

New

ZB-Dioxin

SINGLE Column Solution for Faster Dioxin Analysis

Zebron™
GC Columns

- Improve lab productivity by 50%
- Enhanced resolution of TCDD & TCDF
- Improved column lifetime with integrated column option
- MS certified, low bleed GC column



phenomenex®
...breaking with traditionSM

Say Hello to Your NEW GC Dioxin Solution!

Zebron ZB-Dioxin columns are specifically tailored for the analysis of dioxins and furans in Food and Environmental matrices. Tetra Dioxins and Tetra Furans are highly toxic, but the current analysis is time consuming and requires two GC columns and two GC-HRMS instruments. By switching to the unique selectivity of ZB-Dioxin Analysis, you will gain enhanced resolution of 2,3,7,8-TCDD and 2,3,7,8-TCDF from its isomers in one run, and only need a single ZB-Dioxin GC column as your single column solution for Dioxin analysis. Upgrade your existing GC column for Dioxin analysis to a Zebron ZB-Dioxin GC column and get all the analytical benefits and productivity gains of a single column solution.

Learn more at www.phenomenex.com/GCDioxin



Dioxin Applications



Single GC Column Solution for Dioxin Analysis
Optimize the productivity of your lab with decreased run timespp. 5-6



GC-HRMS Analysis of Dioxins
GC-HRMS analysis of Tetra through Octa Dioxins and Furans on Zebron ZB-Dioxin GC Columnpp. 7- 8



GC-MS/MS Analysis of Dioxins
GC-MS/MS analysis of Tetra through Octa Dioxins and Furans on Zebron ZB-Dioxin GC Columnpp. 9-11



Column-to-Column Reproducibilityp. 12



NEW Dioxin Integrated Guard Column
Extend your column lifetime using Dioxin Integrated Guard columnp. 12





Extend the Lifetime of Your GC Column and Instrument



Zebron Dioxin Guardian™ Column..... p. 12
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Ordering Information



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 Zebron Dioxin Guardian Column..... p. 19

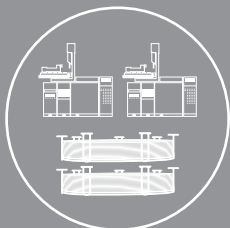


Increase Throughput and Improve Resolution by using Zebron ZB-Dioxin!



Zebron ZB-Dioxin has a unique phase that allows for improved resolution of critical dioxin isomers and its consistent film thickness allows for optimal Dioxin analysis on a single column.

Traditional



Method requires 2 different GC columns (5% phenyl & 225 phase) and 2 GC-HRMS instruments to get complete resolution of Dioxins

ZB-Dioxin Upgrade



ZB-Dioxin is a SINGLE column solution for Dioxin analysis

Vs.

Traditional



Higher analysis cost:
2 GC-HRMS + 2 GC columns

ZB-Dioxin Upgrade



Lower analysis cost:
1 GC-HRMS + 1 GC column

Vs.

Traditional



Long Run Time for Dioxin analysis

First column (5% phenyl phase) ~60 minutes

Second column (225 phase) ~30 minutes

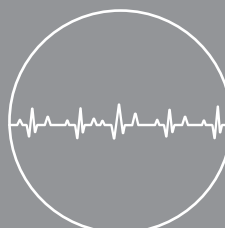
ZB-Dioxin Upgrade



Faster Run Time using one ZB-Dioxin ~40 minutes

Vs.

Traditional



Shorter column lifetime for difficult matrix like soil

ZB-Dioxin Upgrade



Longer column lifetime with New ZB-Dioxin Guardian™ option (Part No: 7KG-G045-10-GGA)

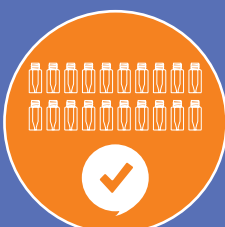
Vs.

Traditional



Lower throughput from customer perspective

ZB-Dioxin Upgrade



HIGH throughput from customer perspective (Take our customer's word for it on page 12)

Vs.

Traditional



Some GC Dioxin columns do not exceed 290°C Temperature Limits

ZB-Dioxin Upgrade

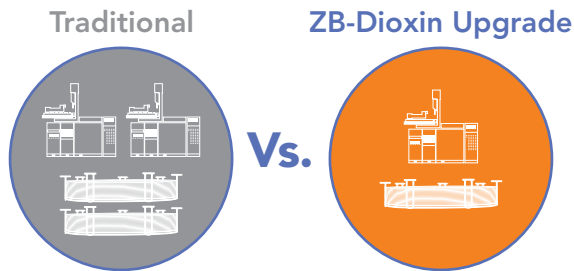


Low Bleed GC column temp with 320/340°C Temperature Limits, this will provide higher sensitivity for later eluters (In this case, OCDD and OCDF isomers on Page 11) and the ability to bake out major contaminants.

Vs.

