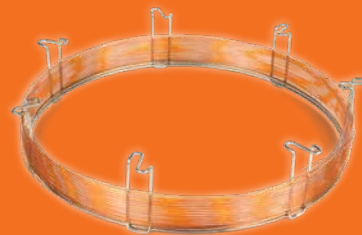


# Zebron Essentials

High Quality GC Phases  
for Every GC Method

Zebron™  
GC Columns



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

If you aren't using Phenomenex Zebron GC Columns,  
*It's Time to Upgrade Now!*

phenomenex®  
...breaking with tradition™

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



## From ZB-1 to ZB-FFAP

# There's a Zebron Essentials GC column that fits your analysis!

The Essentials are a collection of Zebron GC columns that are proven selectivities for day to day GC analysis. These tried-and-true selectivities cover a wide range of polarity including low, mid, and high polar phases. The Essentials are the smart choice for proven methods and a perfect starting point for the GC method developer.

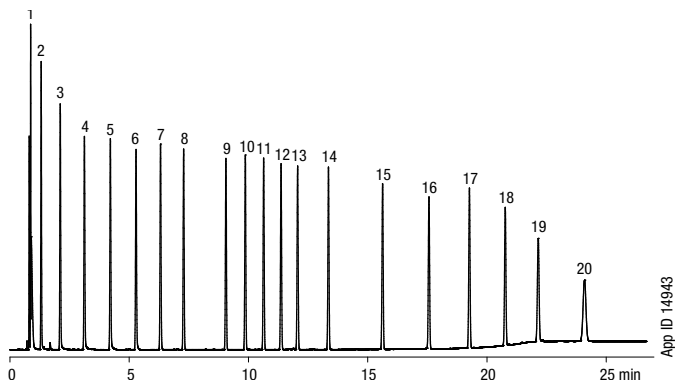
	POLARITY	COMPOSITION	TEMP. LIMITS (Isothermal/ TPGC)	GC-MS CERTIFIED	USP PHASE	APPLICATIONS	RECOMMENDED USE	FOR ALTERNATE RESULTS	PAGE NO.
5	<b>ZB-1</b> Non-polar phase suited for boiling point separations	 100% Dimethylpolysiloxane	-60 to 360/370 °C * Thicker films (≥ 1.0 µm) are rated to 340/360 °C		G1, G2, G9, G38	Essential Oils, Ethanol, Gases (Refinery), Hydrocarbons, Mercaptans, MTBE, Natural Gas Odorants, Oxygenates and GROs, PCBs, Simulated Distillation, Solvent Impurities, Light Sulfur Compounds	<ul style="list-style-type: none"> <li>Excellent resolving power of critical pairs in complex petrochemical samples</li> <li>Used for "fingerprinting" and routine quality control analyses (e.g., citrus oils)</li> </ul>	High temperatures: ZB-1HT Inferno™	<b>p. 3</b>
8	<b>ZB-5</b> Low polarity phase for general purpose use	 5% Phenyl 95% Dimethylpolysiloxane	-60 to 360/370 °C * Thicker films (≥ 1.0 µm) are rated to 340/360 °C		G27, G36, G41	Alkaloids, Dioxins, Drugs, Essential Oils/Flavors, FAMES, Halo-hydrocarbons, PCBs/Aroclors, Pesticides/Herbicides, Phenols, Residual Solvents	<ul style="list-style-type: none"> <li>Versatile column recommended for a wide range of applications</li> <li>Great column for unknown samples</li> <li>Resilient to dirty samples – long column life</li> </ul>	Even lower bleed: ZB-5 <sub>PLUS</sub> ™ Enhanced aromatic selectivity: ZB-5ms	<b>p. 3</b>
8	<b>ZB-5ms</b> General purpose 5% phenyl-arylene phase with enhanced selectivity for aromatics	 5% Phenyl-Arylene 95% Dimethylpolysiloxane	-60 to 325/350 °C		G27	Acids, Alkaloids, Amines, Dioxins, Drugs, EPA Methods, Essential Oils/ Flavors, FAMES, Halo-hydrocarbons, PCBs/Aroclors, Pesticides/Herbicides, Phenols, Residual Solvents, Semi- volatiles, Solvent Impurities	<ul style="list-style-type: none"> <li>Most popular starting column for method developers</li> <li>Arylene Matrix Technology™ (AMT) provides a highly stable arylene phase for enhanced resolution of PAHs and multi-ring aromatic compounds</li> <li>Suited to high sensitivity work using GC-MS</li> </ul>	SVOCs, PAHs, or PBDEs: ZB-5 <sub>PLUS</sub> ™ Alternate phenyl selectivity: ZB-5 <sub>PLUS</sub>	<b>p. 4</b>
9	<b>ZB-XLB</b> Low polarity si-arylene phase with extra low bleed for sensitive analyses	Proprietary	30 to 340/360 °C * Thicker films (≥ 1.0 µm) are rated to 320/340 °C			EPA Methods, PCBs, Pesticides/ Herbicides	<ul style="list-style-type: none"> <li>Low polarity si-arylene column for MS detectors</li> <li>Alternative selectivity to standard 5-type phases</li> <li>Used for confirmation of pesticide, PCBs, or other environmental samples</li> <li>Suited for unknown sample screening and identification</li> </ul>	Enhanced pesticide testing: ZB-MultiResidue™-1 High temperatures: ZB-XLB-HT Inferno	<b>p. 4</b>
13	<b>ZB-624</b> Optimized for volatile organic compounds (VOCs) and organic volatile impurities (OVIs)	 6% Cyanopropylphenyl 94% Dimethylpolysiloxane	-20 to 260 °C		G43	Pharmaceuticals, Residual Solvents, Volatile Organic Compounds (VOCs), EPA Methods (501.3, 502.2, 503.1, 524.2, 601, 602, 624, 8010, 8015, 8020, 8021, 8240, 8260)	<ul style="list-style-type: none"> <li>Increased temperature limit speeds run times and re-equilibration</li> <li>Popular for residual solvent testing (USP Monograph &lt;467&gt;)</li> <li>Widely used to separate volatile organic flavor and fragrance additives and residual solvents in industrial or pharmaceutical products (OVIs)</li> </ul>	G16 phase for residual solvents: ZB-WAX <sub>PLUS</sub> ™ MS certified G43: ZB-624 <sub>PLUS</sub> ™ for residual solvents by GC-MS	<b>p. 5</b>
18	<b>ZB-35</b> Intermediate polarity for high molecular weight samples and method development screening	 35% Phenyl 65% Dimethylpolysiloxane	40 to 340/360 °C		G28, G32, G42	Amines, Aroclors, Drugs, EPA Methods (508, 608, 8081, 8141, 8151), Pesticides, Pharmaceuticals	<ul style="list-style-type: none"> <li>Intermediate polarity for high molecular weight analysis</li> <li>Minimized analyte adsorption, improved reproducibility</li> <li>More rugged (longer column life) than other polar phases</li> <li>Excellent for trace analysis with bleed-sensitive detectors (MS, FID, ECD, NPD)</li> </ul>	High temperatures: ZB-35HT Inferno	<b>p. 5</b>
19	<b>ZB-1701</b> Alternate selectivity to phenyl phases, with similar polarity	 14% Cyanopropylphenyl 86% Dimethylpolysiloxane	-20 to 280/300 °C * Thicker films (≥ 1.0 µm) are rated to 260/280 °C		G46	Alcohols, Amines, Aromatic Hydrocarbons, Drugs, Esters, PAHs, PCBs, Pharmaceutical Intermediates, Phenols, Solvents, Steroids, TMS Sugars, Tranquilizers	<ul style="list-style-type: none"> <li>Fast run and re-equilibration times for enhanced sample throughput and productivity</li> <li>Provides alternate selectivity to phenyl phases with similar polarity</li> </ul>	Enhanced pesticide testing: ZB-MultiResidue-1 Enhanced Endrin and DDT: ZB-1701P; 7 EPA Methods on one pair: ZB-CLPesticides-1 & -2	<b>p. 7</b>
19	<b>ZB-1701P</b> Specifically designed for improved DDT and Endrin response	 14% Cyanopropylphenyl 86% Dimethylpolysiloxane	-20 to 280/300 °C * Thicker films (≥ 1.0 µm) are rated to 260/280 °C		G46	Aroclors, Nitrogen Containing Pesticides, Organochlorine Pesticides, Organophosphorous Pesticides	<ul style="list-style-type: none"> <li>Specially tested to ensure response of DDT, Endrin, Endrin Aldehyde, and Endrin Ketone</li> <li>Guaranteed column for pesticide analysis</li> <li>EPA Method 8081 Certified</li> </ul>	Enhanced pesticide testing: ZB-MultiResidue-1	<b>p. 7</b>
24	<b>ZB-50</b> High polarity phase with stability for high temperature bakeouts	 50% Phenyl 50% Dimethylpolysiloxane	40 to 320/340 °C		G3, G17	Antidepressants, Aroclors, Cholesterols, Drugs of Abuse, EPA Methods (508, 608, 8081, 8141, 8151), Glycols, Pesticides/Herbicides, Steroids, Triglycerides	<ul style="list-style-type: none"> <li>High polarity column capable of high temperature bake out to remove contaminants</li> <li>Inertness minimizes analyte adsorption, improves efficiency, and reproducibility</li> <li>More rugged (longer column life) than other polar phases</li> <li>Great for toxicology and environmental compounds</li> </ul>	Enhanced pesticide testing: ZB-MultiResidue-1 Drug screening: ZB- Drug-1	<b>p. 6</b>
57	<b>ZB-WAX</b> Bonded, solvent rinseable phase excellent for complex polar samples	 100% Polyethylene Glycol (PEG)	40 to 250/260 °C		G14, G15, G16, G20, G39, G47	Alcohols, Aldehydes, Aromatics, Basic Compounds, Essential Oils, Flavors & Fragrances, Glycols, Pharmaceuticals, Solvents, Styrene, Xylene Isomers	<ul style="list-style-type: none"> <li>Low activity for amines</li> <li>Excellent separations of polar complex mixtures; widely used for profiling and "fingerprinting"</li> </ul>	Enhanced aqueous stability: ZB-WAX <sub>PLUS</sub> Free fatty acids testing: ZB-FFAP	<b>p. 6</b>
58	<b>ZB-FFAP</b> Excellent peak shape for underivatized acids, organic acids, free fatty acids, and alcohols	 Nitroterephthalic Acid Modified Polyethylene Glycol	40 to 250/260 °C		G25, G35	Acrylates, Alcohols, Aldehydes, Free Fatty Acids, Ketones, Organic Acids, Phenols, Volatile Free Acids	<ul style="list-style-type: none"> <li>Popular choice for food industry method development</li> <li>High polarity with excellent thermal and chemical stability</li> <li>Improve peak shape for underivatized acids, organic acids, free fatty acids, and alcohols</li> <li>Bonded, solvent rinseable nitroterephthalic acid phase</li> </ul>	Enhanced aqueous stability: ZB-WAX <sub>PLUS</sub>	<b>p. 8</b>

