

# GC Column Selection Charts for ASTM Methods



Listed below are recommended Zebron columns for ASTM methods. Other columns may also be used for these analyses — please contact Phenomenex for your specific GC column needs.

ASTM	Method	Description	Recommended Columns
	D 1946	Reformed gas	ZB-1
	D 2268	Analysis of n-heptane and iso-octane (high purity)	ZB-1
	D 2306-96	Xylene isomers	ZB-WAX, ZB-WAX <sup>PLUS</sup> <sup>™</sup>
	D 2426	Butadiene and styrene in butadiene concentrates	ZB-1
	D 2504	Non-condensable gases in C1-C3 hydrocarbons	ZB-1 (thick phase)
	D 2580	Phenols in water	ZB-WAX <sup>PLUS</sup>
	D 2600	Aromatic traces in light saturated hydrocarbons	ZB-WAX
	D 2804	Purity of methyl ethyl ketone	ZB-WAX
	D 2887	SimDist analysis of petroleum fractions	ZB-1, ZB-1XT SimDist
	D 2908	Volatile organics in water	ZB-WAX, ZB-WAX <sup>PLUS</sup>
	D 2998	Polyhydric alcohols in alkyd resins	ZB-1
	D 2999	Monopentaerythritol in commercial pentaerythritol	ZB-1
	D 3009	Composition of turpentine	ZB-WAX <sup>PLUS</sup>
	D 3054	Purity and benzene content of cyclohexane	ZB-1
	D 3086	Organochlorine pesticides in water	ZB-CLPesticides-1 or -2, ZB-MultiResidue <sup>™</sup> -1 or -2
	D 3168	Polymers in emulsion paints	ZB-1
	D 3271	Solvent analysis in paints	ZB-WAX <sup>PLUS</sup>
	D 3304	PCBs in environmental materials	ZB-MultiResidue-1 or -2
	D 3328	Comparison of waterborne petroleum oils	ZB-1
	D 3329	Purity of methyl isobutyl ketone	ZB-WAX <sup>PLUS</sup>
	D 3432	Toluene diisocyanates in urethane prepolymers	ZB-1
	D 3447	Purity of trichlorotrifluoroethane (CFC-113)	ZB-1, ZB-624
	D 3452	Identification of rubber	ZB-1HT Inferno <sup>™</sup>
	D 3465	Purity of monomeric plasticizers	ZB-1
	D 3524	Diesel fuel in lubricating oil (SAE 30)	ZB-1HT Inferno
	D 3534	PCBs in water	ZB-5, ZB-5 <sup>PLUS</sup> <sup>™</sup>
	D 3606	Benzene and toluene in gasoline	ZB-1
	D 3687	Volatile organic compounds	ZB-WAX, ZB-WAX <sup>PLUS</sup>
	D 3710	Gasoline fractions	ZB-1XT SimDist
	D 3725	Fatty acids in drying oils	ZB-FFAP
	D 3760	Analysis of cumene	ZB-WAX, ZB-WAX <sup>PLUS</sup>
	D 3797	Analysis of o-xylene	ZB-WAX, ZB-WAX <sup>PLUS</sup>
	D 3798	Analysis of p-xylene impurities	ZB-WAX, ZB-WAX <sup>PLUS</sup>
	D 3876	Methoxyl and hydroxypropyl substitution in cellulose ether products	ZB-1
	D 3962	Impurities in styrene	ZB-FFAP
	D 4059	PCBs in insulating liquids	ZB-5 <sup>PLUS</sup> , ZB-5HT Inferno
	D 4275	Butylated hydroxy toluene in ethylene and ethylenevinylacetate polymers	ZB-1
	D 4367	Benzene in hydrocarbon solvent	ZB-1
	D 4420	Aromatics in gasoline	ZB-1
	D 4735	Thiophene impurities in benzene	ZB-FFAP
	D 4768	Phenol and cresol inhibitors in insulating oils	ZB-FFAP
	D 5060	Impurities in ethylbenzene	ZB-FFAP, ZB-WAX, ZB-WAX <sup>PLUS</sup>
	D 5134	Petroleum naphthas through n-nonane	ZB-1, ZB-DHA-PONA
	D 5135-95	Analysis of styrene	ZB-WAX, ZB-WAX <sup>PLUS</sup>
	D 5441	Analysis of Methyl Tert-Butyl Ether (MTBE)	ZB-DHA-PONA
	D 5501	Determination of denatured bioethanol	ZB-1, ZB-Bioethanol, ZB-DHA-PONA
	D 5580	Aromatics in finished gasoline	ZB-1
	D 6352	Extended SimDist	ZB-1HT Inferno, ZB-1XT SimDist
	D 6584	Determination of glycerine in biodiesel	ZB-5HT Inferno
	D 6729-30, D 6733	Components in spark ignition fuels	ZB-DHA-PONA
D 7169	Crude Oil; Vacuum distillates	ZB-1XT SimDist	
E 0202	Analysis of glycols	ZB-WAX <sup>PLUS</sup> , ZB-1	
E 1100	Analysis of denatured ethanol	ZB-WAX <sup>PLUS</sup> , ZB-Bioethanol	