Single GC Column Solution for Dioxin Analysis

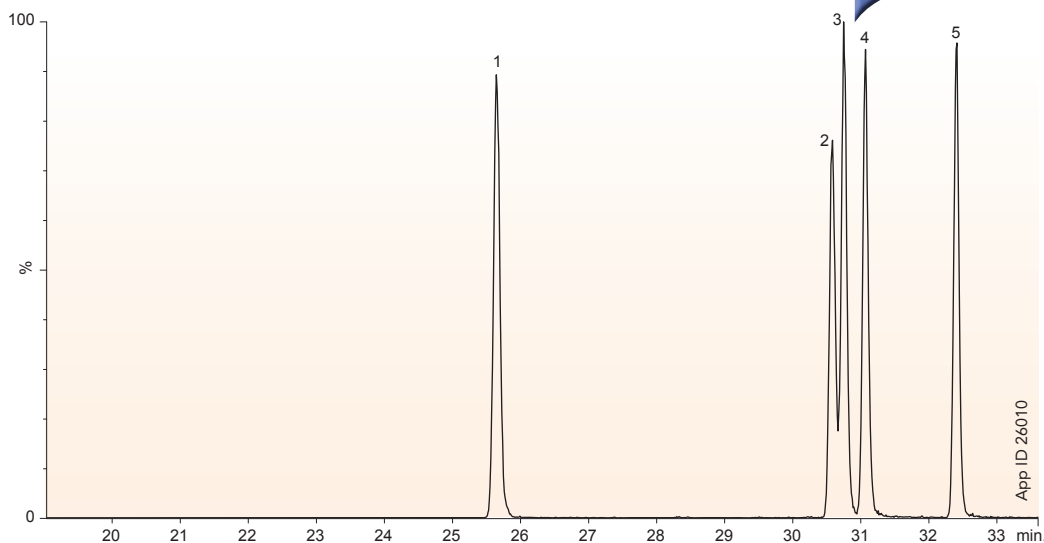
Optimize and improve your lab productivity by up to 50% by using a single GC column solution, the Zebron ZB-Dioxin.



Separation of TCDD on a Zebron ZB-Dioxin and a Popular Brand A

Zebron ZB-Dioxin GC column, Part No. 7KG-G045-10

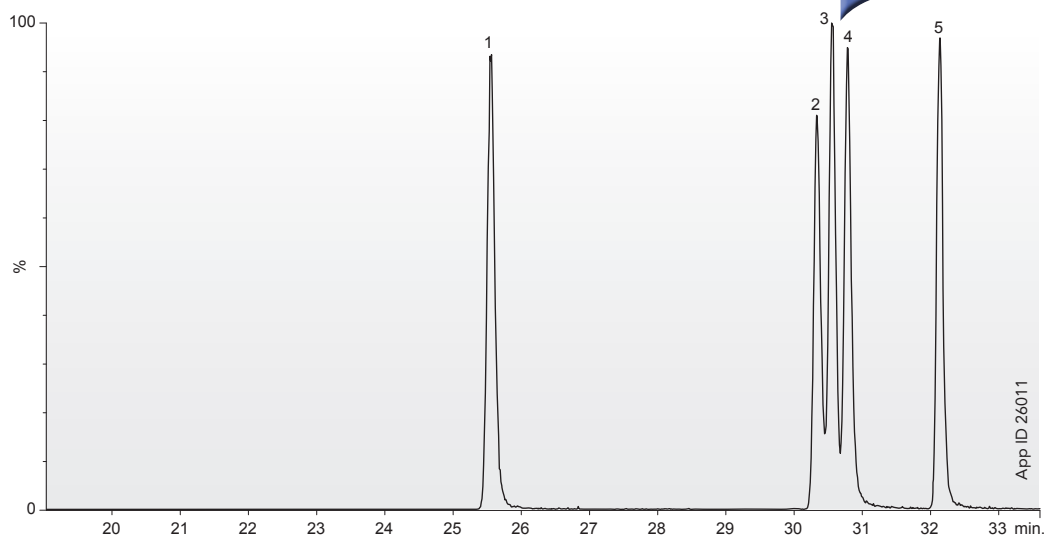
60 meter x 0.25 mm x 0.20 μm



High Resolution of 2,3,7,8-TCDD by using ZB-Dioxin which exceeds 25% valley EPA-1613 method requirement and provided extended lifetime

Brand A Premium 5MS Phase

60 meter x 0.25 mm x 0.25 μm



2,3,7,8-TCDD is not completely resolved which affects the column lifetime

Comparative separations may not be representative of all applications.

Conditions for all separations:

Column 1: Zebron ZB-Dioxin
 Column 1 Dimension: 60 meter x 0.25 mm x 0.20 μm
 Column Part No.: [7KG-G045-10](#)
 Column 2: Brand A Premium 5ms
 Column 2 Dimension: 60 meter x 0.25 mm x 0.25 μm
 Guard Column: 5 meter Z-Guard Kit
 Guard Kit Part No.: [7AG-G000-00-GZK](#)
 Injection: Pulse Splitless (2.0 min, 60 psi) @ 280 °C, 1 μL
 Liner: Zebron PLUS 4 mm ID Single Taper Liner
 Liner Part No.: [AG2-0A10-05](#)

Carrier Gas: Helium @ 1.25 mL/min (constant flow)
 Oven Program: 160 °C for 2.4 min to 200 °C @ 25 °C/min to
 220 °C @ 5 °C/min for 19 min to 288 °C @
 4 °C/min to 300 °C @ 5 °C/min for 7.6 min
 Detector: HRMS
 Transfer Line Temperature: 300 °C