## Zebron ZB-1

### Low Polarity and High Versatility

- Low polarity phase suited for true boiling point compounds
- Low bleed (MS certified), low activity, and high efficiency
- Excellent resolving power of critical pairs in complex petrochemical samples
- Used for "fingerprinting" and routine quality control analyses (e.g., citrus oils)

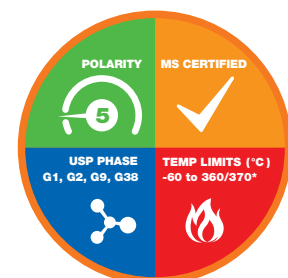
#### Simulated Distillation Markers: ASTM Method D2887



**Column:** Zebron ZB-1  
**Dimensions:** 10 meter x 0.53 mm x 2.65  $\mu$ m  
**Part No.:** [7CK-G001-35](#)  
**Injection:** Split 10:1 @ 360 °C, 1  $\mu$ L  
**Carrier Gas:** Helium @ 8.1 mL/min (constant flow)  
**Oven Program:** 35 °C to 360 °C @ 15 °C/min for 5 min  
**Detector:** FID @ 360 °C

**Sample:**

1. Pentane (C5)	11. Hexadecane (C16)
2. Hexane (C6)	12. Heptadecane (C17)
3. Heptane (C7)	13. Octadecane (C18)
4. Octane (C8)	14. Eicosane (C20)
5. Nonane (C9)	15. Tetracosane (C24)
6. Decane (C10)	16. Octacosane (C28)
7. Undecane (C11)	17. Dotriacontane (C32)
8. Dodecane (C12)	18. Hexatriacontane (C36)
9. Tetradecane (C14)	19. Tetracontane (C40)
10. Pentadecane (C15)	20. Tetratetracontane (C44)



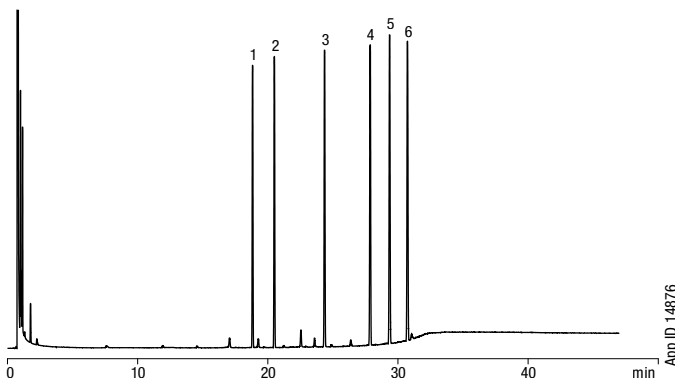
\*Thicker films ( $\geq 1.0 \mu$ m) are rated to 340/360 °C

## Zebron ZB-5

### Excellent Starting Phase for Method Development

- Rugged, versatile low polarity column for general lab purpose
- Resilient to dirty samples - long column life
- Low bleed (MS Certified) especially suited to high sensitivity work using GC-MS
- Extremely inert for active compounds such as drugs or pesticides

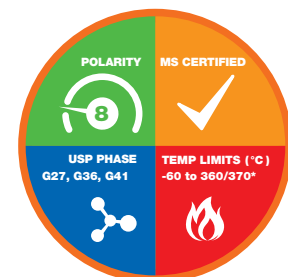
#### Phthalate Esters: EPA Method 606



**Column:** Zebron ZB-5  
**Dimensions:** 30 meter x 0.53 mm x 1.50  $\mu$ m  
**Part No.:** [ZHK-G002-28](#)  
**Injection:** Split 20:1 @ 300 °C, 1  $\mu$ L  
**Carrier Gas:** Helium @ 12.9 mL/min (constant flow)  
**Oven Program:** 40 °C for 6 min to 300 °C @ 10 °C/min for 15 min  
**Detector:** FID @ 300 °C

**Sample:**

1. Dimethyl Phthalate
2. Diethyl Phthalate
3. Di-n-butyl Phthalate
4. Butyl Benzyl Phthalate
5. Bis(2-ethylhexyl) Phthalate
6. Di-n-octyl Phthalate

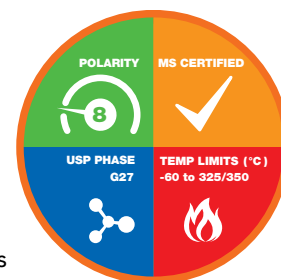


\*Thicker films ( $\geq 1.0 \mu$ m) are rated to 340/360 °C

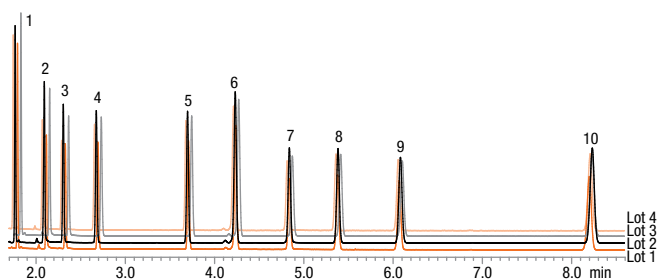
## Zebron ZB-5ms

### Robust Results, Good Starting Phase Especially for Aromatics

- Popular rugged column for general purpose use
- Fully conditioned within 35 minutes
- High response for acids and bases
- Enhanced resolution of polyaromatic hydrocarbons (PAHs) and other multi-ring aromatic compounds



### Reproducible Results

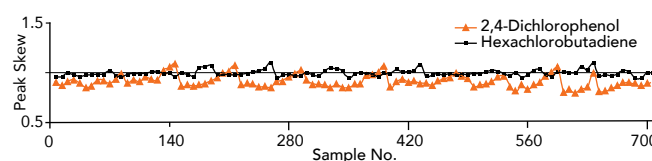


**Column:** Zebron ZB-5ms  
**Dimensions:** 30 meter x 0.25 mm x 0.25  $\mu$ m  
**Part No.:** ZHG-G010-11  
**Injection:** Split 1:100 @ 250 °C, 1.4  $\mu$ L  
**Carrier Gas:** Hydrogen @ 140 °C, 40 cm/sec  
**Oven Program:** 140 °C (Isothermal)  
**Detector:** FID @ 325 °C

**Sample:** 1. Decane  
 2. 2-Ethylhexanoic Acid  
 3. 1,6-Hexanediol  
 4. 4-Chlorophenol  
 5. Tridecane  
 6. 1-Methylnaphthalene  
 7. 1-Undecanol  
 8. Tetradecane  
 9. Dicyclohexylamine  
 10. Pentadecane

### Long Lifetime

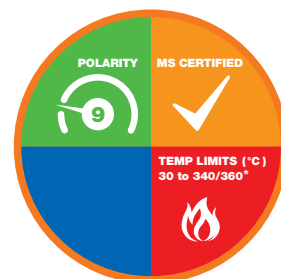
Consistent response after more than 700 samples at pH 2!



## Zebron ZB-XLB

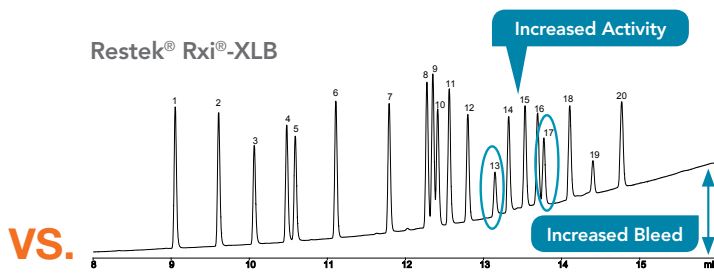
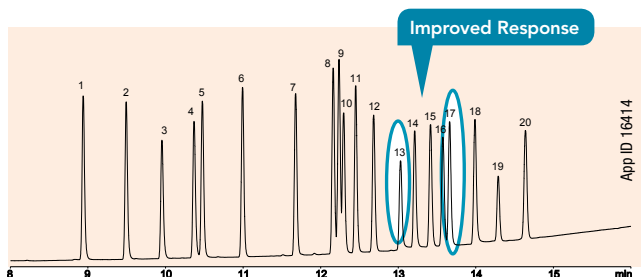
### Extra Low Bleed

- Unique, low polarity si-arylene column
- Engineered specifically for use with bleed sensitive detectors such as MS
- Provides alternate selectivity to standard 5-type phases
- Often used for confirmation of pesticides, PCBs, or other environmental samples
- Good tool for sample screening to identify unknown contaminants



\*Thicker films ( $\geq 1.0 \mu$ m) are rated to 320/340 °C

### Better Performance for Chlorinated Pesticides EPA Method 8081A



#### Conditions for both columns:

**Columns:** As listed  
**Dimensions:** 30 meter x 0.25 mm x 0.25  $\mu$ m  
**Injection:** Split 111:1 @ 250 °C, 1.5  $\mu$ L  
**Carrier Gas:** Helium @ 0.9 mL/min (constant flow)  
**Oven Program:** 110 °C to 320 °C @ 15 °C/min and hold until last peak elutes  
**Detector:** ECD @ 350 °C

**Sample:** 1.  $\alpha$ -BHC  
 2.  $\gamma$ -BHC  
 3.  $\beta$ -BHC  
 4.  $\delta$ -BHC  
 5. Heptachlor  
 6. Aldrin  
 7. Heptachlor epoxide  
 8.  $\gamma$ -Chlordane  
 9.  $\alpha$ -Chlordane  
 10. Endosulfan I  
 11. 4,4'-DDE  
 12. Dieldrin  
 13. Endrin  
 14. 4,4'-DDD  
 15. Endosulfan II  
 16. Endrin aldehyde  
 17. 4,4'-DDT  
 18. Endosulfan sulfate  
 19. Methoxychlor  
 20. Endrin ketone

Comparative separations may not be representative of all applications.