## Essentials

A collection of tried-and-true selectivities, Essentials phases are the smart starting point for the GC method developer.

ZB-1	ZB-624
ZB-5	ZB-1701
ZB-5ms	ZB-1701P
ZB-35	ZB-WAX
ZB-50	ZB-FFAP
	ZB-XLB



## PLUS

PLUS phases offer a suite of upgrades compared to their Essentials counterparts – from exceptional inertness to enhanced aqueous stability.

ZB-1PLUS™
ZB-5PLUS™
ZB-5MSPLUS™
ZB-WAXPLUS™
ZB-624PLUS™



## Inferno™

Resilient under even the most intense GC conditions, Inferno phases dare to defy high boilers, contaminants, and carry-overs.

ZB-1HT
ZB-5HT
ZB-35HT
ZB-XLB-HT



## Unlimited

Designed for the truly bold GC scientist, Unlimited phases unleash the power of selectivity for targeted performance that breaks from the mold.

ZB-Dioxin
ZB-PAH-EU
ZB-PAH-CT
ZB-DHA-PONA
ZB-FAME
ZB-SemiVolatiles
ZB-MultiResidue™ -1 & -2
ZB-CLPesticides -1 & -2
ZB-Drug-1
ZB-BAC-1 & -2
ZB-1XT SimDist
ZB-Bioethanol

