



Chromegabond[®] Traditional Reverse Phase Materials

ES Industries has developed a wide range of Chromegabond reverse phase columns to provide the means of separating a broad range of compounds. These phases are manufactured using established procedures and have been produced for a number of years to provide the chromatographer/QC chemist with continuous stream of highly reproducible columns. Chromegabond Reverse Phase Columns provide superior, reproducible separations and long column life with excellent peak symmetry. We have listed only the most popular sizes, however, all of the listed phases are available in any column dimensions that may be required.

- *A wide range of phases available*
- *Available in 3, 5, and 10 micron particles and in a variety of pore sizes up to 4000 Å*
- *Made under well established reproducible manufacturing processes*
- *Column sizes from microbore to preparative*

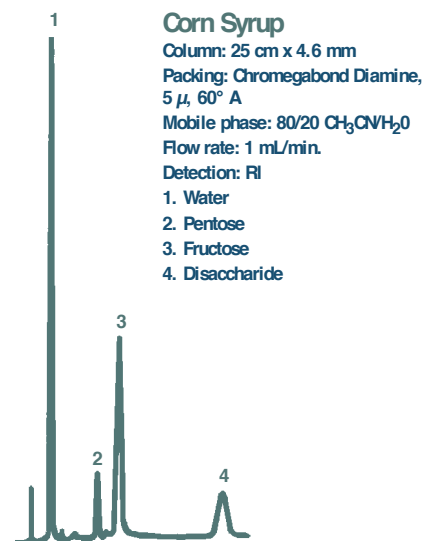


Description of Traditional Reverse Phases

Phase	Phase Description	Preferred Application
TMS (C1)	Tri-Methyl	Low-polarity, separation of mixtures with differing retention
C2	Dimethyl	Retention times on this phase are much shorter than other RP phases
C3	n-Propyl	Same as C2, but more stable
C4	n-butyl	Separation of peptides and proteins
C6	n-hexyl	Even coverage, very suitable for mobile phase additives
MC-C6 endcapped	Cyclohexyl	Cyclohexyl but endcapped to making it more suitable for polar solutes. Extremely useful for herbicides and other related compounds
C8	n-octyl	Reversed phase and ion-pairing chromatography. Moderately to highly polar (water soluble) compounds such as small peptides, proteins, steroids, nucleosides, and pharmaceuticals
MC-8 endcapped	n-octyl	Same as C8 but endcapped to make it more suitable for polar solutes
C18	Octadecyl	Nonpolar to moderately polar compounds such as fatty acids, glycerides, polyaromatic hydrocarbons, esters, fat-soluble vitamins, steroids, prostaglandins and pharmaceuticals.
MC-18 endcapped	Octadecyl	Same as C18 but endcapped to make it more suitable for acids and bases
AP	Alkyl Phenyl	Moderately polar compounds. Retention characteristics are similar to C8 packing, but with different selectivity for polycyclic aromatic hydrocarbons, polar aromatics and fatty acids.
C8-BD	Diisopropyl/Octyl	Same as C8, but highly base deactivated using steric shielding
C18-BD	Diisopropyl/Octadecyl	Same as C18, but highly base deactivated using steric shielding
P-BD	Dissopropyl/Phenyl	Same as AP, but highly base deactivated using steric shielding
CN	Cyano	Offers different selectivity than C8, C18, and Phenyl
CN-BD	Dissopropyl/Cyano	Same as CN, but highly base deactivated using steric shielding
CN-HS	Cyano	Same as CN, but higher surface area
C18-AI	Octadecyl with amide linkage	Use for the separation of weak acids
D/RP	Diol	Diol for reverse phase
A/RP	Amino	NH ₂ amine for reverse phase, used for sugars
DA/RP	Diamine	Diamine for reverse phase
TA/RP	Triamine	Triamine for reverse phase

Specification for Traditional Reverse Phases

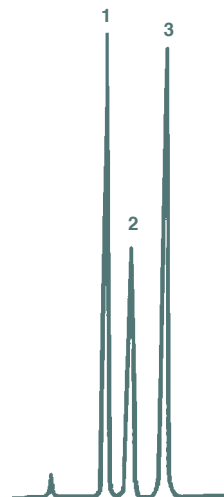
I= Irregular S= Spherical							
Phase Code	Phase Description	Particle Size (μ)	Pore A Diameter	Particle Type	%C	Surface Area m ² /g	End-capped
TMS (C1)	Trimethyl	3	60	S	-	475	No
		5	60	S	-	475	No
		10	60	S	-	475	No
		5	300	S	-	120	No
		5	500	S	-	40	No
C2	Dimethyl	5	60	I	-	480	No
		10	60	I	-	480	No
C3	n-Propyl	5	60	S	-	220	No
C4	n-Butyl	3	60	S	-	475	No
		5	60	S	-	475	No
		10	60	S	-	475	No