Sample:	Runtime (min)	
	ZB-Dioxin	Brand A
1. 1,3,6,8-TCDD	25.65	23.20
2. 1,2,3,7-TCDD	30.58	30.33
3. 1,2,3,8-TCDD	30.75	30.55
4. 2,3,7,8-TCDD	31.07	30.78
5. 1,2,8,9-TCDD	32.41	32.13

Single GC Column Solution for Dioxin Analysis *(continued)*

Traditional

ZB-Dioxin Upgrade



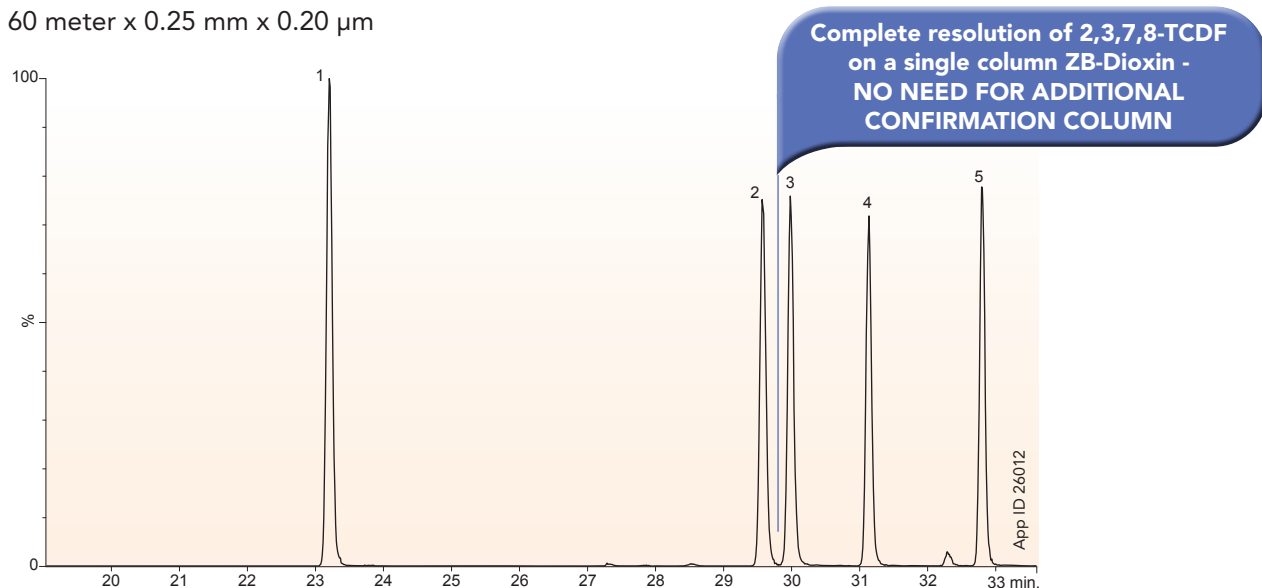
Vs.



Separation of TCDF on a Zebron ZB-Dioxin and a Popular Brand A

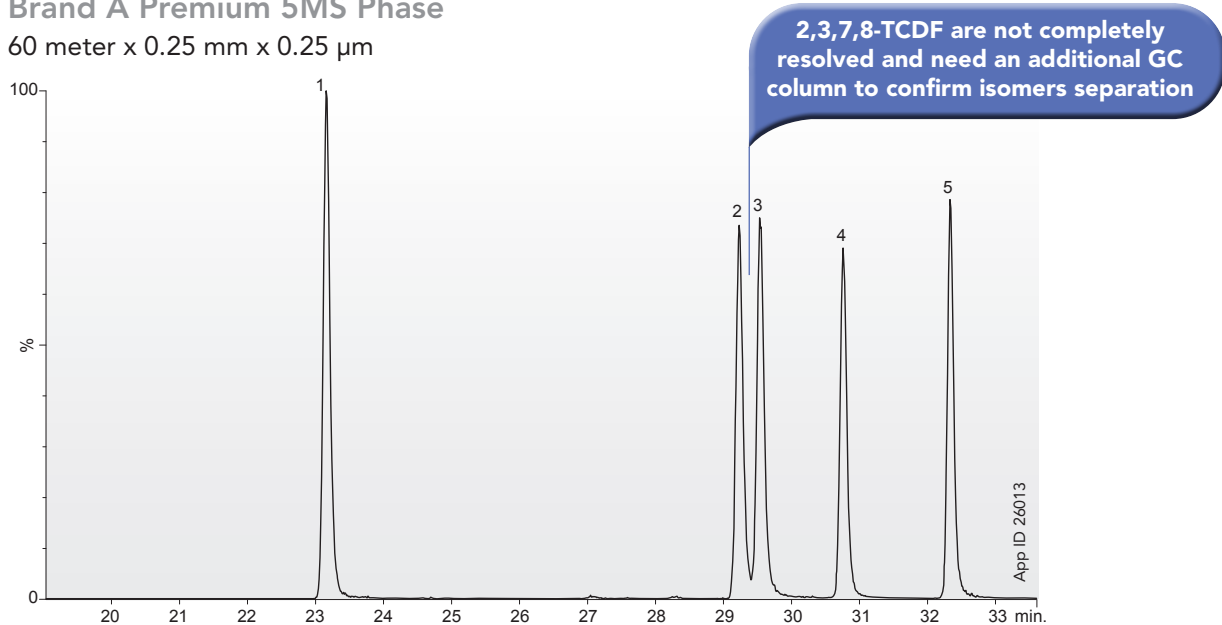
Zebron ZB-Dioxin GC column, Part No. 7KG-G045-10

60 meter x 0.25 mm x 0.20 μm



Brand A Premium 5MS Phase

60 meter x 0.25 mm x 0.25 μm



Comparative separations may not be representative of all applications.