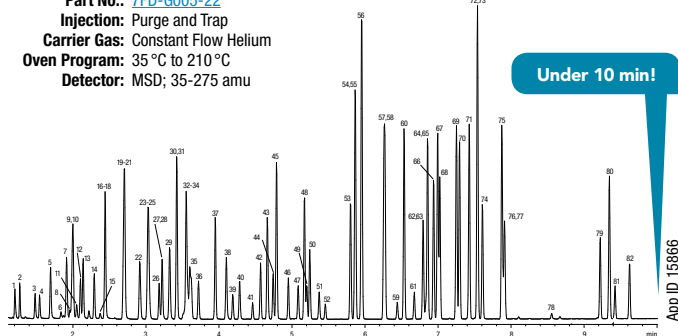
## Zebron ZB-624

### Robust Results for VOCs and Residual Solvents

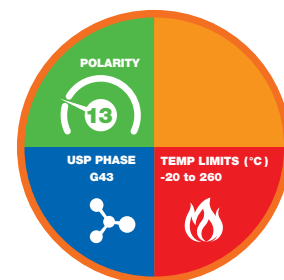
- Widely used phase to separate volatile organic flavor and fragrance additives and residual solvents in industrial or pharmaceutical products (OVIs)
- Popular choice for residual solvent testing
- Excellent for US EPA Methods 501.3, 502.2, 503.1, 524.2, 601, 602, 624, 8010, 8015, 8020, 8021, 8240, 8260
- Specifically designed for the separation of volatile organic compounds (VOCs)
- Increased temperature limit speeds run times and re-equilibration

### Volatile Organics: EPA Method 8260B

**Column:** Zebron ZB-624  
**Dimensions:** 20 meter x 0.18 mm x 1.00 µm  
**Part No.:** 7FD-G005-22  
**Injection:** Purge and Trap  
**Carrier Gas:** Constant Flow Helium  
**Oven Program:** 35 °C to 210 °C  
**Detector:** MSD; 35-275 amu



Peak No.	Sample Analyte
1.	Chloromethane
2.	Vinyl chloride
3.	Bromomethane
4.	Chloroethane
5.	Trichlorofluoromethane
6.	Ethanol
7.	Dichlorotrifluoroethane
8.	Acrolein
9.	Trichlorotrifluoroethane
10.	1, 1-Dichloroethene
11.	Acetone
12.	Methyl iodide
13.	Carbon disulfide
14.	Methylene chloride
15.	t-Butanol
16.	trans-1,2-Dichloroethane
17.	Methyl-t-butyl ether
18.	Acrylonitrile
19.	1, 1-Dichloroethane
20.	Vinyl Acetate
21.	Diisopropyl ether
22.	Ethyl-t-butyl ether
23.	2, 2-Dichloropropane
24.	cis-1, 2-Dichloroethene
25.	2-Butanone
26.	Bromochloromethane
27.	Chloroform
28.	Tetrahydrofuran
29.	1, 1, 1-Trichloroethane
30.	1, 1-Dichloropropane
31.	Carbon tetrachloride
32.	1, 2-Dichloroethane-d4
33.	Benzene
34.	1, 2-Dichloroethane
35.	t-Amyl methyl ether
36.	Fluorobenzene
37.	Trichloroethene
38.	1, 2-Dichloropropane
39.	Dibromomethane
40.	Bromodichloromethane
41.	2-Chloroethylvinyl ether

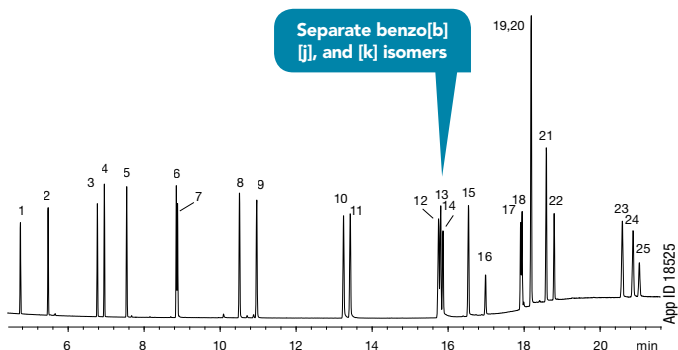


Peak No.	Sample Analyte	Peak No.	Sample Analyte
42.	cis-1, 3-Dichloropropene	67.	1, 3, 5-Trimethylbenzene
43.	Methyl isobutyl ketone	68.	4-Chlorotoluene
44.	Toluene-d8	69.	tert-Butylbenzene
45.	Toluene	70.	1, 2, 4-Trimethylbenzene
46.	trans-1, 3-Dichloropropene	71.	sec-Butylbenzene
47.	1, 1, 2-Trichloroethane	72.	1, 3-Dichlorobenzene
48.	Tetrachloroethene	73.	4-Isopropyltoluene
49.	1, 3-Dichloropropane	74.	1, 4-Dichlorobenzene
50.	2-Hexanone	75.	n-Butylbenzene
51.	Dibromochloromethane	76.	1, 2-Dichlorobenzene-d4
52.	Ethylene dibromide	77.	1, 2-Dichlorobenzene
53.	Chlorobenzene	78.	1, 2-Dibromo-3-chloropropane
54.	1, 1, 1, 2-Tetrachloroethane	79.	1, 2, 4-Trichlorobenzene
55.	Ethylbenzene	80.	Hexachlorobutadiene
56.	m, p-Xylene	81.	Naphthalene
57.	o-Xylene	82.	1, 2, 3-Trichlorobenzene
58.	Styrene		
59.	Bromoform		
60.	Isopropylbenzene		
61.	4-Bromofluorobenzene		
62.	1, 1, 2, 2-Tetrachloroethane		
63.	Bromobenzene		
64.	1, 2, 3-Trichloropropane		
65.	n-Propylbenzene		
66.	2-Chlorotoluene		

## Zebron ZB-35

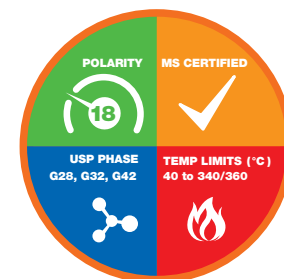
### Perform Difficult Separations

### PAHs in Water by GC-MS



**Column:** Zebron ZB-35  
**Dimensions:** 30 meter x 0.25 mm x 0.25 µm  
**Part No.:** 7HG-G003-11  
**Injection:** On-Column @ 83 °C, 1 µL  
**Carrier Gas:** Helium @ 1.2 mL/min (constant flow)  
**Oven Program:** 80 °C for 0.66 min to 250 °C @ 20 °C/min to 360 °C @ 8 °C/min for 6 min  
**Detector:** MSD @ 360 °C, 45-450 amu  
**Sample:** Analytes are 10 ppm in dichloromethane

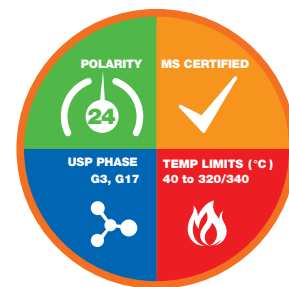
1. Naphthalene	14. Benzo[j]fluoranthene
2. 2-Methylnaphthalene	15. Benzo[a]pyrene
3. Acenaphthylene	16. 3-Methylcholanthrene
4. Acenaphthene	17. Dibenz[a,h]acridine
5. Fluorene	18. Dibenz[a,i]acridine
6. Phenanthrene	19. Indeno[1,2,3-cd]pyrene
7. Anthracene	20. Dibenz[a,h]anthracene
8. Fluoranthene	21. Benzo[g,h,i]perylene
9. Pyrene	22. 7H-Dibenzo[c,g] carbazole
10. Benz[a]anthracene	23. Dibenzo[a,e]pyrene
11. Chrysene	24. Dibenzo[a,i]pyrene
12. Benzo[b]fluoranthene	25. Dibenzo[a,h]pyrene
13. Benzo[k]fluoranthene	