Description	Particle Size (μ)	Pore Size (mm)	Length (mm)	Standard-bore P/N (4.6 mm)	Standard-bore P/N (4.0 mm)	Small-bore P/N (3.2 mm)	Small-bore P/N (2.0 mm)
TMS	3	60	50	115111-TMS	114111-TMS	11d111-TMS	112111-TMS
TMS	3	60	100	125111-TMS	124111-TMS	12d111-TMS	122111-TMS
TMS	3	60	150	135111-TMS	134111-TMS	13d111-TMS	132111-TMS
TMS	5	60	50	115211-TMS	114211-TMS	11d211-TMS	112211-TMS
TMS	5	60	100	125211-TMS	124211-TMS	12d211-TMS	122211-TMS
TMS	5	60	150	135211-TMS	134211-TMS	13d211-TMS	132211-TMS
TMS	5	60	250	155211-TMS	154211-TMS	15d211-TMS	152211-TMS
TMS	5	300	50	115231-TMS	114231-TMS	11d231-TMS	112231-TMS
TMS	5	300	100	125231-TMS	124231-TMS	12d231-TMS	122231-TMS
TMS	5	300	150	135231-TMS	134231-TMS	13d231-TMS	132231-TMS
TMS	5	300	250	155231-TMS	154231-TMS	15d231-TMS	152231-TMS
TMS	5	500	50	115241-TMS	114241-TMS	11d241-TMS	112241-TMS
TMS	5	500	100	125241-TMS	124241-TMS	12d241-TMS	122241-TMS
TMS	5	500	150	135241-TMS	134241-TMS	13d241-TMS	132241-TMS
TMS	5	500	250	155241-TMS	154241-TMS	15d241-TMS	152241-TMS
Dimethyl	5	60	50	115211-C2	114211-C2	11d211-C2	112211-C2
Dimethyl	5	60	100	125211-C2	124211-C2	12d211-C2	122211-C2
Dimethyl	5	60	150	135211-C2	134211-C2	13d211-C2	132211-C2
Dimethyl	5	60	250	155211-C2	154211-C2	15d211-C2	152211-C2
Dimethyl	10	60	50	115311-C2	114311-C2	11d311-C2	112311-C2
Dimethyl	10	60	100	125311-C2	124311-C2	12d311-C2	122311-C2
Dimethyl	10	60	150	135311-C2	134311-C2	13d311-C2	132311-C2
Dimethyl	10	60	250	155311-C2	154311-C2	15d311-C2	152311-C2
Dimethyl	10	60	300	165311-C2	164311-C2	16d311-C2	162311-C2
n-Propyl	5	60	50	115211-C3	114211-C3	11d211-C3	112211-C3
n-Propyl	5	60	100	125211-C3	124211-C3	12d211-C3	122211-C3
n-Propyl	5	60	150	135211-C3	134211-C3	13d211-C3	132211-C3
n-Propyl	5	60	250	155211-C3	154211-C3	15d211-C3	152211-C3
n-Butyl	3	60	50	115111-C4	114111-C4	11d111-C4	112111-C4
n-Butyl	3	60	100	125111-C4	124111-C4	12d111-C4	122111-C4
n-Butyl	3	60	150	135111-C4	134111-C4	13d111-C4	132111-C4
n-Butyl	5	60	50	115211-C4	114211-C4	11d211-C4	112211-C4
n-Butyl	5	60	100	125211-C4	124211-C4	12d211-C4	122211-C4
n-Butyl	5	60	150	135211-C4	134211-C4	13d211-C4	132211-C4
n-Butyl	5	60	250	155211-C4	154211-C4	15d211-C4	152211-C4

I= Irregular S= Spherical

Phase Code	Phase Description	Particle Size (μ)	Pore A Diameter	Particle Type	%C	Surface Area m ² /g	End-capped
C4	n-Butyl	3	60	S	-	475	No
		5	300	S	-	120	Yes
		5	500	S	-	40	Yes
		5	1000	S	-	30	Yes
		5	4000	S	-	10	Yes
C6	n-Hexyl	3	60	S	6	220	No
		5	60	S	6	220	No
		10	60	S	6	220	No
MC-CO6 (endcapped)	Cyclohexyl	3	60	S	7	475	Yes
		5	60	S	7	475	Yes
		10	60	S	7	475	Yes
C8 (nonendcapped)	n-Octyl	5	100	I	8	300	No
		10	100	I	8	300	No


p-Hydroxybenzoates
Column: 150 mm x 4.6mm
Packing: Chromegabond TMS
Mobile phase: 45/54/1 Acetonitrile/Water/Acetic Acid
Flow rate: 0.9 mL/min.
1. Methyl-p-hydroxy benzoate
2. Ethyl-p-hydroxy benzoate
3. Propyl-p-hydroxy benzoate

Description	Particle Size (μ)	Pore Size (mm)	Length (mm)	Standard-bore P/N (4.6 mm)	Standard-bore P/N (4.0 mm)	Small-bore P/N (3.2 mm)	Small-bore P/N (2.0 mm)
n-Butyl	5	300	50	115231-C4	114231-C4	11d231-C4	112231-C4
n-Butyl	5	300	100	125231-C4	124231-C4	12d231-C4	122231-C4
n-Butyl	5	300	150	135231-C4	134231-C4	13d231-C4	132231-C4
n-Butyl	5	300	250	155231-C4	154231-C4	15d231-C4	152231-C4
n-Butyl	5	500	50	115241-C4	114241-C4	11d241-C4	112241-C4
n-Butyl	5	500	100	125241-C4	124241-C4	12d241-C4	122241-C4
n-Butyl	5	500	150	135241-C4	134241-C4	13d241-C4	132241-C4
n-Butyl	5	500	250	155241-C4	154241-C4	15d241-C4	152241-C4
n-Butyl	5	1000	50	115251-C4	114251-C4	11d251-C4	112251-C4
n-Butyl	5	1000	100	125251-C4	124251-C4	12d251-C4	122251-C4
n-Butyl	5	1000	150	135251-C4	134251-C4	13d251-C4	132251-C4
n-Butyl	5	1000	250	155251-C4	154251-C4	15d251-C4	152251-C4
n-Butyl	5	4000	50	115261-C4	114261-C4	11d261-C4	112261-C4
n-Butyl	5	4000	100	125261-C4	124261-C4	12d261-C4	122261-C4
n-Butyl	5	4000	150	135261-C4	134261-C4	13d261-C4	132261-C4
n-Butyl	5	4000	250	155261-C4	154261-C4	15d261-C4	152261-C4
n-Hexyl	3	60	50	115111-C6	114111-C6	11d111-C6	112111-C6
n-Hexyl	3	60	100	125111-C6	124111-C6	12d111-C6	122111-C6
n-Hexyl	3	60	150	135111-C6	134111-C6	13d111-C6	132111-C6
n-Hexyl	5	60	50	115211-C6	114211-C6	11d211-C6	112211-C6
n-Hexyl	5	60	100	125211-C6	124211-C6	12d211-C6	122211-C6
n-Hexyl	5	60	150	135211-C6	134211-C6	13d211-C6	132211-C6
n-Hexyl	5	60	250	155211-C6	154211-C6	15d211-C6	152211-C6
Cyclohexyl	5	60	50	115211-MC-CO6	114211-MC-CO6	11d211-MC-CO6	112211-MC-CO6
Cyclohexyl	5	60	100	125211-MC-CO6	124211-MC-CO6	12d211-MC-CO6	122211-MC-CO6
Cyclohexyl	5	60	150	135211-MC-CO6	134211-MC-CO6	13d211-MC-CO6	132211-MC-CO6
Cyclohexyl	5	60	250	155211-MC-CO6	154211-MC-CO6	15d211-MC-CO6	152211-MC-CO6
n-Octyl	5	100	50	115221-C8	114221-C8	11d221-C8	112221-C8
n-Octyl	5	100	100	125221-C8	124221-C8	12d221-C8	122221-C8
n-Octyl	5	100	150	135221-C8	134221-C8	13d221-C8	132221-C8
n-Octyl	5	100	250	155221-C8	154221-C8	15d221-C8	152221-C8
n-Octyl	10	100	50	115321-C8	114321-C8	11d321-C8	112321-C8
n-Octyl	10	100	100	125321-C8	124321-C8	12d321-C8	122321-C8
n-Octyl	10	100	150	135321-C8	134221-C8	13d321-C8	132321-C8
n-Octyl	10	100	250	155321-C8	154221-C8	15d321-C8	152321-C8
n-Octyl	10	100	300	165321-C8	164321-C8	16d321-C8	162321-C8

