

Phase Overview

Founded on state-of-the-art Core Enhanced Technology™ and utilizing vast experience in phase bonding and packing, Accucore HPLC columns provide a unique chromatography solution to enhance laboratory workflow and efficiency. Available in a wide range of stationary phase selectivities and compatible with almost any instrument, these columns provide an excellent return on investment

Containing solid core particles, which are engineered to a diameter of 2.6 µm and a very narrow particle size distribution; **Accucore HPLC columns** allow high speed, high resolution separation, with back pressures significantly lower than those associated with UHPLC.

The range of **Accucore HPLC columns for biomolecules** are packed with 150 Å pore diameter particles and allow biomolecule separations to benefit from the superb resolution and high speed enabled by Core Enhanced Technology.

Using 4 µm solid core particles, **Accucore XL HPLC columns** allow users of conventional HPLC methods to enjoy performance far beyond that of columns packed with 5 µm, 4 µm or even 3 µm fully porous particles.

Phase Details

Column	Phase Name	Particle Type	Carbon Load	USP Category
Accucore C18 Columns	RP-MS	2.6 µm	7%	–
	C18	2.6 µm	9%	L1
	C8	2.6 µm	5%	L7
	aQ	2.6 µm	9%	L1
	Polar Premium	2.6 µm	8%	L60
	Phenyl-Hexyl	2.6 µm	5%	L11
	PFP	2.6 µm	5%	L43
	Phenyl-X	2.6 µm	6%	–
	C30	2.6 µm	5%	L62
	HILIC	2.6 µm	–	L3
Accucore Columns for Biomolecules	Urea-HILIC	2.6 µm	–	–
	150-C18	2.6 µm	7%	L1
	150-C4	2.6 µm	2%	L26
Accucore XL HPLC Columns	150-Amide-HILIC	2.6 µm	–	–
	C18	4 µm	7%	L1
	C8	4 µm	4%	L7

Particle Details

Particle Diameter (µm)	Porous Layer Thickness (µm)	Particle Size Distribution (D _{90/10})	Pore Diameter (Å)	Surface Area (m ² /g)
2.6	0.5	1.12	80	130
2.6	0.5	1.12	150	80
4	0.6	1.15	80	90

pH Stability

Phases	pH Range
Accucore C18, 150-C18, XL C18	1 to 11
Accucore Polar Premium	1.5 to 10.5
Accucore RP-MS, C8, aQ, 150-C4, XL C8	2 to 9
Accucore Phenyl-Hexyl, PFP, Phenyl-X, C30, HILIC, Urea-HILIC, 150-Amide-HILIC	2 to 8

Temperature Stability

Maximum Temperature 70 °C Based on testing on Accucore C18

Flow Rate, Injection Volume and Backpressure

Columns	Column ID (mm)	Optimum Flow Rate (mL/min)	Optimum Inj Volume (µL)	Max. Backpressure Rating (bar)
Accucore HPLC Columns	2.1	0.4	1	1000
	3.0	0.8	3	1000
	4.6	1.8	5	1000
Accucore Columns for Biomolecules	0.075	0.0003	1	800
	2.1	0.4	1	1000
	3.0	0.8	3	1000
	4.6	1.8	5	1000
Accucore XL HPLC Columns	2.1	0.3	2	600
	3.0	0.6	5	600
	4.6	1.3	10	600

Shipping Solvents

Columns	Solvent
All columns	Acetonitrile/Water

Cleaning Procedures

Before starting ensure that the solvent in the column is miscible with the cleaning solvents. Using 50% of the working flow rate, flush the column with 20 column volumes of each of the solvents below in the order shown.

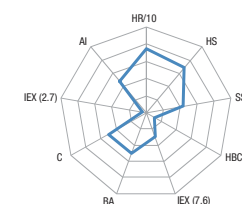
Phase Names	Solvents
Accucore RP-MS, C18, C8, aQ, Polar Premium, Phenyl-Hexyl, PFP, Phenyl-X, C30, 150-C18, 150-C4, XL C18, XL C8	<ol style="list-style-type: none"> 90% water / 10% acetonitrile (for buffer removal if required) 50% THF / 50% acetonitrile acetonitrile Re-equilibrate with mobile phase
HILIC, Urea-HILIC, 150-Amide-HILIC	<ol style="list-style-type: none"> 90% water / 10% acetonitrile (for buffer removal if required) 50% water / 50% acetonitrile Re-equilibrate with mobile phase.