## Zebron ZB-50

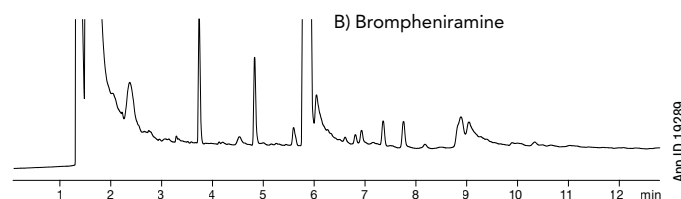
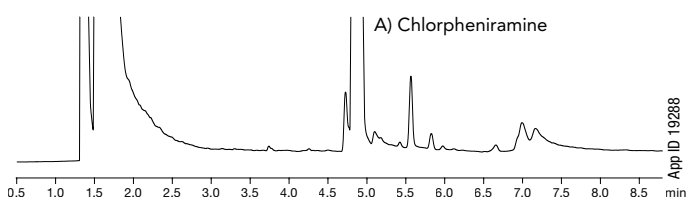
### Robust Results, Rugged Polar Phase

- High polarity column with temperature limits up to 340 °C allows high temperature to bake out to remove contaminants
- Excellent inertness to minimize analyte adsorption, improve efficiency, and reproducibility
- More rugged (longer column life) than other polar phases
- Excellent for trace analysis with bleed-sensitive detectors
- Great for drug screening and environmental compounds



### Mid-Polarity for Drugs

#### Antihistamines by GC-FID



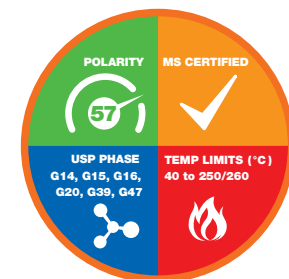
**Column:** Zebron ZB-50  
**Dimensions:** 30 meter x 0.32 mm x 0.50 µm  
**Part No.:** [ZHM-G004-17](#)  
**Injection:** Split 20:1 @ 250 °C, 1 µL  
**Carrier Gas:** Helium @ 40 cm/sec (constant flow)  
**Oven Program:** A) 190 °C to 260 °C @ 25 °C/min for 6 min  
 B) 190 °C to 260 °C @ 25 °C/min for 10 min  
**Detector:** FID @ 270 °C  
**Sample:** As listed

## Zebron ZB-WAX

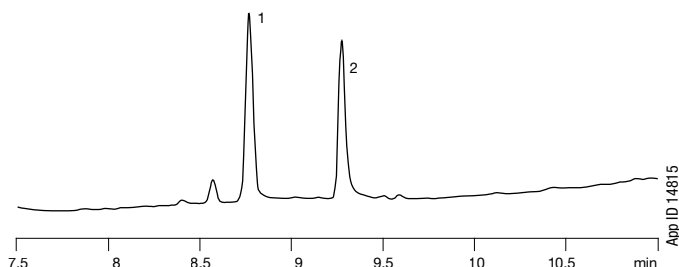
### PEG Versatility for Solvents, Acids, and Amines

- High polarity column with low bleed (MS certified) for improved results
- Highly stable, long lifetime
- Low activity for amines

- Bonded, solvent rinsible
- Excellent chromatography of polar complex mixtures
- Widely used for profiling and "fingerprinting"

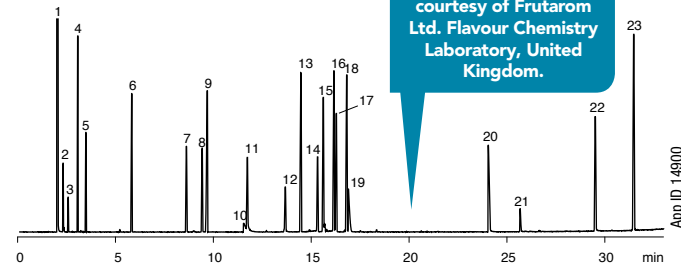


#### Ethylene and Propylene Glycol in Water by GC-FID



**Column:** Zebron ZB-WAX  
**Dimensions:** 30 meter x 0.53 mm x 1.0 µm  
**Part No.:** [7HK-G007-22](#)  
**Injection:** Splitless (hold 0.5 min) @ 225 °C, 1 µL  
**Carrier Gas:** Helium @ 6.6 mL/min (constant flow)  
**Oven Program:** 80 °C for 1 min to 200 °C @ 8 °C/min for 5 min  
**Detector:** FID @ 325 °C  
**Sample:** 1. Propylene glycol  
 2. Ethylene glycol

#### Flavors Analysis by GC-MS



**Column:** Zebron ZB-WAX  
**Dimensions:** 30 meter x 0.25 mm x 0.25 µm  
**Part No.:** [7HG-G007-11](#)  
**Injection:** Split 100:1 @ 250 °C, 1 µL  
**Carrier Gas:** Helium @ 1 mL/min (constant flow)  
**Oven Program:** 50 °C to 250 °C @ 6 °C/min for 3 min  
**Detector:** MSD @ 275 °C

- |                         |                      |                   |
|-------------------------|----------------------|-------------------|
| 1. Acetone              | 9. Tetradecane       | 17. Geranial      |
| 2. Ethyl acetate        | 10. Acetic acid      | 18. Decanal       |
| 3. Ethanol              | 11. Decanal          | 19. Valeric acid  |
| 4. Decane               | 12. Propylene glycol | 20. Nonanoic acid |
| 5. Ethyl butyrate       | 13. Ethyl decanoate  | 21. Decanoic acid |
| 6. Limonene             | 14. Neral            | 22. Vanillin      |
| 7. 2,3-Dimethylpyrazine | 15. α-Terpineol      | 23. Anthracene    |
| 8. (Z)-3-Hexenol        | 16. Neryl Acetate    |                   |

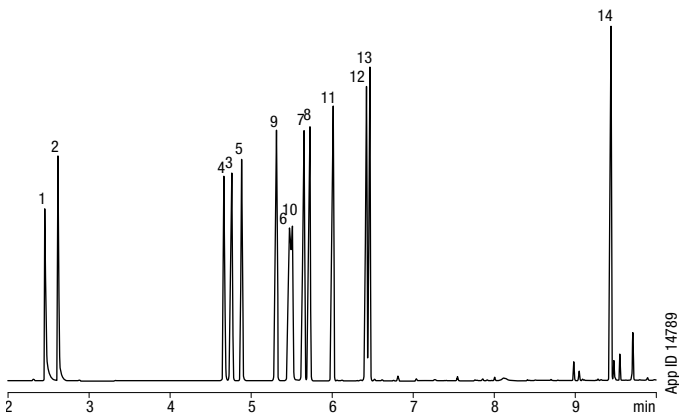
Customer sample courtesy of Frutarom Ltd. Flavour Chemistry Laboratory, United Kingdom.

## Zebron ZB-1701

### Alternate Selectivity for Mid-Polarity Analyses

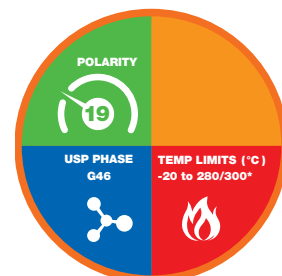
- Fast run and re-equilibration times for enhanced sample throughput and productivity
- Provides alternate selectivity to phenyl phases with similar polarity
- Good peak shape for active analytes

#### Aromatic Amines by GC-MS



**Column:** Zebron ZB-1701  
**Dimensions:** 30 meter x 0.25 mm x 0.25 µm  
**Part No.:** 7HG-G006-11  
**Injection:** Split 15:1 @ 220 °C, 1 µL  
**Carrier Gas:** Helium @ 1.0 mL/min (constant flow)  
**Oven Program:** 60 °C for 1 min to 110 °C @ 30 °C/min to 135 °C @ 9 °C/min to 260 °C @ 30 °C/min for 2 min  
**Detector:** MSD @ 180 °C  
**Sample:** Analytes are at 1.58 mg/mL each

1. Piperidine
2. 2-Methylpiperidine
3. Aniline
4. Benzylamine
5. α-Phenylethylamine
6. N-Methylaniline
7. m-Toluidine
8. o-Toluidine
9. N,N-Dimethylaniline
10. β-Phenylethylamine
11. N-Ethylaniline
12. 2,4-Dimethylaniline
13. N,N-Diethylaniline
14. Dibenzylamine



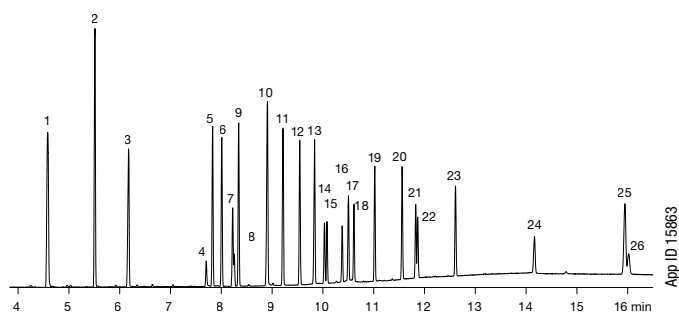
\*Thicker films (≥ 1.0 µm) are rated to 260/280 °C

## Zebron ZB-1701P

### Enhanced Response for DDT and Endrin Resolve Key Pesticides

- Specially tested to ensure response of DDT, Endrin, Endrin Aldehyde, and Endrin Ketone
- Fast run and re-equilibration times for enhanced sample throughput and productivity
- Guaranteed column for pesticide analysis

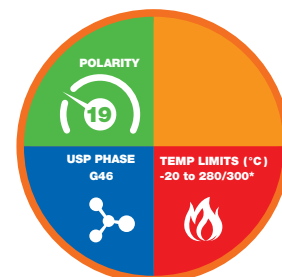
#### Organophosphate Pesticides by GC-MS



**Column:** Zebron ZB-1701P  
**Dimensions:** 30 meter x 0.25 mm x 0.25 µm  
**Part No.:** 7HG-G012-11  
**Injection:** Splitless (hold 0.5 min) @ 220 °C, 1 µL  
**Carrier Gas:** Helium @ 0.8 mL/min (constant flow)  
**Oven Program:** 80 °C to 220 °C @ 20 °C/min for 1 min to 280 °C @ 15 °C/min for 4.5 min  
**Detector:** MSD; 40-450 amu