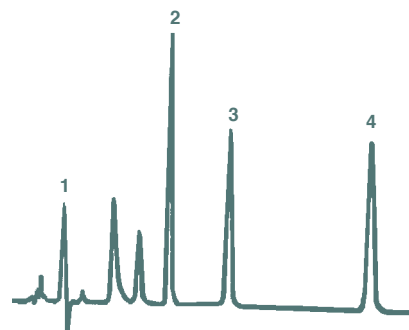
Specification for Traditional Reverse Phases

I= Irregular S= Spherical							
Phase Code	Phase Description	Particle Size (μ)	Pore A Diameter	Particle Type	%C	Surface Area m ² /g	End-capped
MC-8 (endcapped)	n-Octyl	3	60	S	9	475	Yes
		5	60	S	9	475	Yes
		10	60	S	9	475	Yes
		3	80	S	7	200	Yes
		5	80	S	7	200	Yes
		10	80	S	7	200	Yes
		3	100	S	7	190	Yes
		5	100	S	7	190	Yes
		10	100	S	7	190	Yes
		5	300	S	-	120	Yes
		5	500	S	-	40	Yes
C-18 (nonendcapped)	n-Octadecyl	5	100	I	16	300	No
		10	100	I	16	300	No

Description	Particle Size (μ)	Pore Size (mm)	Length (mm)	Standard-bore P/N (4.6 mm)	Standard-bore P/N (4.0 mm)	Small-bore P/N (3.2 mm)	Small-bore P/N (2.0 mm)
n-Octyl EC	3	60	50	115111-MC8	114111-MC8	11d111-MC8	112111-MC8
n-Octyl EC	3	60	100	125111-MC8	124111-MC8	12d111-MC8	122111-MC8
n-Octyl EC	3	60	150	135111-MC8	134111-MC8	13d111-MC8	132111-MC8
n-Octyl EC	5	60	50	115211-MC8	114211-MC8	11d211-MC8	112211-MC8
n-Octyl EC	5	60	100	125211-MC8	124211-MC8	12d211-MC8	122211-MC8
n-Octyl EC	5	60	150	135211-MC8	134211-MC8	13d211-MC8	132211-MC8
n-Octyl EC	5	60	250	155211-MC8	154211-MC8	15d211-MC8	152211-MC8
n-Octyl EC	3	80	50	115171-MC8	114171-MC8	11d171-MC8	112171-MC8
n-Octyl EC	3	80	100	125171-MC8	124171-MC8	12d171-MC8	122171-MC8
n-Octyl EC	3	80	150	135171-MC8	134171-MC8	13d171-MC8	132171-MC8
n-Octyl EC	5	80	50	115271-MC8	114271-MC8	11d271-MC8	112271-MC8
n-Octyl EC	5	80	100	125271-MC8	124271-MC8	12d271-MC8	122271-MC8
n-Octyl EC	5	80	150	135271-MC8	134271-MC8	13d271-MC8	132271-MC8
n-Octyl EC	5	80	250	155271-MC8	154271-MC8	15d271-MC8	152271-MC8
n-Octyl EC	3	100	50	115121-MC8	114121-MC8	11d121-MC8	112121-MC8
n-Octyl EC	3	100	100	125121-MC8	124121-MC8	12d121-MC8	122121-MC8
n-Octyl EC	3	100	150	135121-MC8	134121-MC8	13d121-MC8	132121-MC8
n-Octyl EC	5	100	50	115221-MC8	114221-MC8	11d221-MC8	112221-MC8
n-Octyl EC	5	100	100	125221-MC8	124221-MC8	12d221-MC8	122221-MC8
n-Octyl EC	5	100	150	135221-MC8	134221-MC8	13d221-MC8	132221-MC8
n-Octyl EC	5	100	250	155221-MC8	154221-MC8	15d221-MC8	152221-MC8
n-Octyl EC	5	300	50	115231-MC8	114231-MC8	11d231-MC8	112231-MC8
n-Octyl EC	5	300	100	125231-MC8	124231-MC8	12d231-MC8	122231-MC8
n-Octyl EC	5	300	150	135231-MC8	134231-MC8	13d231-MC8	132231-MC8
n-Octyl EC	5	300	250	155231-MC8	154231-MC8	15d231-MC8	152231-MC8
n-Octyl EC	5	500	50	115241-MC8	114241-MC8	11d241-MC8	112241-MC8
n-Octyl EC	5	500	100	125241-MC8	124241-MC8	12d241-MC8	122241-MC8
n-Octyl EC	5	500	150	135241-MC8	134241-MC8	13d241-MC8	132241-MC8
n-Octyl EC	5	500	250	155241-MC8	154241-MC8	15d241-MC8	152241-MC8
Octadecyl	5	100	50	115221-C18	114221-C18	11d221-C18	112221-C18
Octadecyl	5	100	100	125221-C18	124221-C18	12d221-C18	122221-C18
Octadecyl	5	100	150	135221-C18	134221-C18	13d221-C18	132221-C18
Octadecyl	5	100	250	155221-C18	154221-C18	15d221-C18	152221-C18
Octadecyl	10	100	50	115321-C18	114321-C18	11d321-C18	112321-C18
Octadecyl	10	100	100	125321-C18	124321-C18	12d321-C18	122321-C18
Octadecyl	10	100	150	135321-C18	134221-C18	13d321-C18	132321-C18
Octadecyl	10	100	250	155321-C18	154221-C18	15d321-C18	152321-C18
Octadecyl	10	100	300	165321-C18	164321-C18	16d321-C18	162321-C18

