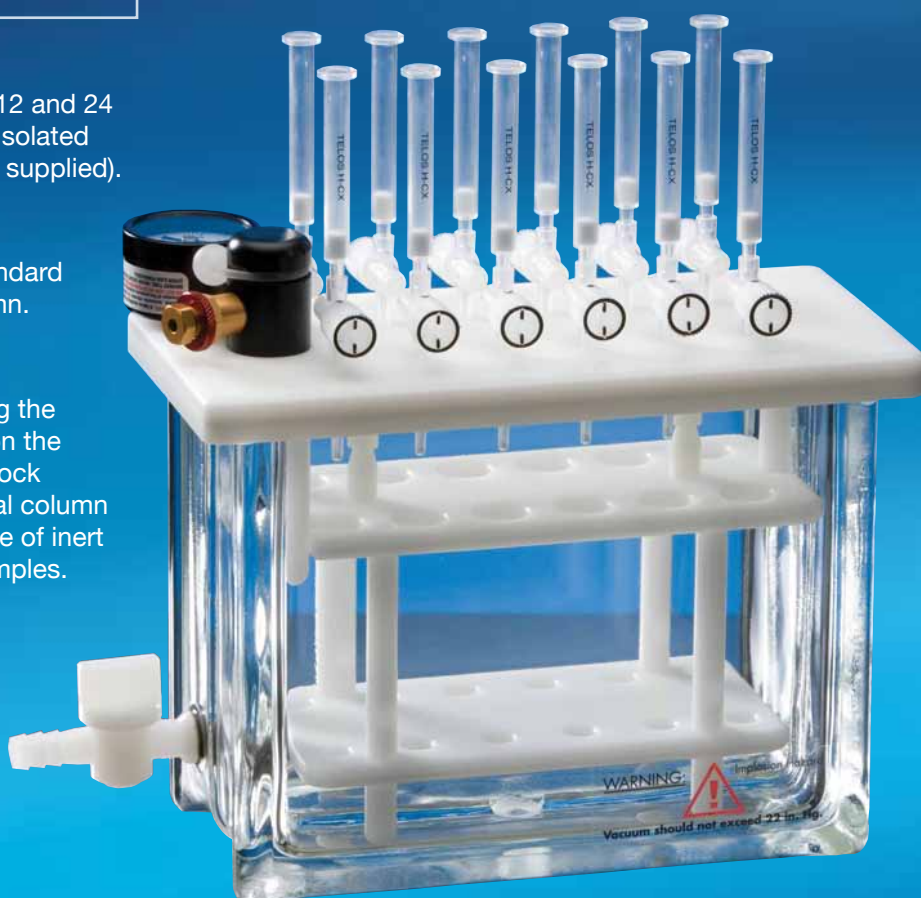
The main tank remains clean at all times, so preventing potential contamination of the final sample and any contact of the operator with chemical or biohazard samples, including blood or urine.

Versatile Rack

The 12 and 24 position systems are supplied with a versatile rack system, allowing the user to build either a 13 or 16mm collection rack depending on collection vessel length and diameter (spare parts are also available).

Vacuum Pump

Kinesis offer a solvent resistant vacuum pump for use with the 12 and 24 position manifolds.



Vacuum Manifold and Vacuum Pump – Ordering Information

Vacuum Manifold & Vacuum Pump		
PART NUMBER	DESCRIPTION	PACK SIZE
990-0012-0016	Sample Processing Manifold, 12 position (complete system with stopcocks, waste container and rack for 13 and 16mm collection tubes)	1
990-0024-0016	Sample Processing Manifold, 24 position (complete system with stopcocks, waste container and rack for 13 and 16mm collection tubes)	1
995-0000-0000	Vacuum Pump, 240V	1

KX Syringe Filters

- Range of membranes ideal for medicinal chemistry work-up
- Colour coded for easy identification
- Solvent resistant housing
- Leak-free Luer-lok and Luer connections

Quality

Kinesis KX Syringe Filters is a range of non-sterile disposable syringe filters for medicinal chemistry work-up. Reproducible membrane quality ensures particulates (precipitates, catalysts and resins) are removed from each sample prior to additional work-up, flash chromatography or semi-prep HPLC.

Range of Porosities and Diameters

Utilising standard Luer-lok/Luer connections, KX Syringe Filters are available in 0.22 and 0.45µm porosities and 4, 13, 25 and 30mm diameters. KX Syringe Filters are available in a selection of membranes (Nylon and PTFE), supporting all common med chem. solvents used.

Reliable

The use of retainer ring seals the polypropylene housing, preventing leaking and sample loss.

All KX Syringe Filters are colour coded, so The use of a retainer ring allowing easy identification of an individual filter and ensuring the correct filter is selected for each sample.

Storage

KX Syringe Filters are supplied in re-sealable containers allowing easy storage and preventing contamination during multiple opening/closing.



KX Syringe Filters – Ordering Information

KX Syringe Filters – Nylon		
PART NUMBER	DESCRIPTION	PACK SIZE
ESF-NY-04-022	KX Syringe Filter, Nylon, 4mm, 0.22µm	100
ESF-NY-04-045	KX Syringe Filter, Nylon, 4mm, 0.45µm	100
ESF-NY-13-022	KX Syringe Filter, Nylon, 13mm, 0.22µm	100
ESF-NY-13-045	KX Syringe Filter, Nylon, 13mm, 0.45µm	100
ESF-NY-25-022	KX Syringe Filter, Nylon, 25mm, 0.22µm	100
ESF-NY-25-045	KX Syringe Filter, Nylon, 25mm, 0.45µm	100
ESF-NY-30-022	KX Syringe Filter, Nylon, 30mm, 0.22µm	100
ESF-NY-30-045	KX Syringe Filter, Nylon, 30mm, 0.45µm	100

KX Syringe Filters – PTFE		
PART NUMBER	DESCRIPTION	PACK SIZE
ESF-PT-04-022	KX Syringe Filter, PTFE, 4mm, 0.22µm	100
ESF-PT-04-045	KX Syringe Filter, PTFE, 4mm, 0.45µm	100
ESF-PT-13-022	KX Syringe Filter, PTFE, 13mm, 0.22µm	100
ESF-PT-13-045	KX Syringe Filter, PTFE, 13mm, 0.45µm	100
ESF-PT-25-022	KX Syringe Filter, PTFE, 25mm, 0.22µm	100
ESF-PT-25-045	KX Syringe Filter, PTFE, 25mm, 0.45µm	100
ESF-PT-30-022	KX Syringe Filter, PTFE, 30mm, 0.22µm	100
ESF-PT-30-045	KX Syringe Filter, PTFE, 30mm, 0.45µm	100

Other membranes (including Polyethylene, Mixed Cellulose, PVDF, PES and Regenerated Cellulose) are also available. Please contact your local Kinesis office of Distributor for further information.

Specifications

Property	Diameter (mm)			
	4	13	25	30
Filter Area (cm ²)	0.1	0.65	3.9	4.5
Burst Pressure (psi)	75	100	100	100
Retain Volume (μl)	8	30	120	140
Sample Volume (ml)	2	6	70	90
Housing Material	Polypropylene			
Connector (inlet/outlet)	Female Luer-Lok/Male Luer			



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