**Sample:**

1. 0,0,0-Triethyl phosphorothioate	14. Tolclofos-methyl
2. Dichlorvos	15. Pirimiphos methyl
3. Methamidophos	16. Chlorpyrifos (Dursban)
4. Acephate	17. Methyl parathion
5. Thionazin	18. Malathion
6. Di-allate (isomer)	19. Parathion
7. Demeton-S-methyl	20. Prothiophos
8. Di-allate	21. Profenofos
9. Phorate	22. Methidathion
10. Omethoate	23. Ethion
11. Disulfoton	24. Famphur
12. Pronamide	25. Pyrazophos
13. Dimethoate	26. Azinphos-methyl

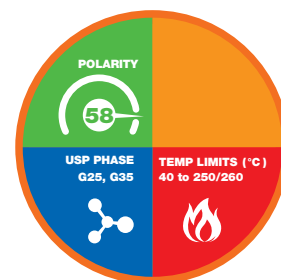


\*Thicker films (≥ 1.0 µm) are rated to 260/280 °C

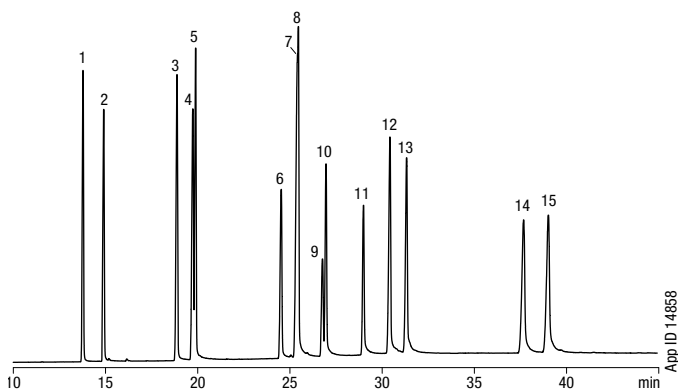
## Zebron ZB-FFAP

### Improved Resolution for Free Fatty Acids

- High polarity column, excellent thermal and chemical stability
- Provides better peak shape for underivatized acids
- Especially suited for organic acids, free fatty acids, and alcohols
- Bonded, solvent rinsible FFAP phase



### Unsaturated Free Fatty Acids by GC-FID



**Column:** Zebron ZB-FFAP  
**Dimensions:** 60 meter x 0.25 mm x 0.25 μm  
**Part No.:** [7KG-G009-11](#)  
**Injection:** Split 40:1 @ 220 °C, 0.2 μL  
**Carrier Gas:** Helium @ 2.4 mL/min (constant flow)  
**Oven Program:** 200 °C to 260 °C @ 2 °C/min for 30 min  
**Detector:** FID @ 250 °C  
**Sample:**

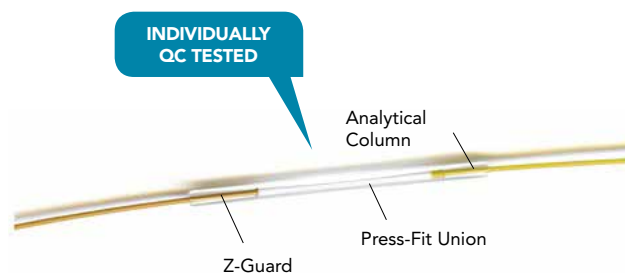
1. Myristic Acid (C14:0)
2. Myristoleic Acid (C14:1c)
3. Palmitic Acid (C16:0)
4. Palmitoleic Acid (C16:1t)
5. Palmitoleic Acid (C16:1c)
6. Stearic Acid (C18:0)
7. Elaidic Acid (C18:1t)
8. Oleic Acid (C18:1c)
9. Linolelaidic Acid (C18:2t)
10. Linoleic Acid (C18:2c)
11. Linolenic Acid (C18:3c)
12. Arachidic Acid (C20:0)
13. Gondoic Acid (C20:1c)
14. Behenic Acid (C22:0)
15. Erucic Acid (C22:1c)

## Z-Guard™ Columns

### Protect and Extend Column Lifetime

- Individually QC tested to ensure the highest level of quality
- Extend column lifetime by preventing stationary phase damage
- Improve separation and peak shapes (especially early elutors)
- Improve sensitivity and accuracy of quantitative results
- Available as individual guard columns or as complete kits with connectors

To ensure that all Z-Guards are the highest possible quality, we individually test each one! The columns are attached to a reference Zebron ZB-5 column and are tested using our specially designed QC mix. We carefully monitor activity, bleed, and stability. This way, we are able to say with confidence that Z-Guards will provide the low activity and high quality your methods require.





## Protect your GC column and GC detector using the Zebron Gas Management system!

### No Diffusion and No Leaks with Dual Wall Housing!

More protection and less contamination with an inner glass wall and better safety with a plastic outer wall.

### Higher Capacity

The higher capacity of Zebron gas management filters means less need for replacement and an increase in system uptime, saving you time and money.

### Easy Filter Installation in Under 20 Seconds!

Avoid system downtime by attaching a new filter to your gas line in seconds!

### Never Disrupt Your Instrument!

The integrated one way valve on the Zebron gas management base units allow for quick and easy filter changes without disrupting the instrument.

### Easily Know When to Replace Your Filter!

1

#### Color Change

The indicator on each Zebron gas management filter will display when it is time to change your filter.\*

2

#### Electronic Indicator

The optional electronic indicator will alert you with an audible warning on when to change your filter based on typical usage.



### Got LC-MS?

Zebron LC-MS gas filters are now available!  
(See page 11 for ordering information.)

### Universal Compatibility

No need to change your existing connecting unit. Simply remove the old filter, replace the O-ring, click a new filter in, and tighten the connection with the ring nut! (Part No.: [AG6-1060](#)).



## Click-on Trap

### Never Disrupt Your Instrument!

Attach a new filter in under 10 seconds. Once the connecting unit is installed, you will be able to change traps as often as needed without interrupting the instrument.

## High Pressure Durability

The Click-on trap is completely made out of stainless steel and can withstand high pressures. The seals at each end of the trap will only be punctured when the Click-on connector is locked in place.

## Know When to Replace

The optional electronic indicator displays when scheduled replacement or maintenance is due.

## Secure Wall Mount

These wall mounting clamps will EASILY help attach a Zebtron gas trap to a wall or surface.

## Click-On Connection

The Click-on trap connectors allow inline cartridges to be exchanged without introducing contaminants. Spring loaded check valves seal when a filter is removed and open only when a new filter has been locked in place.



## Zebron Gas Management Filters

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



## Zebron Gas Management Traps

Part No.	Description	Unit
<a href="#">AG6-3140</a>	Click-on Universal Trap	ea
<a href="#">AG6-3110</a>	Click-on Oxygen Trap	ea
<a href="#">AG6-3120</a>	Click-on Moisture Trap	ea
<a href="#">AG6-3130</a>	Click-on Hydrocarbon Trap	ea
<a href="#">AG6-3150</a>	Click-on Carbon Dioxide Trap	ea



## Zebron Connecting Units

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

Part No.	Description	Unit
<a href="#">AG6-2301</a>	1-position Connecting Unit 1/4 in. Stainless Steel	ea
<a href="#">AG6-2302</a>	2-position Connecting Unit 1/4 in. Stainless Steel	ea
<a href="#">AG6-2303</a>	4-position Connecting Unit 1/4 in. Stainless Steel	ea
<a href="#">AG6-2304</a>	1-position Connecting Unit 1/8 in. Stainless Steel	ea
<a href="#">AG6-2305</a>	2-position Connecting Unit 1/8 in. Stainless Steel	ea
<a href="#">AG6-2306</a>	4-position Connecting Unit 1/8 in. Stainless Steel	ea