I= Irregular S= Spherical

Phase Code	Phase Description	Particle Size (μ)	Pore A Diameter	Particle Type	%C	Surface Area m ² /g	End-capped
MC-18 (endcapped)	n-Octadecyl	3	60	S	11	220	Yes
		5	60	S	11	220	Yes
		10	60	I	17	480	Yes
		5	60	HS	18	475	Yes
		3	80	S	10	200	Yes
		5	80	S	10	200	Yes
		10	80	S	10	200	Yes
		3	100	S	10	190	Yes
		5	100	S	10	190	Yes
		10	100	S	10	190	Yes
		5	300	S	6	120	Yes
		5	500	S	-	40	Yes



Pharmaceutical Stabilizers

Column: 25 cm x 4.6 mm

Packing: Alkyl Phenyl, 5 μ, 60° A

Mobile phase: 730 parts 0.25 M sodium phosphate buffer, pH 2.80/270 parts acetonitrile

Flow rate: 1 mL/min.

Detection: 210 nm

1. p-Toluene Sulfonic Acid

3. Benzoic Acid

2. Benzyl Alcohol

4. Benzaldehyde

Description	Particle Size (μ)	Pore Size (mm)	Length (mm)	Standard-bore P/N (4.6 mm)	Standard-bore P/N (4.0 mm)	Small-bore P/N (3.2 mm)	Small-bore P/N (2.0 mm)
Octadecyl EC	3	60	50	115111-MC18	114111-MC18	11d111-MC18	112111-MC18
Octadecyl EC	3	60	100	125111-MC18	124111-MC18	12d111-MC18	122111-MC18
Octadecyl EC	3	60	150	135111-MC18	134111-MC18	13d111-MC18	132111-MC18
Octadecyl EC	5	60	50	115211-MC18	114211-MC18	11d211-MC18	112211-MC18
Octadecyl EC	5	60	100	125211-MC18	124211-MC18	12d211-MC18	122211-MC18
Octadecyl EC	5	60	150	135211-MC18	134211-MC18	13d211-MC18	132211-MC18
Octadecyl EC	5	60	250	155211-MC18	154211-MC18	15d211-MC18	152211-MC18
Octadecyl EC	10	60	50	115311-MC18	114311-MC18	11d311-MC18	112311-MC18
Octadecyl EC	10	60	100	125311-MC18	124311-MC18	12d311-MC18	122311-MC18
Octadecyl EC	10	60	150	135311-MC18	134311-MC18	13d311-MC18	132311-MC18
Octadecyl EC	10	60	250	155311-MC18	154311-MC18	15d311-MC18	152311-MC18
Octadecyl EC	10	60	300	165311-MC18	164311-MC18	16d311-MC18	162311-MC18
Octadecyl EC	3	80	50	115171-MC18	114171-MC18	11d171-MC18	112171-MC18
Octadecyl EC	3	80	100	125171-MC18	124171-MC18	12d171-MC18	122171-MC18
Octadecyl EC	3	80	150	135171-MC18	134171-MC18	13d171-MC18	132171-MC18
Octadecyl EC	5	80	50	115271-MC18	114271-MC18	11d271-MC18	112271-MC18
Octadecyl EC	5	80	100	125271-MC18	124271-MC18	12d271-MC18	122271-MC18
Octadecyl EC	5	80	150	135271-MC18	134271-MC18	13d271-MC18	132271-MC18
Octadecyl EC	5	80	250	155271-MC18	154271-MC18	15d271-MC18	152271-MC18
Octadecyl EC	3	100	50	115121-MC18	114121-MC18	11d121-MC18	112121-MC18
Octadecyl EC	3	100	100	125121-MC18	124121-MC18	12d121-MC18	122121-MC18
Octadecyl EC	3	100	150	135121-MC18	134121-MC18	13d121-MC18	132121-MC18
Octadecyl EC	5	100	50	115221-MC18	114221-MC18	11d221-MC18	112221-MC18
Octadecyl EC	5	100	100	125221-MC18	124221-MC18	12d221-MC18	122221-MC18
Octadecyl EC	5	100	150	135221-MC18	134221-MC18	13d221-MC18	132221-MC18
Octadecyl EC	5	100	250	155221-MC18	154221-MC18	15d221-MC18	152221-MC18
Octadecyl EC	5	300	50	115231-MC18	114231-MC18	11d231-MC18	112231-MC18
Octadecyl EC	5	300	100	125231-MC18	124231-MC18	12d231-MC18	122231-MC18
Octadecyl EC	5	300	150	135231-MC18	134231-MC18	13d231-MC18	132231-MC18
Octadecyl EC	5	300	250	155231-MC18	154231-MC18	15d231-MC18	152231-MC18
Octadecyl EC	5	500	50	115241-MC18	114241-MC18	11d241-MC18	112241-MC18
Octadecyl EC	5	500	100	125241-MC18	124241-MC18	12d241-MC18	122241-MC18
Octadecyl EC	5	500	150	135241-MC18	134241-MC18	13d241-MC18	132241-MC18
Octadecyl EC	5	500	250	155241-MC18	154241-MC18	15d241-MC18	152241-MC18
Octadecyl EC	5	1000	50	115251-MC18	114251-MC18	11d251-MC18	112251-MC18
Octadecyl EC	5	1000	100	125251-MC18	124251-MC18	12d251-MC18	122251-MC18
Octadecyl EC	5	1000	150	135251-MC18	134251-MC18	13d251-MC18	132251-MC18
Octadecyl EC	5	1000	250	155251-MC18	154251-MC18	15d251-MC18	152251-MC18

