VertiSep™ SUGAR HPLC Columns

- **Polymer based column**
- **Wide pH stability**
- **Excellent efficiency and resolution**
- **Reproducibility lot-to-lot and column-to-column**
- **Use only water as mobile phase**

VertiSep™ SUGAR CMP columns contain 8% cross-linked spherical Polystyrene Divinylbenzene (PS-DVB) Copolymer with calcium ionic form. Available in 9µm particle size. VertiSep™ SUGAR CMP columns are useful for analysis of mono-, disaccharides and sugar alcohols by only water as the mobile phase. The dimension of 4.0x250 mm is recommended for **USP L-19** for separation of sugar alcohols such as sorbitol and manitol. Typical applications include fruit juices, soft drinks, dairy products, vegetables and medical source.

VertiSep™ SUGAR SOP columns contain 8% cross-linked spherical Polystyrene Divinylbenzen (PS-DVB) Copolymer with silver ionic form. Available in 10 and 20µm particle size. They provide rapid oligosaccharides separation. Particle size of 10µm can resolve saccharides as large as DP-7 and the 20µm can resolve saccharides as large as DP-12. VertiSep™ SUGAR SOP columns are also useful in the carbohydrate industry to determine hydrolyzates in the conversion of corn syrup to fermentable carbohydrates.

VertiSep™ SUGAR LMP columns contain 8% cross-linked spherical Polystyrene Divinylbenzene (PS-DVB) Copolymer with lead ionic form. Available in 8µm particle size. They provide highest resolution and selectivity for monosccharides and disaccharides. VertiSep™ SUGAR LMP columns also can resolve pentoses and hexoses found in cellulose products especially glucose, xylose, galactose, cellobiose, arabinose and mannose which are not completely resolved on the calcium form. In addition, VertiSep™ SUGAR LMP columns can resolve sucrose and lactose well if these two sugars are present in excess in some samples. Typical applications include dairy and meat industries, cereals and plant fibers.

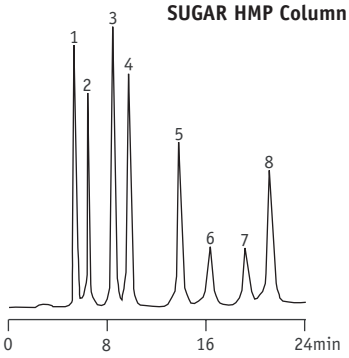
VertiSep™ SUGAR HMP columns contain 8% cross-linked spherical Polystyrene Divinylbenzene (PS-DVB) Copolymer with hydrogen ionic form. Available in 8µm particle size. They are useful for analysis of samples containing monosaccharides in combination with organic acids, fatty acids and alcohols by using only a dilute sulfuric acid as mobile phase at ambient temperatures. Typical applications include wine industries, dairy industries, bio-reactions and medical science.

VertiSep™ SUGAR are manufactured by statistic process control of silica synthesis, bonding and column packing. The reproducible column packing method control provides exceptional efficiency, symmetry and reproducible capacity factor.

Specifications

Packing	Form	Cross Linking (%)	Particle Size (µm)	Typical Mobile Phase	Max Temp (°C)
VertiSep™ SUGAR CMP	calcium	8	9	water	85
VertiSep™ SUGAR SOP	silver	8	10,20	water	85
VertiSep™ SUGAR LMP	lead	8	8	water	85
VertiSep™ SUGAR HMP	hydrogen	8	8	0.005 N Sulfuric acid	85

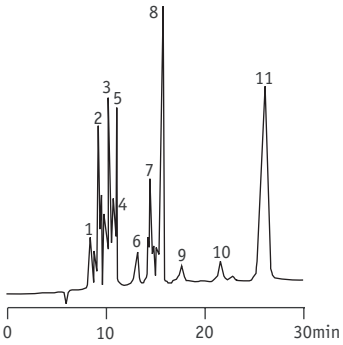
SUGAR HMP Column



1. Maltotriose
2. Maltose
3. Glucose
4. Fructose
5. Glycerol
6. Acetic Acid
7. Methanol
8. Ethanol

Column:	VertiSep™ SUGAR HMP 8µm 7.8x300mm
Mobile Phase:	2.5mM H_2SO_4
Flow Rate:	0.4mL/min
Temp:	Ambient
Detection:	RI