## Zebron Base Electronic Indicator and Other Accessories

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



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

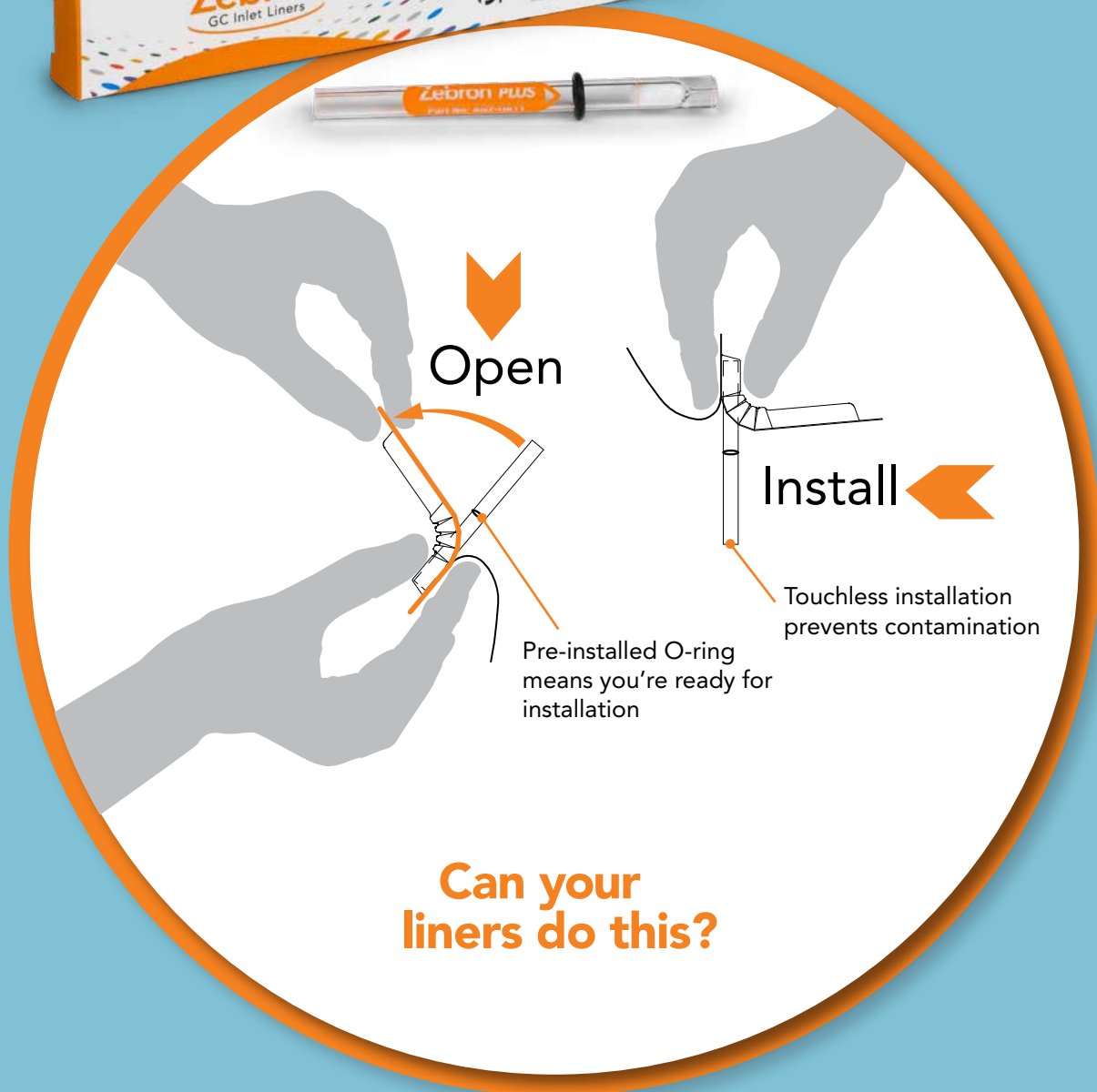
Be sure to order the **brass or stainless steel connector** with your first trap.



**BE-HAPPY™**  
guarantee

Your happiness is our mission. Take 45 days to try our products. If you are not happy, we'll make it right.  
[www.phenomenex.com/behappy](http://www.phenomenex.com/behappy)

# Remarkably Inert, Ridiculously Easy to Install, Zebron PLUS GC Liner



## Find Your GC Liner!

### Search by:

- Application
- System Manufacturer
- Injection Type
- Part Number

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



## Zebron ZB-1 GC Columns

ID(mm)	df(μm)	Temp. Limits °C	Part No.
<b>10-Meter</b>			
0.53	2.65	-60 to 340/360	<a href="#">7CK-G001-35</a>
<b>15-Meter</b>			
0.25	0.10	-60 to 360/370	<a href="#">7EG-G001-02</a>
0.25	0.25	-60 to 360/370	<a href="#">7EG-G001-11</a>
0.25	1.00	-60 to 340/360	<a href="#">7EG-G001-22</a>
0.32	0.25	-60 to 360/370	<a href="#">7EM-G001-11</a>
0.32	1.00	-60 to 340/360	<a href="#">7EM-G001-22</a>
0.53	0.15	-60 to 360/370	<a href="#">7EK-G001-05</a>
0.53	0.50	-60 to 360/370	<a href="#">7EK-G001-17</a>
0.53	1.50	-60 to 340/360	<a href="#">7EK-G001-28</a>
<b>30-Meter</b>			
0.25	0.10	-60 to 360/370	<a href="#">7HG-G001-02</a>
0.25	0.25	-60 to 360/370	<a href="#">7HG-G001-11</a>
0.25	0.50	-60 to 360/370	<a href="#">7HG-G001-17</a>
0.25	1.00	-60 to 340/360	<a href="#">7HG-G001-22</a>
0.32	0.25	-60 to 360/370	<a href="#">7HM-G001-11</a>
0.32	0.50	-60 to 360/370	<a href="#">7HM-G001-17</a>
0.32	1.00	-60 to 340/360	<a href="#">7HM-G001-22</a>
0.32	3.00	-60 to 340/360	<a href="#">7HM-G001-36</a>
0.32	5.00	-60 to 340/360	<a href="#">7HM-G001-39</a>
0.53	0.50	-60 to 360/370	<a href="#">7HK-G001-17</a>
0.53	1.50	-60 to 340/360	<a href="#">7HK-G001-28</a>
0.53	3.00	-60 to 340/360	<a href="#">7HK-G001-36</a>
0.53	5.00	-60 to 340/360	<a href="#">7HK-G001-39</a>
<b>50-Meter</b>			
0.25	0.50	-60 to 360/370	<a href="#">7JG-G001-17</a>
<b>60-Meter</b>			
0.25	0.25	-60 to 360/370	<a href="#">7KG-G001-11</a>
0.25	1.00	-60 to 340/360	<a href="#">7KG-G001-22</a>
0.32	0.25	-60 to 360/370	<a href="#">7KM-G001-11</a>
0.32	1.00	-60 to 340/360	<a href="#">7KM-G001-22</a>
0.32	3.00	-60 to 340/360	<a href="#">7KM-G001-36</a>
0.53	1.50	-60 to 340/360	<a href="#">7KK-G001-28</a>
<b>100-Meter</b>			
0.25	0.50	-60 to 360/370	<a href="#">7MG-G001-17</a>

Note: If you need a 5 in. cage, simply add a (-B) after the part number, e.g., [7HG-G001-11-B](#). Some exceptions may apply. Agilent 6850 and some SRI and process GC systems use only 5 in. cages.

## Zebron ZB-5ms GC Columns

ID(mm)	df(μm)	Temp. Limits °C	Part No.
<b>10-Meter</b>			
0.10	0.10	-60 to 325/350	<a href="#">7CB-G010-02</a>
0.18	0.18	-60 to 325/350	<a href="#">7CD-G010-08</a>
<b>12-Meter</b>			
0.20	0.33	-60 to 325/350	<a href="#">7DE-G010-14</a>
<b>15-Meter</b>			
0.25	0.25	-60 to 325/350	<a href="#">7EG-G010-11</a>
<b>20-Meter</b>			
0.18	0.18	-60 to 325/350	<a href="#">7FD-G010-08</a>
0.18	0.32	-60 to 325/350	<a href="#">7FD-G010-51</a>
0.18	0.36	-60 to 325/350	<a href="#">7FD-G010-53</a>
<b>25-Meter</b>			
0.20	0.33	-60 to 325/350	<a href="#">7GE-G010-14</a>
<b>30-Meter</b>			
0.25	0.25	-60 to 325/350	<a href="#">7HG-G010-11</a>
0.25	0.50	-60 to 325/350	<a href="#">7HG-G010-17</a>
0.25	1.00	-60 to 325/350	<a href="#">7HG-G010-22</a>
0.32	0.25	-60 to 325/350	<a href="#">7HM-G010-11</a>
0.32	0.50	-60 to 325/350	<a href="#">7HM-G010-17</a>
0.32	1.00	-60 to 325/350	<a href="#">7HM-G010-22</a>
<b>60-Meter</b>			
0.25	0.10	-60 to 325/350	<a href="#">7KG-G010-02</a>
0.25	0.25	-60 to 325/350	<a href="#">7KG-G010-11</a>
0.32	0.25	-60 to 325/350	<a href="#">7KM-G010-11</a>

Note: If you need a 5 in. cage, simply add a (-B) after the part number, e.g., [7HG-G010-11-B](#). Some exceptions may apply. Agilent 6850 and some SRI and process GC systems use only 5 in. cages.

## Zebron ZB-5 GC Columns

ID(mm)	df(μm)	Temp. Limits °C	Part No.
<b>15-Meter</b>			
0.25	0.10	-60 to 360/370	<a href="#">7EG-G002-02</a>
0.25	0.25	-60 to 360/370	<a href="#">7EG-G002-11</a>
0.25	0.50	-60 to 360/370	<a href="#">7EG-G002-17</a>
0.25	1.00	-60 to 340/360	<a href="#">7EG-G002-22</a>
0.32	0.10	-60 to 360/370	<a href="#">7EM-G002-02</a>
0.32	0.25	-60 to 360/370	<a href="#">7EM-G002-11</a>
0.32	1.00	-60 to 340/360	<a href="#">7EM-G002-22</a>
0.53	0.50	-60 to 360/370	<a href="#">7EK-G002-17</a>
0.53	1.50	-60 to 340/360	<a href="#">7EK-G002-28</a>
0.53	3.00	-60 to 340/360	<a href="#">7EK-G002-36</a>
<b>20-Meter</b>			
0.18	0.18	-60 to 360/370	<a href="#">7FD-G002-08</a>
<b>30-Meter</b>			
0.25	0.10	-60 to 360/370	<a href="#">7HG-G002-02</a>
0.25	0.25	-60 to 360/370	<a href="#">7HG-G002-11</a>
0.25	0.50	-60 to 360/370	<a href="#">7HG-G002-17</a>
0.25	1.00	-60 to 340/360	<a href="#">7HG-G002-22</a>
0.32	0.25	-60 to 360/370	<a href="#">7HM-G002-11</a>
0.32	0.50	-60 to 360/370	<a href="#">7HM-G002-17</a>
0.32	1.00	-60 to 340/360	<a href="#">7HM-G002-22</a>
0.53	0.50	-60 to 360/370	<a href="#">7HK-G002-17</a>
0.53	1.50	-60 to 340/360	<a href="#">7HK-G002-28</a>
0.53	3.00	-60 to 340/360	<a href="#">7HK-G002-36</a>
0.53	5.00	-60 to 340/360	<a href="#">7HK-G002-39</a>
<b>60-Meter</b>			
0.25	0.10	-60 to 360/370	<a href="#">7KG-G002-02</a>
0.25	0.25	-60 to 360/370	<a href="#">7KG-G002-11</a>
0.25	0.50	-60 to 360/370	<a href="#">7KG-G002-17</a>
0.25	1.00	-60 to 340/360	<a href="#">7KG-G002-22</a>
0.32	0.25	-60 to 360/370	<a href="#">7KM-G002-11</a>
0.32	1.00	-60 to 340/360	<a href="#">7KM-G002-22</a>
0.53	1.50	-60 to 340/360	<a href="#">7KK-G002-28</a>

Note: If you need a 5 in. cage, simply add a (-B) after the part number, e.g., [7HG-G002-11-B](#). Some exceptions may apply. Agilent 6850 and some SRI and process GC systems use only 5 in. cages.