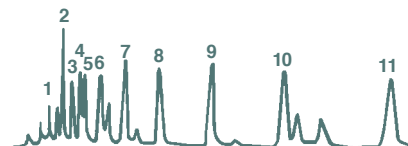
Specification for Traditional Reverse Phases

= Irregular S= Spherical							
Phase Code	Phase Description	Particle Size (μ)	Pore A Diameter	Particle Type	%C	Surface Area m ² /g	End-capped
MC-18	n-Octadecyl (endcapped)	5	1000	S	-	30	Yes
		5	4000	S	-	10	Yes
AP	Alkyl Phenyl	3	60	S	9	475	No
		5	60	S	9	475	No
		10	60	S	9	475	No
		3	80	S	6	200	No
		5	80	S	6	200	No
		10	80	S	6	200	No
		3	100	S	5	190	No
		5	100	S	5	190	No
		10	100	S	5	190	No
		5	300	S	-	120	No
		5	500	S	-	40	No

Description	Particle Size (μ)	Pore Size (mm)	Length (mm)	Standard-bore P/N (4.6 mm)	Standard-bore P/N (4.0 mm)	Small-bore P/N (3.2 mm)	Small-bore P/N (2.0 mm)
Octadecyl EC	5	4000	50	115261-MC18	114261-MC18	11d261-MC18	112261-MC18
Octadecyl EC	5	4000	100	125261-MC18	124261-MC18	12d261-MC18	122261-MC18
Octadecyl EC	5	4000	150	135261-MC18	134261-MC18	13d261-MC18	132261-MC18
Octadecyl EC	5	4000	250	155261-MC18	155261-MC18	15d261-MC18	152261-MC18
Alkyl Phenyl	3	60	50	115111-AP	114111-AP	11d111-AP	112111-AP
Alkyl Phenyl	3	60	100	125111-AP	124111-AP	12d111-AP	122111-AP
Alkyl Phenyl	3	60	150	135111-AP	134111-AP	13d111-AP	132111-AP
Alkyl Phenyl	5	60	50	115211-AP	114211-AP	11d211-AP	112211-AP
Alkyl Phenyl	5	60	100	125211-AP	124211-AP	12d211-AP	122211-AP
Alkyl Phenyl	5	60	150	135211-AP	134211-AP	13d211-AP	132211-AP
Alkyl Phenyl	5	60	250	155211-AP	154211-AP	15d211-AP	152211-AP
Alkyl Phenyl	10	60	50	115311-AP	114311-AP	11d311-AP	112311-AP
Alkyl Phenyl	10	60	100	125311-AP	124311-AP	12d311-AP	122311-AP
Alkyl Phenyl	10	60	150	135311-AP	134311-AP	13d311-AP	132311-AP
Alkyl Phenyl	10	60	250	155311-AP	154311-AP	15d311-AP	152311-AP
Alkyl Phenyl	10	60	300	165311-AP	164311-AP	16d311-AP	162311-AP
Alkyl Phenyl	3	80	50	115171-AP	114171-AP	11d171-AP	112171-AP
Alkyl Phenyl	3	80	100	125171-AP	124171-AP	12d171-AP	122171-AP
Alkyl Phenyl	3	80	150	135171-AP	134171-AP	13d171-AP	132171-AP
Alkyl Phenyl	5	80	50	115271-AP	114271-AP	11d271-AP	112271-AP
Alkyl Phenyl	5	80	100	125271-AP	124271-AP	12d271-AP	122271-AP
Alkyl Phenyl	5	80	150	135271-AP	134271-AP	13d271-AP	132271-AP
Alkyl Phenyl	5	80	250	155271-AP	154271-AP	15d271-AP	152271-AP
Alkyl Phenyl	3	100	50	115121-AP	114121-AP	11d121-AP	112121-AP
Alkyl Phenyl	3	100	100	125121-AP	124121-AP	12d121-AP	122121-AP
Alkyl Phenyl	3	100	150	135121-AP	134121-AP	13d121-AP	132121-AP
Alkyl Phenyl	5	100	50	115221-AP	114221-AP	11d221-AP	112221-AP
Alkyl Phenyl	5	100	100	125221-AP	124221-AP	12d221-AP	122221-AP
Alkyl Phenyl	5	100	150	135221-AP	134221-AP	13d221-AP	132221-AP
Alkyl Phenyl	5	100	250	155221-AP	154221-AP	15d221-AP	152221-AP
Alkyl Phenyl	5	300	50	115231-AP	114231-AP	11d231-AP	112231-AP
Alkyl Phenyl	5	300	100	125231-AP	124231-AP	12d231-AP	122231-AP
Alkyl Phenyl	5	300	150	135231-AP	134231-AP	13d231-AP	132231-AP
Alkyl Phenyl	5	300	250	155231-AP	154231-AP	15d231-AP	152231-AP
Alkyl Phenyl	5	500	50	115241-AP	114241-AP	11d241-AP	112241-AP
Alkyl Phenyl	5	500	100	125241-AP	124241-AP	12d241-AP	122241-AP
Alkyl Phenyl	5	500	150	135241-AP	134241-AP	13d241-AP	132241-AP
Alkyl Phenyl	5	500	250	155241-AP	154241-AP	15d241-AP	152241-AP

All dimensions and lengths available for microbore
1.0 mm, semi-preparative, preparative,
specialty sizes, and threaded modular column,
please refer to page 5.