Phase Properties and Characterization

Thermo Scientific™ Accucore™ HPLC columns are available in sixteen different phases to provide an unrivalled range of selectivities.

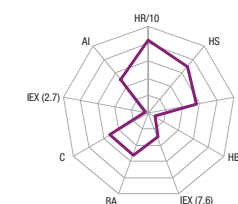
Each of the bonded phases is manufactured using our advanced bonding technology and is characterized using a detailed testing regime (refer to the technical guide for full details, visit www.thermoscientific.com/accucore). The radar plots below show the results of the characterisation and allow for quick and easy comparison of the phase selectivities.

Accucore RP-MS



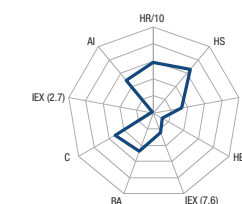
Optimized for MS detection, excellent combination of speed and quality of separation

Accucore C18



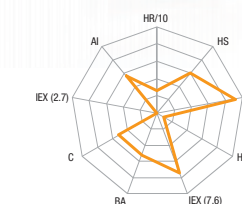
Optimum retention for non-polar analytes

Accucore C8



Lower hydrophobicity than C18 recommended for analytes with moderate hydrophobicity

Accucore PFP



Alternative selectivity to C18, particularly for halogenated analytes

Accucore HILIC



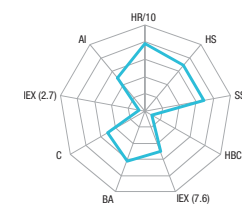
Enhanced Retention of polar and hydrophilic analytes

Accucore Urea-HILIC



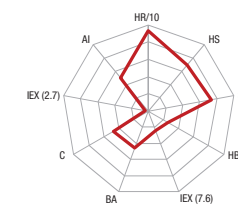
Unique HILIC selectivity and low ion exchange activity

Accucore aQ



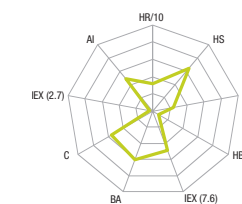
Compatible with 100% aqueous mobile phases, special selectivity for polar analytes

Accucore Polar Premium



Rugged amide embedded C18 phase that offers complementary selectivity to conventional C18

Accucore Phenyl-Hexyl



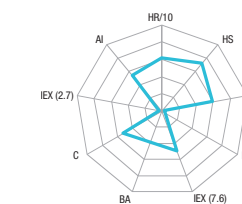
Unique selectivity for aromatic and moderately polar analytes

Accucore 150-Amide-HILIC



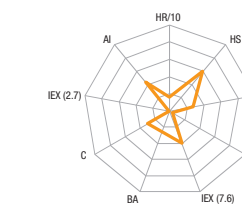
Designed for the separation of hydrophilic biomolecules in HILIC mode. An excellent choice for glycan separations

Accucore 150-C18



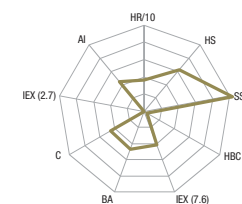
Phase designed for the separation of peptides

Accucore 150-C4



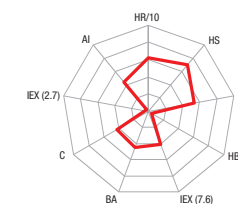
Lower hydrophobicity for optimal retention of proteins and larger peptides

Accucore Phenyl-X



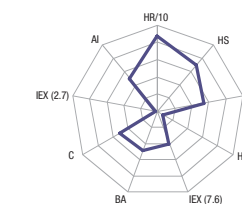
Unique reversed-phase shape selectivity with high aromatic selectivity

Accucore C30



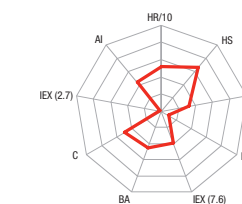
High shape selectivity for hydrophobic, long chain, structurally related isomers

Accucore XL C18



Compatible with conventional HPLC methods providing optimum retention for non-polar analytes

Accucore XL C8



Lower hydrophobicity than C18 recommended for analytes with moderate hydrophobicity and compatible with conventional HPLC methods