## Zebron ZB-XLB GC Columns

ID(mm)	df(μm)	Temp. Limits °C	Part No.
<b>10-Meter</b>			
0.18	0.18	30 to 340/360	<a href="#">7CD-G019-08</a>
<b>15-Meter</b>			
0.25	0.25	30 to 340/360	<a href="#">7EG-G019-11</a>
<b>20-Meter</b>			
0.18	0.18	30 to 340/360	<a href="#">7FD-G019-08</a>
<b>30-Meter</b>			
0.25	0.25	30 to 340/360	<a href="#">7HG-G019-11</a>
0.25	0.50	30 to 340/360	<a href="#">7HG-G019-17</a>
0.32	0.25	30 to 340/360	<a href="#">7HM-G019-11</a>
0.32	0.50	30 to 340/360	<a href="#">7HM-G019-17</a>
0.53	1.50	30 to 320/340	<a href="#">7HK-G019-28</a>
<b>60-Meter</b>			
0.25	0.25	30 to 340/360	<a href="#">7KG-G019-11</a>

Note: If you need a 5 in. cage, simply add a (-B) after the part number, e.g., [7HG-G019-11-B](#). Some exceptions may apply. Agilent 6850 and some SRI and process GC systems use only 5 in. cages.

**BE-HAPPY™**  
guarantee

Your happiness is our mission. Take 45 days to try our products. If you are not happy, we'll make it right.

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



## Zebron ZB-624 GC Columns

ID(mm)	df(μm)	Temp. Limits °C	Part No.
<b>20-Meter</b>			
0.18	1.00	-20 to 260	<a href="#">7FD-G005-22</a>
<b>30-Meter</b>			
0.25	1.40	-20 to 260	<a href="#">7HG-G005-27</a>
0.32	1.80	-20 to 260	<a href="#">7HM-G005-31</a>
0.53	3.00	-20 to 260	<a href="#">7HK-G005-36</a>
<b>60-Meter</b>			
0.25	1.40	-20 to 260	<a href="#">7KG-G005-27</a>
0.32	1.80	-20 to 260	<a href="#">7KM-G005-31</a>
0.53	3.00	-20 to 260	<a href="#">7KK-G005-36</a>
<b>75-Meter</b>			
0.53	3.00	-20 to 260	<a href="#">7LK-G005-36</a>
<b>105-Meter</b>			
0.53	3.00	-20 to 260	<a href="#">7NK-G005-36</a>

Note: If you need a 5 in. cage, simply add a (-B) after the part number, e.g., [7HG-G005-27-B](#). Some exceptions may apply. Agilent 6850 and some SRI and process GC systems use only 5 in. cages.

## Zebron ZB-1701 GC Columns

ID(mm)	df(μm)	Temp. Limits °C	Part No.
<b>15-Meter</b>			
0.25	0.25	-20 to 280/300	<a href="#">7EG-G006-11</a>
0.32	0.25	-20 to 280/300	<a href="#">7EM-G006-11</a>
<b>30-Meter</b>			
0.25	0.25	-20 to 280/300	<a href="#">7HG-G006-11</a>
0.25	1.00	-20 to 260/280	<a href="#">7HG-G006-22</a>
0.32	0.25	-20 to 280/300	<a href="#">7HM-G006-11</a>
0.32	1.00	-20 to 260/280	<a href="#">7HM-G006-22</a>
0.53	1.00	-20 to 260/280	<a href="#">7HK-G006-22</a>
<b>60-Meter</b>			
0.25	0.25	-20 to 280/300	<a href="#">7KG-G006-11</a>
0.32	0.25	-20 to 280/300	<a href="#">7KM-G006-11</a>

Note: If you need a 5 in. cage, simply add a (-B) after the part number, e.g., [7HG-G006-11-B](#). Some exceptions may apply. Agilent 6850 and some SRI and process GC systems use only 5 in. cages.

## Zebron ZB-50 GC Columns

ID(mm)	df(μm)	Temp. Limits °C	Part No.
<b>10-Meter</b>			
0.10	0.10	40 to 320/340	<a href="#">7CB-G004-02</a>
0.53	2.00	40 to 320/340	<a href="#">7CK-G004-32</a>
<b>15-Meter</b>			
0.25	0.15	40 to 320/340	<a href="#">7EG-G004-05</a>
0.25	0.25	40 to 320/340	<a href="#">7EG-G004-11</a>
0.32	0.25	40 to 320/340	<a href="#">7EM-G004-11</a>
0.32	0.50	40 to 320/340	<a href="#">7EM-G004-17</a>
0.53	1.00	40 to 320/340	<a href="#">7EK-G004-22</a>
<b>30-Meter</b>			
0.25	0.25	40 to 320/340	<a href="#">7HG-G004-11</a>
0.25	0.50	40 to 320/340	<a href="#">7HG-G004-17</a>
0.32	0.25	40 to 320/340	<a href="#">7HM-G004-11</a>
0.32	0.50	40 to 320/340	<a href="#">7HM-G004-17</a>
0.53	1.00	40 to 320/340	<a href="#">7HK-G004-22</a>
<b>60-Meter</b>			
0.25	0.25	40 to 320/340	<a href="#">7KG-G004-11</a>
0.25	0.50	40 to 320/340	<a href="#">7KG-G004-17</a>

Note: If you need a 5 in. cage, simply add a (-B) after the part number, e.g., [7HG-G004-11-B](#). Some exceptions may apply. Agilent 6850 and some SRI and process GC systems use only 5 in. cages.

## Zebron ZB-35 GC Columns

ID(mm)	df(μm)	Temp. Limits °C	Part No.
<b>10-Meter</b>			
0.10	0.10	40 to 340/360	<a href="#">7CB-G003-02</a>
<b>15-Meter</b>			
0.25	0.25	40 to 340/360	<a href="#">7EG-G003-11</a>
0.25	0.50	40 to 340/360	<a href="#">7EG-G003-17</a>
0.53	1.00	40 to 340/360	<a href="#">7EK-G003-22</a>
<b>30-Meter</b>			
0.25	0.25	40 to 340/360	<a href="#">7HG-G003-11</a>
0.25	0.50	40 to 340/360	<a href="#">7HG-G003-17</a>
0.32	0.25	40 to 340/360	<a href="#">7HM-G003-11</a>
0.32	0.50	40 to 340/360	<a href="#">7HM-G003-17</a>
0.53	0.50	40 to 340/360	<a href="#">7HK-G003-17</a>
0.53	1.00	40 to 340/360	<a href="#">7HK-G003-22</a>
<b>60-Meter</b>			
0.25	0.25	40 to 340/360	<a href="#">7KG-G003-11</a>
0.32	0.25	40 to 340/360	<a href="#">7KM-G003-11</a>

Note: If you need a 5 in. cage, simply add a (-B) after the part number, e.g., [7HG-G003-11-B](#). Some exceptions may apply. Agilent 6850 and some SRI and process GC systems use only 5 in. cages.

## Zebron ZB-1701P GC Columns

ID(mm)	df(μm)	Temp. Limits °C	Part No.
<b>30-Meter</b>			
0.25	0.25	-20 to 280/300	<a href="#">7HG-G012-11</a>
0.32	0.25	-20 to 280/300	<a href="#">7HM-G012-11</a>
0.53	1.00	-20 to 260/280	<a href="#">7HK-G012-22</a>

Note: If you need a 5 in. cage, simply add a (-B) after the part number, e.g., [7HG-G012-11-B](#). Some exceptions may apply. Agilent 6850 and some SRI and process GC systems use only 5 in. cages.

## Zebron ZB-WAX GC Columns

ID(mm)	df(μm)	Temp. Limits °C	Part No.
<b>10-Meter</b>			
0.10	0.10	40 to 250/260	<a href="#">7CB-G007-02</a>
<b>15-Meter</b>			
0.25	0.25	40 to 250/260	<a href="#">7EG-G007-11</a>
0.32	0.25	40 to 250/260	<a href="#">7EM-G007-11</a>
0.32	0.50	40 to 250/260	<a href="#">7EM-G007-17</a>
0.53	1.00	40 to 250/260	<a href="#">7EK-G007-22</a>
<b>20-Meter</b>			
0.18	0.18	40 to 250/260	<a href="#">7FD-G007-08</a>
<b>30-Meter</b>			
0.25	0.15	40 to 250/260	<a href="#">7HG-G007-05</a>
0.25	0.25	40 to 250/260	<a href="#">7HG-G007-11</a>
0.25	0.50	40 to 250/260	<a href="#">7HG-G007-17</a>
0.25	1.00	40 to 250/260	<a href="#">7HG-G007-22</a>
0.32	0.15	40 to 250/260	<a href="#">7HM-G007-05</a>
0.32	0.25	40 to 250/260	<a href="#">7HM-G007-11</a>
0.32	0.50	40 to 250/260	<a href="#">7HM-G007-17</a>
0.53	0.50	40 to 250/260	<a href="#">7HK-G007-17</a>
0.53	1.00	40 to 250/260	<a href="#">7HK-G007-22</a>
<b>60-Meter</b>			
0.25	0.15	40 to 250/260	<a href="#">7KG-G007-05</a>
0.25	0.25	40 to 250/260	<a href="#">7KG-G007-11</a>
0.25	0.50	40 to 250/260	<a href="#">7KG-G007-17</a>
0.32	0.25	40 to 250/260	<a href="#">7KM-G007-11</a>
0.32	0.50	40 to 250/260	<a href="#">7KM-G007-17</a>
0.53	1.00	40 to 250/260	<a href="#">7KK-G007-22</a>

Note: If you need a 5 in. cage, simply add a (-B) after the part number, e.g., [7HG-G007-11-B](#). Some exceptions may apply. Agilent 6850 and some SRI and process GC systems use only 5 in. cages.