I= Irregular S= Spherical							
Phase Code	Phase Description	Particle Size (μ)	Pore A Diameter	Particle Type	%C	Surface Area m ² /g	End-capped
C8-BD	Octyl	3	60	S	12	475	No
		5	60	S	12	475	No
		10	60	S	12	475	No
C18-BD	Octadecyl	3	60	S	18	475	No
		5	60	S	18	475	No
		10	60	S	18	475	No
P-BD	Phenyl	3	60	S	7	475	No
		5	60	S	7	475	No
		10	60	S	7	475	No
CN-BD	Cyano	3	60	S	-	475	No
		5	60	S	-	475	No
		10	60	S	-	475	No
C18-AI	Acid Interaction	3	60	S	12	220	No
		5	60	S	12	220	No



Aromatic Hydrocarbons

Column: 25 cm x 1.0 mm

Packing: Chromegabond MC-18 5 μ, 60° A

Mobile phase: 80% Methanol, 20% Water

Flow rate: .05 mL/min.

- | | |
|--------------------|--------------------|
| 1. Benzene | 7. n-Pentylbenzene |
| 2. Toluene | 8. n-Hexylbenzene |
| 3. Ethylbenzene | 9. n-Heptylbenzene |
| 4. i-Propylbenzene | 10. n-Octylbenzene |
| 5. n-Propylbenzene | 11. n-Nonylbenzene |
| 6. n-Butylbenzene | |

Description	Particle Size (μ)	Pore Size (mm)	Length (mm)	Standard-bore P/N (4.6 mm)	Standard-bore P/N (4.0 mm)	Small-bore P/N (3.2 mm)	Small-bore P/N (2.0 mm)
n-Octyl BD	3	60	50	115111-C8-BD	114111-C8-BD	11d111-C8-BD	112111-C8-BD
n-Octyl BD	3	60	100	125111-C8-BD	124111-C8-BD	12d111-C8-BD	122111-C8-BD
n-Octyl BD	3	60	150	135111-C8-BD	134111-C8-BD	13d111-C8-BD	132111-C8-BD
n-Octyl BD	5	100	50	115221-C8-BD	114221-C8-BD	11d221-C8-BD	112221-C8-BD
n-Octyl BD	5	100	100	125221-C8-BD	124221-C8-BD	12d221-C8-BD	122221-C8-BD
n-Octyl BD	5	100	150	135221-C8-BD	134221-C8-BD	13d221-C8-BD	132221-C8-BD
n-Octyl BD	5	100	250	155221-C8-BD	154221-C8-BD	15d221-C8-BD	152221-C8-BD
ODS-BD	3	60	50	115111-C18-BD	114111-C18-BD	11d111-C18-BD	112111-C18-BD
ODS-BD	3	60	100	125111-C18-BD	124111-C18-BD	12d111-C18-BD	122111-C18-BD
ODS-BD	3	60	150	135111-C18-BD	134111-C18-BD	13d111-C18-BD	132111-C18-BD
ODS-BD	5	100	50	115221-C18-BD	114221-C18-BD	11d221-C18-BD	112221-C18-BD
ODS-BD	5	100	100	125221-C18-BD	124221-C18-BD	12d221-C18-BD	122221-C18-BD
ODS-BD	5	100	150	135221-C18-BD	134221-C18-BD	13d221-C18-BD	132221-C18-BD
ODS-BD	5	100	250	155221-C18-BD	154221-C18-BD	15d221-C18-BD	152221-C18-BD
Phenyl BD	3	60	50	115111-P-BD	114111-P-BD	11d111-P-BD	112111-P-BD
Phenyl BD	3	60	100	125111-P-BD	124111-P-BD	12d111-P-BD	122111-P-BD
Phenyl BD	3	60	150	135111-P-BD	134111-P-BD	13d111-P-BD	132111-P-BD
Phenyl BD	5	100	50	115221-P-BD	114221-P-BD	11d221-P-BD	112221-P-BD
Phenyl BD	5	100	100	125221-P-BD	124221-P-BD	12d221-P-BD	122221-P-BD
Phenyl BD	5	100	150	135221-P-BD	134221-P-BD	13d221-P-BD	132221-P-BD
Phenyl BD	5	100	250	155221-P-BD	154221-P-BD	15d221-P-BD	152221-P-BD
Cyano BD	3	60	50	115111-CN-BD	114111-CN-BD	11d111-CN-BD	112111-CN-BD
Cyano BD	3	60	100	125111-CN-BD	124111-CN-BD	12d111-CN-BD	122111-CN-BD
Cyano BD	3	60	150	135111-CN-BD	134111-CN-BD	13d111-CN-BD	132111-CN-BD
Cyano BD	5	100	50	115221-CN-BD	114221-CN-BD	11d221-CN-BD	112221-CN-BD
Cyano BD	5	100	100	125221-CN-BD	124221-CN-BD	12d221-CN-BD	122221-CN-BD
Cyano BD	5	100	150	135221-CN-BD	134221-CN-BD	13d221-CN-BD	132221-CN-BD
Cyano BD	5	100	250	155221-CN-BD	154221-CN-BD	15d221-CN-BD	152221-CN-BD
ODS AI	3	60	50	115111-C18-AI	114111-C18-AI	11d111-C18-AI	112111-C18-AI
ODS AI	3	60	100	125111-C18-AI	124111-C18-AI	12d111-C18-AI	122111-C18-AI
ODS AI	3	60	150	135111-C18-AI	134111-C18-AI	13d111-C18-AI	132111-C18-AI
ODS AI	5	60	50	115211-C18-AI	114211-C18-AI	11d211-C18-AI	112211-C18-AI
ODS AI	5	60	100	125211-C18-AI	124211-C18-AI	12d211-C18-AI	122211-C18-AI
ODS AI	5	60	150	135211-C18-AI	134211-C18-AI	13d211-C18-AI	132211-C18-AI
ODS AI	5	60	250	155211-C18-AI	154211-C18-AI	15d211-C18-AI	152211-C18-AI