Sample:	Runtime (min)	
	ZB-Dioxin	Brand A
1. 1,3,6,8-TCDF	23.20	23.16
2. 1,3,4,7-TCDF	29.57	29.23
3. 2,3,7,8-TCDF	29.98	29.53
4. 1,2,3,9-TCDF	31.14	30.76
5. 1,2,8,9-TCDF	32.79	32.33

Method parameters for all separations are on page 5.

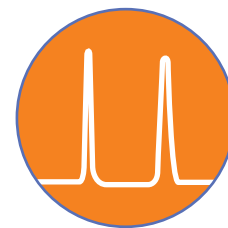
Our Customer Says YES!



"The ZB-Dioxin beta column gave slightly better peak separation of isomers allowing better quantitation and perhaps reduced down-time due to less frequent maintenance."

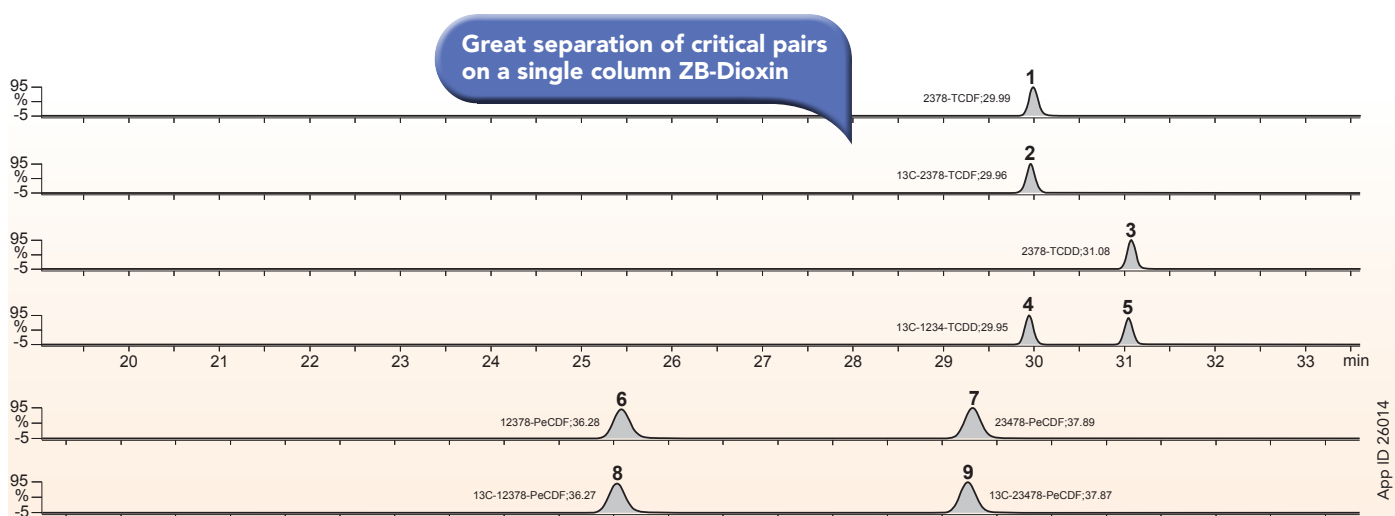
Kevin Bowen, McCampbell Analytica

GC-HRMS Analysis of Tetra through Octa Dioxins and Furans on Zebron ZB-Dioxin GC Columns



Zebron ZB-Dioxin has proven to separate the critical tetra dioxins and furans in a just one single run without the necessity for a secondary column. Presented is the separation of Tetra through Octa dioxins and furans from each other and from their 13C & 37C isotopically labeled form by GC-HRMS. The high efficiency and selectivity of ZB-Dioxin provides enhanced resolution for Tetra through Octa Dioxin isomers on a single GC column.

Tetra through Penta Dioxins and Furans and its Labeled Isomer Separation

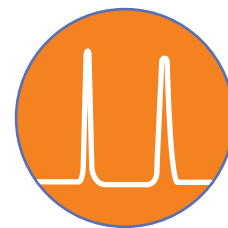


Conditions for all separations:

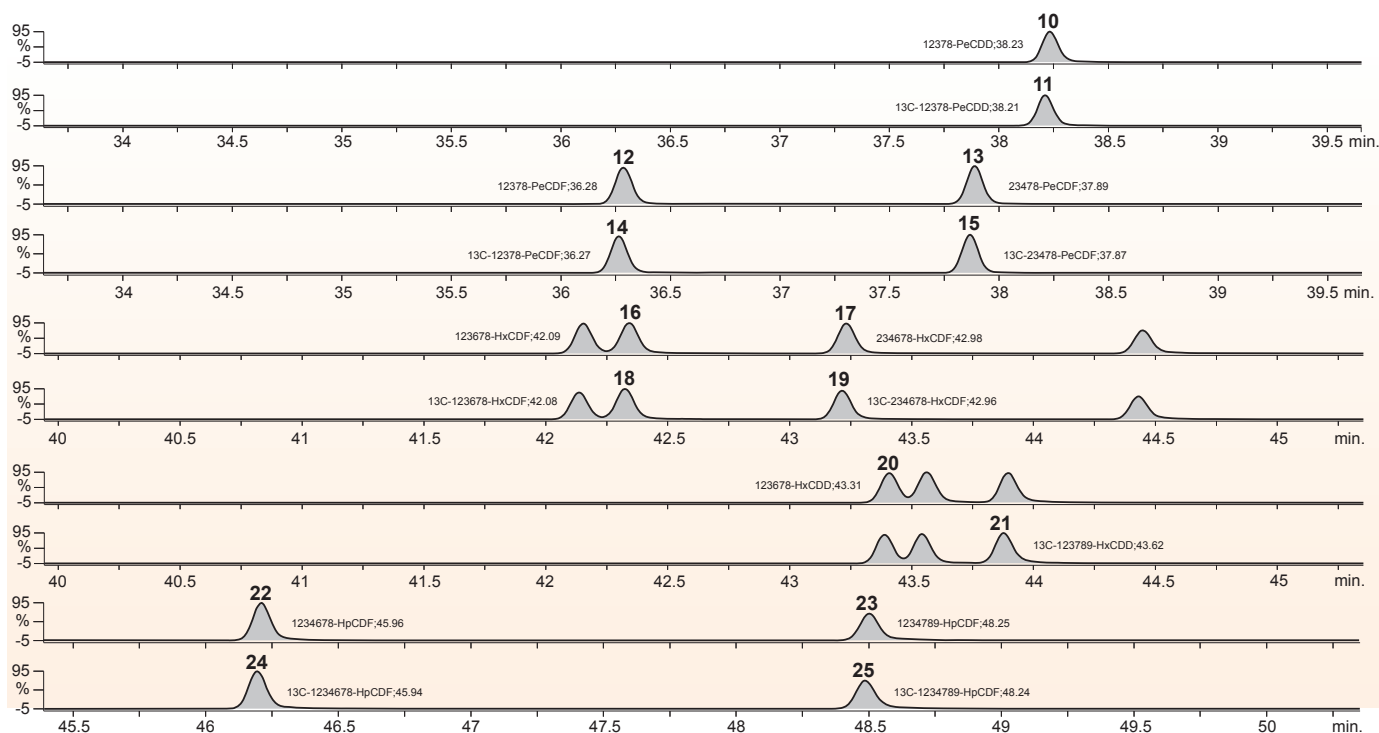
Columns: Zebron ZB-Dioxin
Dimensions: 60 meter x 0.25 mm x 0.20 μm
Part No.: [7KG-G045-10](#)
Recommended Z-Guard™: [7AG-G000-00-GZK](#)
Injection: Pulse Splitless (2.0 min @ 60 psi) @ 280 °C, 1 μL
Recommended Liner: Zebron PLUS Single Taper
Liner Part No.: AG2-0A10-05 (for Agilent® systems)
Carrier Gas: Helium @ 1.25 mL/min (constant flow)
Oven Program: 160 °C for 2.4 min to 200 °C @ 25 °C/min to 220 °C @ 5 °C/min for 19 min, 288 °C @ 4 °C/min to 300 °C @ 5 °C/min for 7.6 min
Detector: HRMS
Transfer Line Temperature: 300 °C

- Sample:**
- 2,3,7,8-TCDF
 - 13C-2,3,7,8-TCDF
 - 2,3,7,8-TCDD
 - 13C-1,2,3,4-TCDD
 - 13C-2,3,7,8-TCDD
 - 1,2,3,7,8-PeCDF
 - 2,3,4,7,8-PeCDF
 - 13C-1,2,3,7,8-PeCDF
 - 13C-2,3,4,7,8-PeCDF
 - 1,2,3,7,8-PeCDD
 - 13C-1,2,3,7,8-PeCDD
 - 1,2,3,7,8-PeCDF
 - 2,3,4,7,8-PeCDF
 - 13C-1,2,3,7,8-PeCDF
 - 13C-2,3,4,7,8-PeCDF
 - 1,2,3,6,7,8-HxCDF
 - 2,3,4,6,7,8-HxCDF
 - 13C-1,2,3,6,7,8-HxCDF
 - 13C-2,3,4,6,7,8-HxCDF
 - 1,2,3,6,7,8-HxCDD
 - 13C-1,2,3,6,7,8-HxCDD
 - 1,2,3,4,6,7,8-HpCDF
 - 1,2,3,4,7,8,9-HpCDF
 - 13C-1,2,3,4,6,7,8-HpCDF
 - 13C-1,2,3,4,7,8,9-HpCDF
 - 1,2,3,4,6,7,8-HpCDD
 - 13C-1,2,3,4,6,7,8-HpCDD
 - OCDF
 - OCDD
 - 13C-OCDD
 - 37Cl-2,3,7,8-TCDD

GC-HRMS Analysis of Tetra through Octa Dioxins and Furans on Zebtron ZB-Dioxin GC Columns *(continued)*