## Zebron ZB-FFAP GC Columns

ID (mm)	df (µm)	Temp. Limits °C	Part No.
<b>15-Meter</b>			
0.25	0.25	40 to 250/260	<a href="#">7EG-G009-11</a>
0.32	0.25	40 to 250/260	<a href="#">7EM-G009-11</a>
0.32	0.50	40 to 250/260	<a href="#">7EM-G009-17</a>
0.53	1.00	40 to 250/260	<a href="#">7EK-G009-22</a>
<b>30-Meter</b>			
0.25	0.25	40 to 250/260	<a href="#">7HG-G009-11</a>
0.32	0.25	40 to 250/260	<a href="#">7HM-G009-11</a>
0.32	0.50	40 to 250/260	<a href="#">7HM-G009-17</a>
0.32	1.00	40 to 250/260	<a href="#">7HM-G009-22</a>
0.53	1.00	40 to 250/260	<a href="#">7HK-G009-22</a>
<b>50-Meter</b>			
0.32	0.50	40 to 250/260	<a href="#">7JM-G009-17</a>
<b>60-Meter</b>			
0.25	0.25	40 to 250/260	<a href="#">7KG-G009-11</a>

Note: If you need a 5 in. cage, simply add a (-B) after the part number, e.g., [7HG-G009-11-B](#). Some exceptions may apply. Agilent 6850 and some SRI and process GC systems use only 5 in. cages.

## Metal Z-Guard™ Column

ID (mm)	Description	Part No.
<b>5-Meter</b>		
0.53	Guard Column	<a href="#">7AK-G000-00-GMO</a>

## High Temperature Z-Guard Columns and Kits

ID (mm)	Description	Part No.	
		5-Meter	10-Meter
0.25	Guard Column	<a href="#">7AG-G000-00-GHO</a>	<a href="#">7CG-G000-00-GHO</a>
	Guard Column Kit	<a href="#">7AG-G000-00-GHK</a>	<a href="#">7CG-G000-00-GHK</a>
0.32	Guard Column	<a href="#">7AM-G000-00-GHO</a>	<a href="#">7CM-G000-00-GHO</a>
	Guard Column Kit	<a href="#">7AM-G000-00-GHK</a>	<a href="#">7CM-G000-00-GHK</a>
0.53	Guard Column	<a href="#">7AK-G000-00-GHO</a>	<a href="#">7CK-G000-00-GHO</a>
	Guard Column Kit	<a href="#">7AK-G000-00-GHK</a>	<a href="#">7CK-G000-00-GHK</a>

## Standard Z-Guard Columns and Kits

ID (mm)	Description	Part No.	
		5-Meter	10-Meter
0.10	Guard Column	<a href="#">7AB-G000-00-GZO</a>	<a href="#">7CB-G000-00-GZO</a>
	Guard Column Kit	<a href="#">7AB-G000-00-GZK</a>	—
0.18	Guard Column	<a href="#">7AD-G000-00-GZO</a>	<a href="#">7CD-G000-00-GZO</a>
	Guard Column Kit	<a href="#">7AD-G000-00-GZK</a>	<a href="#">7CD-G000-00-GZK</a>
0.20	Guard Column	<a href="#">7AE-G000-00-GZO</a>	—
0.25	Guard Column	<a href="#">7AG-G000-00-GZO</a>	<a href="#">7CG-G000-00-GZO</a>
	Guard Column Kit	<a href="#">7AG-G000-00-GZK</a>	<a href="#">7CG-G000-00-GZK</a>
0.32	Guard Column	<a href="#">7AM-G000-00-GZO</a>	<a href="#">7CM-G000-00-GZO</a>
	Guard Column Kit	<a href="#">7AM-G000-00-GZK</a>	<a href="#">7CM-G000-00-GZK</a>
0.53	Guard Column	<a href="#">7AK-G000-00-GZO</a>	<a href="#">7CK-G000-00-GZO</a>
	Guard Column Kit	<a href="#">7AK-G000-00-GZK</a>	<a href="#">7CK-G000-00-GZK</a>

## Bulk Z-Guard Columns

ID (mm)	Description	Part No.	Unit
<b>50-Meter</b>			
0.25	Guard Column	<a href="#">7JG-G000-00-GZO</a>	ea
0.32	Guard Column	<a href="#">7JM-G000-00-GZO</a>	ea
0.53	Guard Column	<a href="#">7JK-G000-00-GZO</a>	ea
<b>5-Meter</b>			
0.53	Guard Column	<a href="#">7AK-G000-00-GZ1</a>	10/pk

## ZB-5 Z-Guard Column Multi-Pak

ID (mm)	Description	Part No.	Unit
<b>2-Meter</b>			
0.25	Zebron ZB-5 Z-Guard Column	<a href="#">KG0-7868</a>	25/pk



Universal GC Guard Column. Designed for use with virtually any GC Capillary column from virtually any manufacturer. Alternative to: Restek, Supelco, Agilent Technologies, and many more.



Z-Guard Column Kits include 5 or 10 meters of deactivated fused silica tubing, 5 universal connectors and 0.5 mL of high-temperature polyimide resin.

## Replacement Parts for Z-Guard Kits

Description	Part No.	Unit
Universal Capillary Column Union, Borosilicate	<a href="#">AG0-4716</a>	5/pk
High Temperature Polyimide Resin, 0.5 mL	<a href="#">AG0-8514</a>	ea

**BE-HAPPY™**  
guarantee

Your happiness is our mission. Take 45 days to try our products. If you are not happy, we'll make it right.

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

## Stop Searching. Start Finding.

Choose from 5 easy categories to find the right GC column for your method:

- Part Number
- Column Manufacturer
- Phase Chemistry
- Official Method
- Application

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



# Upgrade to Zebron Essentials GC Columns

**Australia**  
t: +61 (0)2-9428-6444  
auinfo@phenomenex.com

**Austria**  
t: +43 (0)1-319-1301  
anfrage@phenomenex.com

**Belgium**  
t: +32 (0)2 503 4015 (French)  
t: +32 (0)2 511 8666 (Dutch)  
beinfo@phenomenex.com

**Canada**  
t: +1 (800) 543-3681  
info@phenomenex.com

**China**  
t: +86 400-606-8099  
cninfo@phenomenex.com

**Denmark**  
t: +45 4824 8048  
nordicinfo@phenomenex.com

**Finland**  
t: +358 (0)9 4789 0063  
nordicinfo@phenomenex.com

**France**  
t: +33 (0)1 30 09 21 10  
franceinfo@phenomenex.com

**Germany**  
t: +49 (0)6021-58830-0  
anfrage@phenomenex.com

**India**  
t: +91 (0)40-3012 2400  
indiainfo@phenomenex.com

**Ireland**  
t: +353 (0)1 247 5405  
eireinfo@phenomenex.com

**Italy**  
t: +39 051 6327511  
italiainfo@phenomenex.com

**Luxembourg**  
t: +31 (0)30-2418700  
nlinfo@phenomenex.com

**Mexico**  
t: 01-800-844-5226  
tecnicomx@phenomenex.com

**The Netherlands**  
t: +31 (0)30-2418700  
nlinfo@phenomenex.com

**New Zealand**  
t: +64 (0)9-4780951  
nzinfo@phenomenex.com

**Norway**  
t: +47 810 02 005  
nordicinfo@phenomenex.com

**Portugal**  
t: +351 221 450 488  
ptinfo@phenomenex.com

**Singapore**  
t: +65 800-852-3944  
sginfo@phenomenex.com

**Spain**  
t: +34 91-413-8613  
espinfo@phenomenex.com

**Sweden**  
t: +46 (0)8 611 6950  
nordicinfo@phenomenex.com

**Switzerland**  
t: +41 (0)61 692 20 20  
swissinfo@phenomenex.com

**Taiwan**  
t: +886 (0) 0801-49-1246  
twinfo@phenomenex.com

**United Kingdom**  
t: +44 (0)1625-501367  
ukinfo@phenomenex.com

**USA**  
t: +1 (310) 212-0555  
info@phenomenex.com

**All other countries  
Corporate Office USA**   
t: +1 (310) 212-0555  
info@phenomenex.com



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

Phenomenex products are available worldwide. For the distributor in your country, contact Phenomenex USA, International Department at [international@phenomenex.com](mailto:international@phenomenex.com)

#### Terms and Conditions

Subject to Phenomenex Standard Terms and Conditions, which may be viewed at [www.phenomenex.com/TermsAndConditions](http://www.phenomenex.com/TermsAndConditions).

#### Trademarks

Zebron, Inferno, MultiResidue, 5<sub>PLUS</sub>, WAX<sub>PLUS</sub>, 624<sub>PLUS</sub>, Be-Happy, and Z-Guard are trademarks of Phenomenex. Restek and Rxi are registered trademarks of Restek Corporation.

#### Disclaimers

Comparative separations may not be representative of all applications. Phenomenex is not affiliated with Restek Corp.

**FOR RESEARCH USE ONLY. Not for use in clinical diagnostic procedures.**

© 2019 Phenomenex, Inc. All rights reserved.