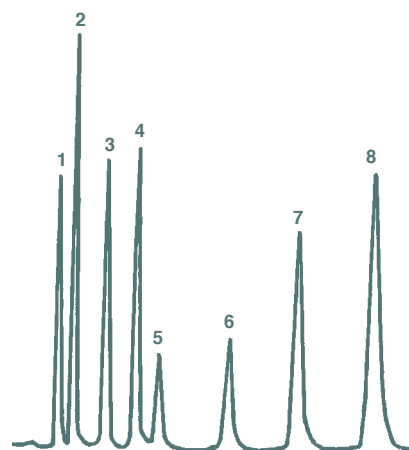
Specification for Traditional Reverse Phases

I= Irregular S= Spherical							
Phase Code	Phase Description	Particle Size (μ)	Pore A Diameter	Particle Type	%C	Surface Area m ² /g	End-capped
CN	Cyano	3	60	S	-	475	No
		5	60	S	-	475	No
		10	60	S	-	475	No
		5	300	S	-	120	No
		10	300	S	-	120	No
CNVHS	Cyano	3	60	S	-	550	No
		5	60	S	-	550	No
D/RP	Diol	3	60	S	-	475	No
		5	60	S	-	475	No
		10	60	S	-	475	No
		3	100	S	-	330	No
		5	100	S	-	330	No
		10	100	S	-	330	No
		5	300	S	-	120	No

Description	Particle Size (μ)	Pore Size (mm)	Length (mm)	Standard-bore P/N (4.6 mm)	Standard-bore P/N (4.0 mm)	Small-bore P/N (3.2 mm)	Small-bore P/N (2.0 mm)
Cyano	3	60	50	115111-CN	114111-CN	11d111-CN	112111-CN
Cyano	3	60	100	125111-CN	124111-CN	12d111-CN	122111-CN
Cyano	3	60	150	135111-CN	134111-CN	13d111-CN	132111-CN
Cyano	5	60	50	115211-CN	114211-CN	11d211-CN	112211-CN
Cyano	5	60	100	125211-CN	124211-CN	12d211-CN	122211-CN
Cyano	5	60	150	135211-CN	134211-CN	13d211-CN	132211-CN
Cyano	5	60	250	155211-CN	154211-CN	15d211-CN	152211-CN
Cyano	5	300	50	115231-CN	114231-CN	11d231-CN	112231-CN
Cyano	5	300	100	125231-CN	124231-CN	12d231-CN	122231-CN
Cyano	5	300	150	135231-CN	134231-CN	13d231-CN	132231-CN
Cyano	5	300	250	155231-CN	154231-CN	15d231-CN	152231-CN
Cyano HS	3	60	50	115111-CN/VHS	114111-CN/VHS	11d111-CN/VHS	112111-CN/VHS
Cyano HS	3	60	100	125111-CN/VHS	124111-CN/VHS	12d111-CN/VHS	122111-CN/VHS
Cyano HS	3	60	150	135111-CN/VHS	134111-CN/VHS	13d111-CN/VHS	132111-CN/VHS
Cyano HS	5	60	50	115211-CN/VHS	114211-CN/VHS	11d211-CN/VHS	112211-CN/VHS
Cyano HS	5	60	100	125211-CN/VHS	124211-CN/VHS	12d211-CN/VHS	122211-CN/VHS
Cyano HS	5	60	150	135211-CN/VHS	134211-CN/VHS	13d211-CN/VHS	132211-CN/VHS
Cyano HS	5	60	250	155211-CN/VHS	154211-CN/VHS	15d211-CN/VHS	152211-CN/VHS
Diol RP	3	60	50	115111-D/RP	114111-D/RP	11d111-D/RP	112111-D/RP
Diol RP	3	60	100	125111-D/RP	124111-D/RP	12d111-D/RP	122111-D/RP
Diol RP	3	60	150	135111-D/RP	134111-D/RP	13d111-D/RP	132111-D/RP
Diol RP	5	60	50	115211-D/RP	114211-D/RP	11d211-D/RP	112211-D/RP
Diol RP	5	60	100	125211-D/RP	124211-D/RP	12d211-D/RP	122211-D/RP
Diol RP	5	60	150	135211-D/RP	134211-D/RP	13d211-D/RP	132211-D/RP
Diol RP	5	60	250	155211-D/RP	154211-D/RP	15d211-D/RP	152211-D/RP
Diol RP	3	100	50	115121-D/RP	114121-D/RP	11d121-D/RP	112121-D/RP
Diol RP	3	100	100	125121-D/RP	124121-D/RP	12d121-D/RP	122121-D/RP
Diol RP	3	100	150	135121-D/RP	134121-D/RP	13d121-D/RP	132121-D/RP
Diol RP	5	100	50	115221-D/RP	114221-D/RP	11d221-D/RP	112221-D/RP
Diol RP	5	100	100	125221-D/RP	124221-D/RP	12d221-D/RP	122221-D/RP
Diol RP	5	100	150	135221-D/RP	134221-D/RP	13d221-D/RP	132221-D/RP
Diol RP	5	100	250	155221-D/RP	154221-D/RP	15d221-D/RP	152221-D/RP
Diol RP	5	300	50	115231-D/RP	114231-D/RP	11d231-D/RP	112231-D/RP
Diol RP	5	300	100	125231-D/RP	124231-D/RP	12d231-D/RP	122231-D/RP
Diol RP	5	300	150	135231-D/RP	134231-D/RP	13d231-D/RP	132231-D/RP
Diol RP	5	300	250	155231-D/RP	154231-D/RP	15d231-D/RP	152231-D/RP