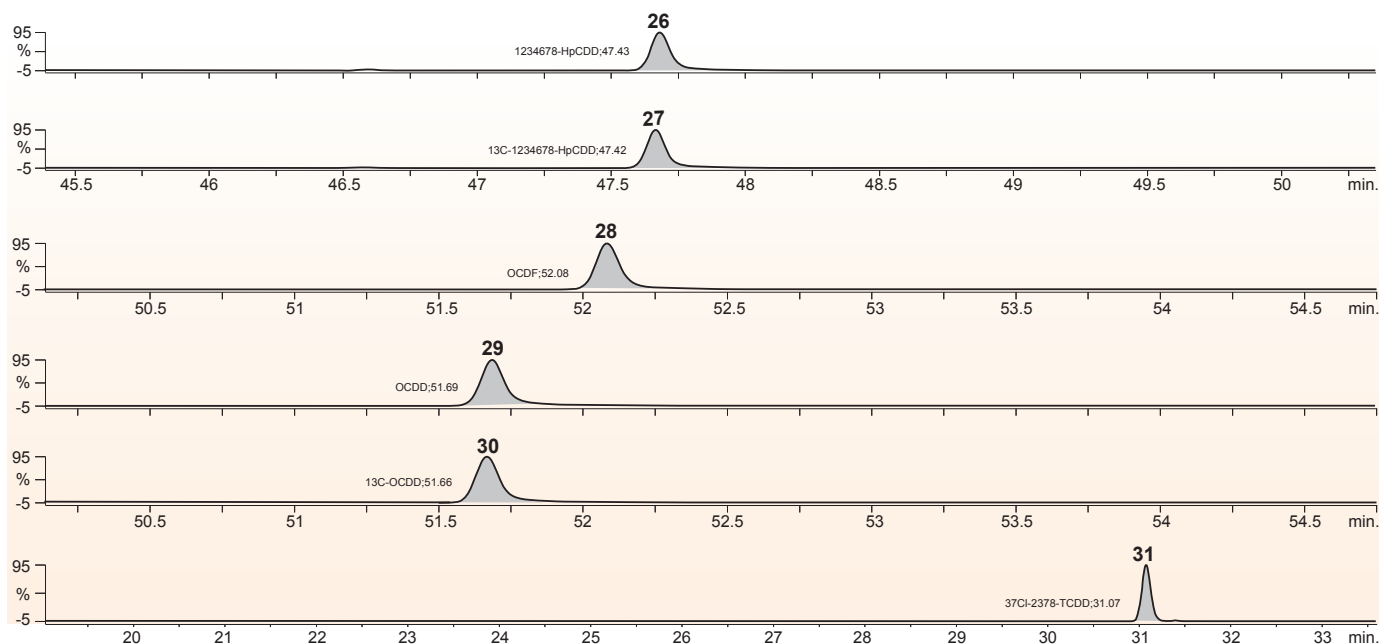


Penta through Hexa Dioxins and Furans and its Labeled Isomer Separation



App ID 26073

Hepta through Octa Dioxins and Furans and its Labeled Isomer Separation

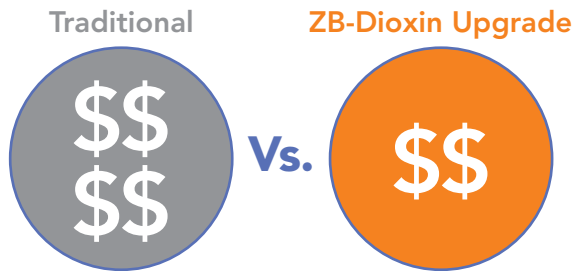


App ID 26074

Comparative separations may not be representative of all applications.

Method parameters for all separations are on page 7.

GC-MS/MS Analysis of Tetra through Octa Dioxins and Furans on Zebron ZB-Dioxin GC Columns