## Upgrade to Zebron!

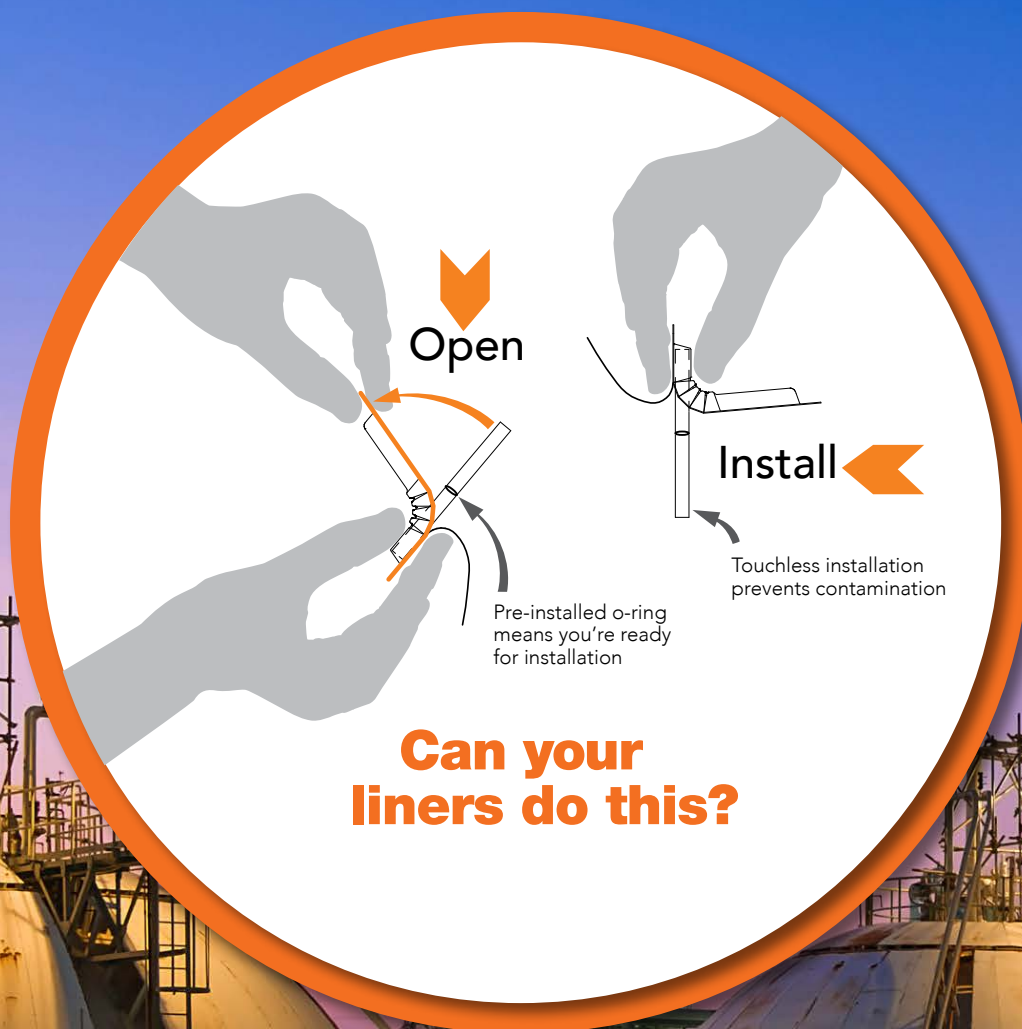
Our commitment to quality and innovation is what makes Zebron GC columns well-suited for any application. Performance is GUARANTEED.