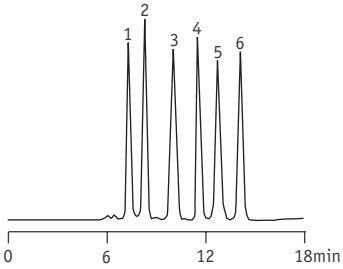
SUGAR HMP Column



1. Citric Acid
2. Tartaric Acid
3. Glucose
4. Malic Acid
5. Fructose
6. Succinic Acid
7. Lactic Acid
8. Glycerin
9. Acetic Acid
10. 2,3 Butanediol
11. Ethanol

Column:	VertiSep™ SUGAR HMP 8µm 7.8x300mm
Mobile Phase:	2.5mM H_2SO_4
Flow Rate:	0.4mL/min
Temp:	60°C
Detection:	RI

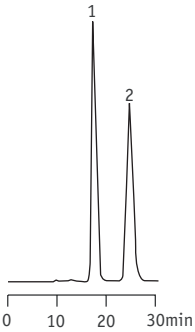
SUGAR and Sugar Alcohols



1. Maltotriose
2. Maltose
3. Glucose
4. Mannase
5. Fructose
6. Ribitol

Column:	VertiSep™ SUGAR CMP 9µm 7.8x300mm
Mobile Phase:	DI H_2O
Flow Rate:	0.6mL/min
Temp:	85°C
Detection:	RI

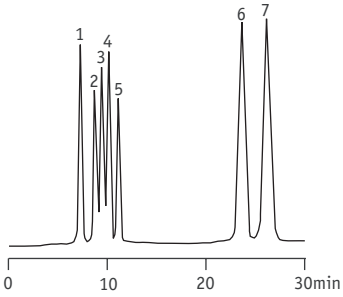
Mannitol and Sorbital for USP L-19



1. Mannitol
2. Sorbital

Column:	VertiSep™ SUGAR CMP 9µm 4.0x250mm
Mobile Phase:	H_2O
Flow Rate:	0.2mL/min
Temp:	30°C
Detection:	RI

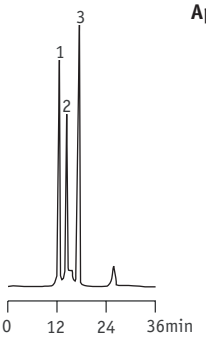
SUGAR and Sugar Alcohols



1. Cellobiose
2. Glucose
3. Xylose
4. Galactose
5. Arabinose
6. Xylitol
7. Sorbitol

Column:	VertiSep™ SUGAR LMP 8µm 7.8x300mm
Mobile Phase:	DI H_2O
Flow Rate:	1.0mL/min
Temp:	85°C
Detection:	RI

Apple Juice

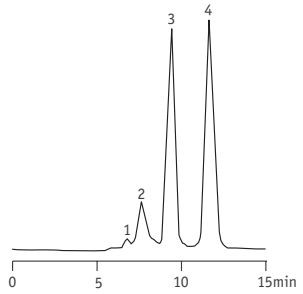


1. Sucrose
2. Glucose
3. Fructose

Column:	VertiSep™ SUGAR CMP 9µm 7.8x300mm
Mobile Phase:	H_2O
Flow Rate:	0.6mL/min
Temp:	75°C
Detection:	RI

VertiSep™ SUGAR

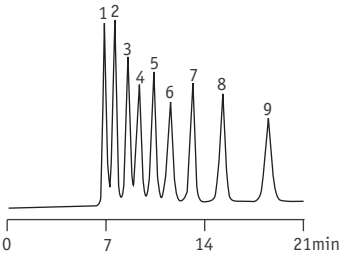
Honey



1. DP3
2. DP2
3. Glucose
4. Fructose

Column: VertiSep™ SUGAR CMP 9µm 7.8x300mm
Mobile Phase: H_2O
Flow Rate: 0.6mL/min
Temp: 85°C
Detection: RI