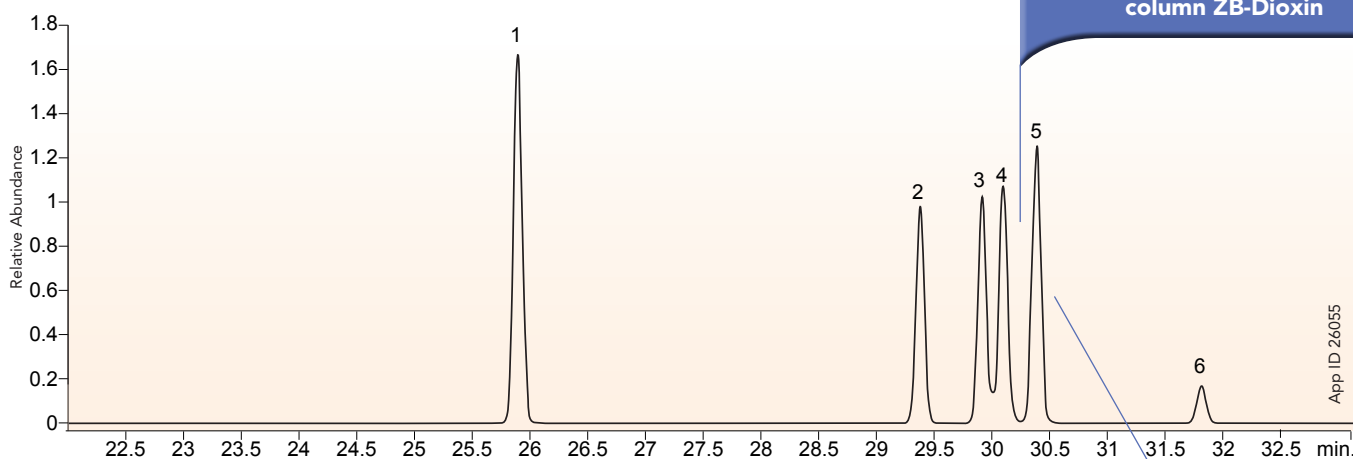


Zebron ZB-Dioxin has proven to separate the critical tetra dioxins and furans in just one single run without the necessity for a secondary column on GC-MS/MS in addition to GC-HRMS. Presented is the separation of Tetra through Octa dioxins and furans from each other and from their 13C & 37Cl isotopically labeled form by GC-MS/MS. The high efficiency and selectivity of ZB-Dioxin provides enhanced resolution for Tetra through Octa Dioxin isomers on a single GC column.

ZB-Dioxin GC column with 5m Zebron Guardian, Part No. 7KG-G045-10-GGA

60 m x 0.25 mm x 0.20 μm

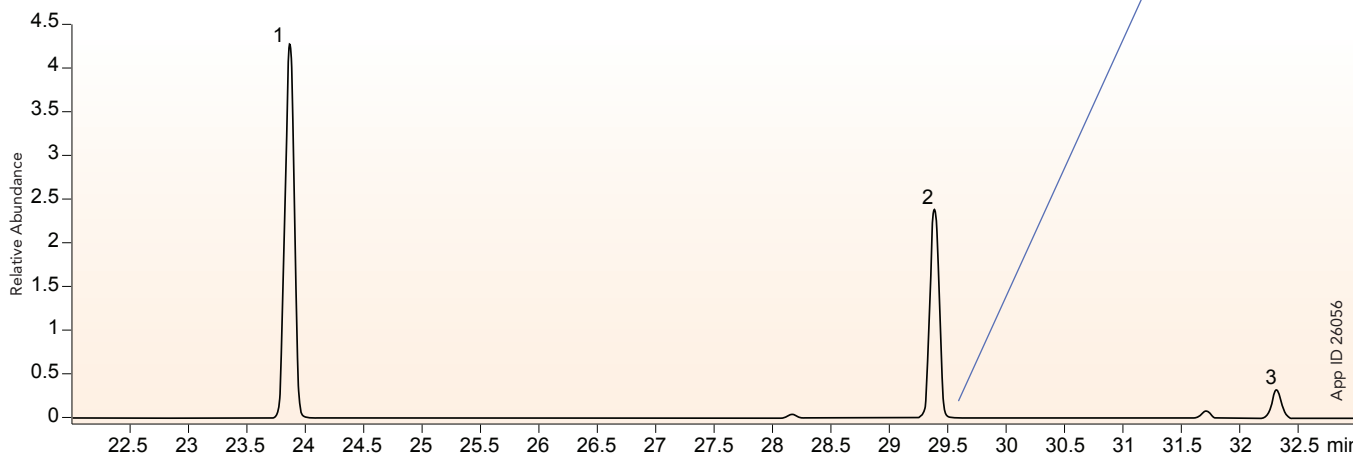
GC-MS/MS Separation of 2,3,7,8-TCDD



- Sample:
- 1,3,6,8-TCDD
 - 1,2,3,4-TCDD
 - 1,2,3,7-TCDD/ 1,2,3,8-TCDD
 - 1,2,3,9-TCDD
 - 2,3,7,8-TCDD
 - 1,2,8,9-TCDD

Good separation of TCDD and TCDF

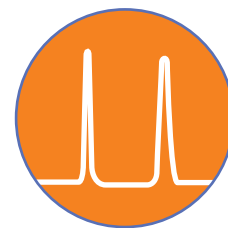
GC-MS/MS Separation of 2,3,7,8-TCDF



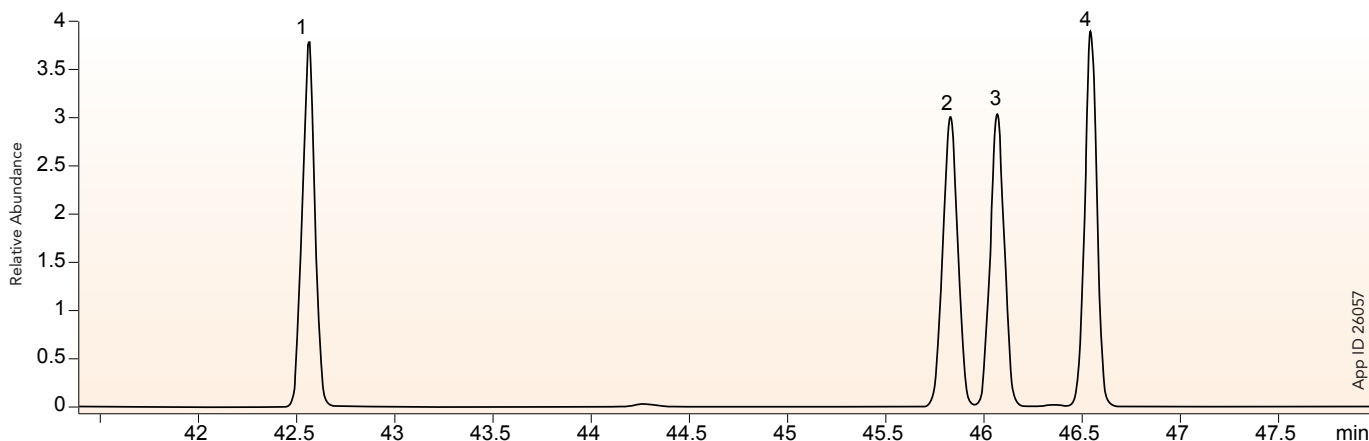
- Sample:
- 1,3,6,8-TCDF
 - 2,3,7,8-TCDF
 - 1,2,8,9-TCDF

Method parameters for all separations are on page 11.