Zebron Phase	Zebron Composition	Restek®	Agilent®	Supelco®	SGE®	OV
ZB-1	100% Dimethylpolysiloxane	Rtx®-1, Rtx-1PONA, Rtx-1 F&F	DB®-1, DB-2887, DB-1 EVDX, HP-1, HP-101, HP-PONA, Ultra 1, CP-Sil 5 CB	SPB®-1, SPB-1 TG, SE-30, MET-1, SPB-1 Sulfur, SPB-HAP	BP1, BP1-PONA, BPX1-SimD	OV-1
ZB-DHA-PONA	100% Dimethylpolysiloxane	Rtx-DHA	HP-PONA, DB-PETRO, CP-Sil PONA CB	Petrocol®-DH		
ZB-1 PLUS™	100% Dimethylpolysiloxane	Rtx-1ms, Rxi®-1ms	DB-1ms, DB-1ms Ultra Inert, HP-1ms, HP-1ms Ultra Inert, CP-Sil 5 CB MS, VF-1ms	MDN-1, Equity®-1	SolGel-1ms™	
ZB-1HT Inferno™	100% Dimethylpolysiloxane	Rxi-1HT	DB-1ht, CP-SimDist	Petrocol 2887		
ZB-1XT SimDist	100% Dimethylpolysiloxane	MXT®-1HT SimDist, MXT-1, MXT-1 SimDist, MXT-2887	CP-SimDist UltiMetal, CP-Sil 8 CB UltiMetal, BPX1-SimD, DB-PS1, DB-HT SimDis, DB-PS2887			
ZB-5	5% Phenyl 95% Dimethylpolysiloxane	Rtx-5	DB-5, HP-5, Ultra 2, HP-PAS-5, CP-Sil 8 CB, HP-5ms Ultra Inert	MDN-5, SPB-5, PTE-5, SE-54, PTA-5, Equity-5, Sac-5	BP5, BPX5	OV-5
ZB-5 PLUS™	5% Phenyl 95% Dimethylpolysiloxane	Rtx-5ms, Rxi-5ms, Rtx-5Amine	DB-5, HP-5ms, HP-5msi	MDN-5S		
ZB-5HT Inferno	5% Phenyl 95% Dimethylpolysiloxane	Rxi-5HT, Rtx-5HT Sbx®-5HT, XTI®-5HT	DB-5ht, VF-5ht	HT-5		
ZB-5ms	5% Phenyl-Arylene 95% Dimethylpolysiloxane	Rtx-5Sil MS, Rxi-5Sil MS	DB-5ms, DB-5.625, VF-5ms, DB-5ms EVDX, CP-Sil 8 CB MS			
ZB-5MS PLUS™	5% Phenyl-Arylene 95% Dimethylpolysiloxane	Rxi-5Sil MS	DB-5ms Ultra Inert, HP-5ms Ultra Inert, DB-5ms, VF-5ms	SLB®-5ms		
ZB-SemiVolatiles	5% Phenyl-Arylene 95% Dimethylpolysiloxane	Rxi-5Sil MS, Rxi-5ms	DB-5ms Ultra Inert	SLB-5ms		
ZB-35	35% Phenyl 65% Dimethylpolysiloxane	Rtx-35, Rtx-35ms	DB-35, DB-35ms, HP-35, HP-35ms	MDN-35, SPB-35, SPB-608	BPX35, BPX608	OV-11
ZB-35HT Inferno	35% Phenyl 65% Dimethylpolysiloxane			Phenomenex Exclusive		
ZB-50	50% Phenyl 50% Dimethylpolysiloxane	Rtx-50	DB-17, DB-17HT, DB-17ms, HP-50+, DB-17 EVDX, CP-Sil 24 CB	SP-2250, SPB-17, SPB-50	BPX50	OV-17
ZB-624	6% Cyanopropylphenyl 94% Dimethylpolysiloxane	Rtx-1301, Rtx-624	DB-1301, DB-624, DB-VRX, HP-VOC, CP-1301, CP-Select 624 CB	SPB-1301, SPB-624	BP624	OV-624
ZB-624 PLUS™	Proprietary	Rxi-624Sil MS	CP-Select 624 CB, DB-624UI Ultra Inert			
ZB-1701	14% Cyanopropylphenyl 86% Dimethylpolysiloxane	Rtx-1701	DB-1701, CP-Sil 19 CB	SPB-1701, Equity-1701	BP10	OV-1701
ZB-1701P	14% Cyanopropylphenyl 86% Dimethylpolysiloxane		DB-1701P			
ZB-FAME	High Cyanopropyl		CP-Sil 88, HP-88, DB-23	SP®-2560, SP-2380		
ZB-WAX	Polyethylene Glycol	Rtx-WAX, Famewax, Stabilwax-DB	DB-WAXetr, HP-INNOWax, CP-Wax 57 CB	MET-Wax, Omegawax	SolGel-WAX™	
ZB-WAX PLUS™	Polyethylene Glycol	Stabilwax®	DB-WAX, CAM, HP-20M, Carbowax 20M, CP-Wax 52 CB	SUPELCO WAX® 10	BP20	Carbowax 20M
ZB-FFAP	Nitroterephthalic Acid Modified Polyethylene Glycol	Stabilwax-DA	DB-FFAP, HP-FFAP, CP-FFAP CB CP-Wax 58 FFAP CB	Nukol, SPB-1000	BP21	OV-351
ZB-MultiResidue™-1	Proprietary	Rtx-CLPesticides, Stx-CLPesticides				
ZB-MultiResidue-2	Proprietary	Rtx-CLPesticides2, Stx-CLPesticides2				
ZB-CLPesticides-1	Proprietary	Rtx-CLPesticides, Stx-CLPesticides				
ZB-CLPesticides-2	Proprietary	Rtx-CLPesticides2, Stx-CLPesticides2				
ZB-XLB	Proprietary	Rtx-XLB, Rxi-XLB	DB-XLB, VF-XMS	MDN-12		
ZB-XLB-HT Inferno	Proprietary			Phenomenex Exclusive		
ZB-Drug-1	Proprietary			Phenomenex Exclusive		
ZB-BAC-1	Proprietary	Rtx-BAC1	DB-ALC1			
ZB-BAC-2	Proprietary	Rtx-BAC2	DB-ALC2			
ZB-Bioethanol	Proprietary			Phenomenex Exclusive		
ZB-PAH-EU	Proprietary	Rxi-PAH	DB-PAH-EU			
ZB-PAH-CT	Proprietary		PAH-Select			
ZB-Dioxin	Proprietary	Rtx-Dioxin-2	DB-Dioxin, DB-225, DB-5MSUI	SP-2330		

This section is, neither in terms of manufacturers nor in terms of their products, a complete list, and the accuracy of the data is not guaranteed. Small differences in dimensions or performance might be possible and slight adjustments to your application may be necessary.