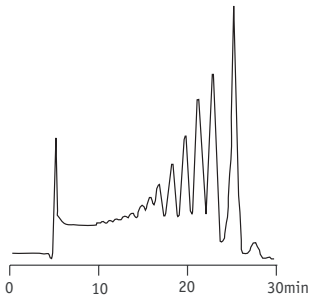
Sugars and Sugar Alcohols



1. Raffinose
2. Sucrose
3. Lactolose
4. Glucose
5. Galactose
6. Fructose
7. Ribital
8. Mannitol
9. Sorbital

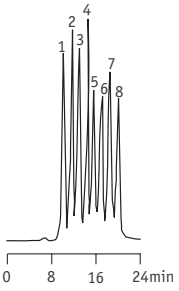
Column: VertiSep™ SUGAR CMP 9µm 7.8x300mm
Mobile Phase: H_2O
Flow Rate: 0.6mL/min
Temp: 85°C
Detection: RI

Corn Syrup



Column: VertiSep™ SUGAR SOP 20µm 7.8x300mm
Mobile Phase: H_2O
Flow Rate: 0.4mL/min
Temp: 75°C
Detection: RI

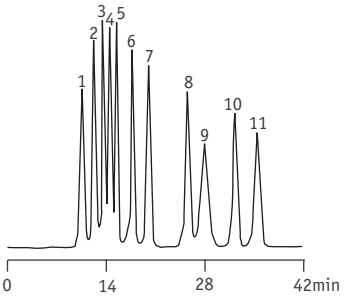
SUGAR LDP Column



1. Melezitose
2. Sucrose
3. Lactose
4. Glucose
5. Lactulose
6. Galactose
7. Fucose
8. Fructose

Column: VertiSep™ SUGAR LMP 8µm 7.8x300mm
Mobile Phase: H_2O
Flow Rate: 0.4mL/min
Temp: 85°C
Detection: RI

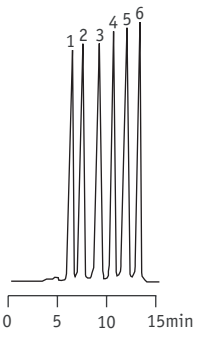
Saccharides



1. Stachyose
2. Maltose
3. Glucose
4. Xylose
5. Galactose
6. Fructose
7. Meso-Erythritol
8. Mannitol
9. Salicin
10. Xylitol
11. Sorbital

Column: VertiSep™ SUGAR LMP 8µm 7.8x300mm
Mobile Phase: H_2O
Flow Rate: 0.6mL/min
Temp: 75°C
Detection: RI

Saccharides



1. Melezitose
2. Maltose
3. Glucose
4. Mannose
5. Fructose
6. Ribitol

Column: VertiSep™ SUGAR CMP 9µm 7.8x300mm
Mobile Phase: H_2O
Flow Rate: 0.6mL/min
Temp: 85°C
Detection: RI

Ordering Information				
Phase	Particle Size (µm)	I.D. Length (mm)	QTY	Part No.
VertiSep™ SUGAR				
CMP	9	4.0 x 250	1	03IJ-D561
	9	7.8 x 100	1	03IJ-G361
	9	7.8 x 300	1	03IJ-G961
SOP	10	7.8 x 300	1	03IM-G931
	20	7.8 x 300	1	03IM-G971
LMP	8	7.8 x 300	1	03IK-G951
HMP	8	4.6 x 250	1	03IL-E551
	8	7.8 x 300	1	03IL-G951

Ordering Information				
Phase	Particle Size (µm)	I.D. Length (mm)	QTY	Part No.
VertiSep™ SUGAR Guard Catridges*				
CMP	9	4.6 x 10	2	03IJ-E153
SOP	9	4.6 x 10	2	03IM-E153
LMP	8	4.6 x 10	2	03IK-E153
HMP	8	4.6 x 10	2	03IL-E153

*Guard holder required

Ordering Information		
Description	QTY	Part No.
Guard Holder with Coupler		
For column I.D. 2.1-7.8 mm	1	0300-0001