I= Irregular S= Spherical

Phase Code	Phase Description	Particle Size (μ)	Pore A Diameter	Particle Type	%C	Surface Area m ² /g	End-capped
D/RP	Diol	5	500	S	-	40	No
		5	1000	S	-	30	No
		5	4000	S	-	10	No
A/RP	Amine	3	60	S	-	475	No
		5	60	S	-	475	No
		10	60	I	-	480	No
		5	100	S	-	330	No
		10	100	S	-	330	No
		5	300	S	-	120	No
		5	500	S	-	40	No
		5	1000	S	-	30	No
DA/RP	Diamine	5	60	S	-	475	No
		10	60	I	-	480	No
TA/RP	Triamine	5	60	S	-	475	No
		10	60	I	-	480	No


Aromatic Ketones

Column: 100 mm x 4.6 mm

Packing: Chromegabond MC-8

Mobile phase: 60% Methanol/40% Water

Flow rate: 1 mL/min.

- | | |
|--------------------|-----------------|
| 1. Benzamide | 5. Phenetole |
| 2. Benzyl Alcohol | 6. Naphthalene |
| 3. Acetophenone | 7. Benzophenone |
| 4. Methyl Benzoate | 8. Biphenyl |

Description	Particle Size (μ)	Pore Size (nm)	Length (mm)	Standard-bore P/N (4.6 mm)	Standard-bore P/N (4.0 mm)	Small-bore P/N (3.2 mm)	Small-bore P/N (2.0 mm)
Diol RP	5	500	50	115241-D/RP	114241-D/RP	11d241-D/RP	112241-D/RP
Diol RP	5	500	100	125241-D/RP	124241-D/RP	12d241-D/RP	122241-D/RP
Diol RP	5	500	150	135241-D/RP	134241-D/RP	13d241-D/RP	132241-D/RP
Diol RP	5	500	250	155241-D/RP	154241-D/RP	15d241-D/RP	152241-D/RP
Diol RP	5	1000	50	115251-D/RP	114251-D/RP	11d251-D/RP	112251-D/RP
Diol RP	5	1000	100	125251-D/RP	124251-D/RP	12d251-D/RP	122251-D/RP
Diol RP	5	1000	150	135251-D/RP	134251-D/RP	13d251-D/RP	132251-D/RP
Diol RP	5	1000	250	155251-D/RP	154251-D/RP	15d251-D/RP	152251-D/RP
Diol RP	5	4000	50	115261-D/RP	114261-D/RP	11d261-D/RP	112261-D/RP
Diol RP	5	4000	100	125261-D/RP	124261-D/RP	12d261-D/RP	122261-D/RP
Diol RP	5	4000	150	135261-D/RP	134261-D/RP	13d261-D/RP	132261-D/RP
Diol RP	5	4000	250	155261-D/RP	155261-D/RP	15d261-D/RP	152261-D/RP
Amine RP	3	60	50	115111-A/RP	114111-A/RP	11d111-A/RP	112111-A/RP
Amine RP	3	60	100	125111-A/RP	124111-A/RP	12d111-A/RP	122111-A/RP
Amine RP	3	60	150	135111-A/RP	134111-A/RP	13d111-A/RP	132111-A/RP
Amine RP	5	60	50	115211-A/RP	114211-A/RP	11d211-A/RP	112211-A/RP
Amine RP	5	60	100	125211-A/RP	124211-A/RP	12d211-A/RP	122211-A/RP
Amine RP	5	60	150	135211-A/RP	134211-A/RP	13d211-A/RP	132211-A/RP
Amine RP	5	60	250	155211-A/RP	154211-A/RP	15d211-A/RP	152211-A/RP
Amine RP	5	100	50	115221-A/RP	114221-A/RP	11d221-A/RP	112221-A/RP
Amine RP	5	100	100	125221-A/RP	124221-A/RP	12d221-A/RP	122221-A/RP
Amine RP	5	100	150	135221-A/RP	134221-A/RP	13d221-A/RP	132221-A/RP
Amine RP	5	100	250	155221-A/RP	154221-A/RP	15d221-A/RP	152221-A/RP
Amine RP	5	300	50	115231-A/RP	114231-A/RP	11d231-A/RP	112231-A/RP
Amine RP	5	300	100	125231-A/RP	124231-A/RP	12d231-A/RP	122231-A/RP
Amine RP	5	300	150	135231-A/RP	134231-A/RP	13d231-A/RP	132231-A/RP
Amine RP	5	300	250	155231-A/RP	154231-A/RP	15d231-A/RP	152231-A/RP
Diamine RP	5	60	50	115211-DA/RP	114211-DA/RP	11d211-DA/RP	112211-DA/RP
Diamine RP	5	60	100	125211-DA/RP	124211-DA/RP	12d211-DA/RP	122211-DA/RP
Diamine RP	5	60	150	135211-DA/RP	134211-DA/RP	13d211-DA/RP	132211-DA/RP
Diamine RP	5	60	250	155211-DA/RP	154211-DA/RP	15d211-DA/RP	152211-DA/RP
Triamine RP	5	60	50	115211-TA/RP	114211-TA/RP	11d211-TA/RP	112211-TA/RP
Triamine RP	5	60	100	125211-TA/RP	124211-TA/RP	12d211-TA/RP	122211-TA/RP
Triamine RP	5	60	150	135211-TA/RP	134211-TA/RP	13d211-TA/RP	132211-TA/RP
Triamine RP	5	60	250	155211-TA/RP	154211-TA/RP	15d211-TA/RP	152211-TA/RP