## Pair your GC Column with a Zebtron Inlet Liner for Better GC Results!

- Remarkably Inert
- Ridiculously Easy to Install



### Find Your GC Liner!



#### Search by:

- Application
- System Manufacturer
- Injection Type
- Part Number

[www.phenomenex.com/FindLiner](http://www.phenomenex.com/FindLiner)

Your GC instrument will thank you for the ultimate protection that Zebtron gas management offers!

## Ordering Information

### Zebtron Gas Management Filters

Part No.	Description	Unit
AG6-1040	Gas Filter Universal	ea
AG6-1070	Gas Filter Universal (Helium)	ea
AG6-1010	Gas Filter Oxygen	ea
AG6-1020	Gas Filter Moisture	ea
AG6-1030	Gas Filter Hydrocarbon	ea
AG6-1050	Gas Filter Hydrocarbon/Moisture for LC-MS	2/pk
AG6-1060	Ring Nut for Gas Filter	ea



### Zebtron Gas Management Traps

Part No.	Description	Unit
AG6-3140	Click-on Universal Trap	ea
AG6-3110	Click-on Oxygen Trap	ea
AG6-3120	Click-on Moisture Trap	ea
AG6-3130	Click-on Hydrocarbon Trap	ea
AG6-3150	Click-on Carbon Dioxide Trap	ea



### Zebtron Connecting Units

Part No.	Description	Unit
AG6-2101	1-position Connecting Unit 1/4 in. Brass	ea
AG6-2102	2-position Connecting Unit 1/4 in. Brass	ea
AG6-2103	4-position Connecting Unit 1/4 in. Brass	ea
AG6-2201	1-position Connecting Unit 1/8 in. Brass	ea
AG6-2202	2-position Connecting Unit 1/8 in. Brass	ea
AG6-2203	4-position Connecting Unit 1/8 in. Brass	ea
AG6-2204	High flow 2-position Connecting Unit for LC-MS	ea
AG6-2205	Particle Filter for LC-MS	ea
AG6-2206	O-ring Replacement for Gas Filter Baseplate	20/pk

Part No.	Description	Unit
AG6-2301	1-position Connecting Unit 1/4 in. Stainless Steel	ea
AG6-2302	2-position Connecting Unit 1/4 in. Stainless Steel	ea
AG6-2303	4-position Connecting Unit 1/4 in. Stainless Steel	ea
AG6-2304	1-position Connecting Unit 1/8 in. Stainless Steel	ea
AG6-2305	2-position Connecting Unit 1/8 in. Stainless Steel	ea
AG6-2306	4-position Connecting Unit 1/8 in. Stainless Steel	ea

### Zebtron Base Electronic Indicator and Other Accessories

Part No.	Description	Unit
AG6-3160	1/8 in. Brass Click-on Connector Set	2/pk
AG6-3170	1/4 in. Brass Click-on Connector Set	2/pk
AG6-3180	Wall-mounting Clamp Set for Gas Traps	2/pk
AG6-4150	1/8 in. Stainless Steel Click-on Connector Set	2/pk
AG6-4160	1/4 in. Stainless Steel Click-on Connector Set	2/pk
AG6-3190	O-ring Replacement Set for Gas Trap	20/pk
AG6-4110	Electronic Indicator for Gas Trap	ea
AG6-4120	Electronic Indicator for Gas Filter	ea
AG6-4130	Electronic Indicator for LC-MS Filter	ea



## First time ordering Zebtron Click-on Gas Traps?

Be sure to order the **brass or stainless steel connector** with your first trap.





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