GC-MS/MS Analysis of Tetra through Octa Dioxins and Furans on Zebtron ZB-Dioxin GC Columns *(continued)*



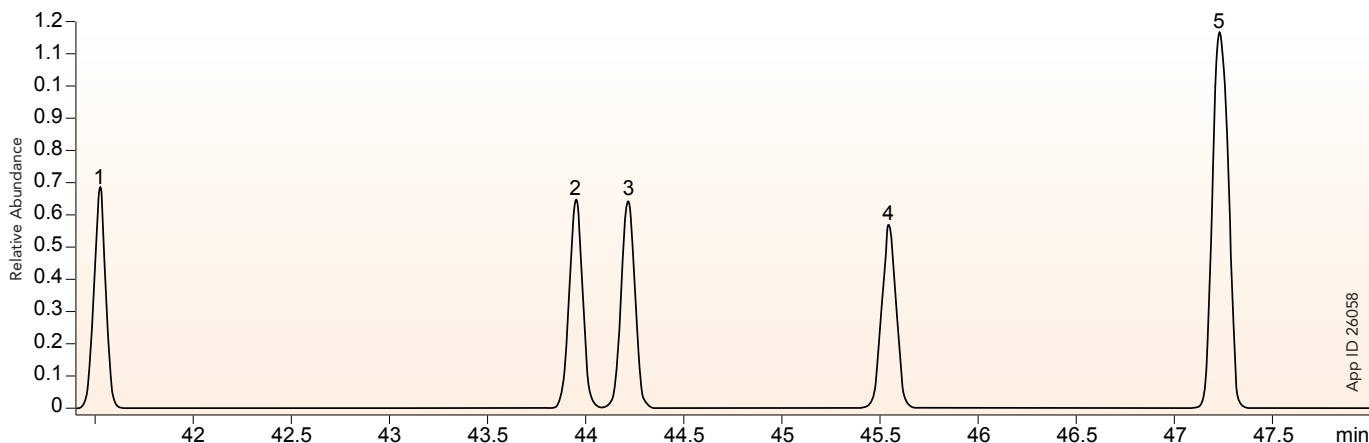
GC-MS/MS Separation of HxCDD



- Sample:
1. 1,2,4,6,7,9-HxCDD
 2. 1,2,3,4,7,8-HxCDD
 3. 1,2,6,7,8-HxCDD
 4. 1,2,3,7,8,9-HxCDD

Good separation of HxCDD and HxCDF isomers

GC-MS/MS Separation of HxCDF



- Sample:
1. 1,2,3,4,6,8-HxCDF
 2. 1,2,3,4,7,8-HxCDF
 3. 1,2,3,6,7,8-HxCDF
 4. 2,3,4,6,7,8-HxCDF
 5. 1,2,3,7,8,9-HxCDF

Method parameters for all separations are on page 11.

Our Customer Says YES!



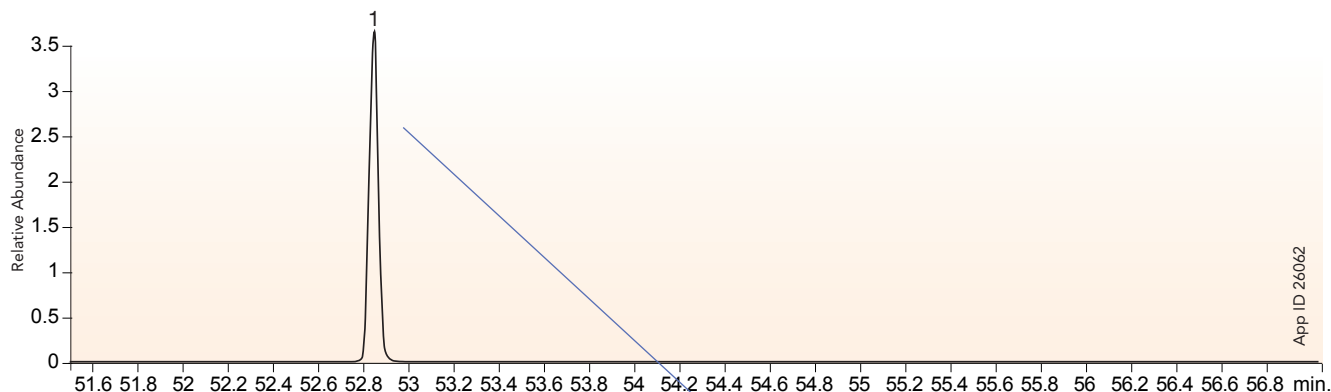
"ZB-Dioxin provides better resolution than other generic columns we have evaluated."

Agustin Pieri, Weck Laboratories, Inc.

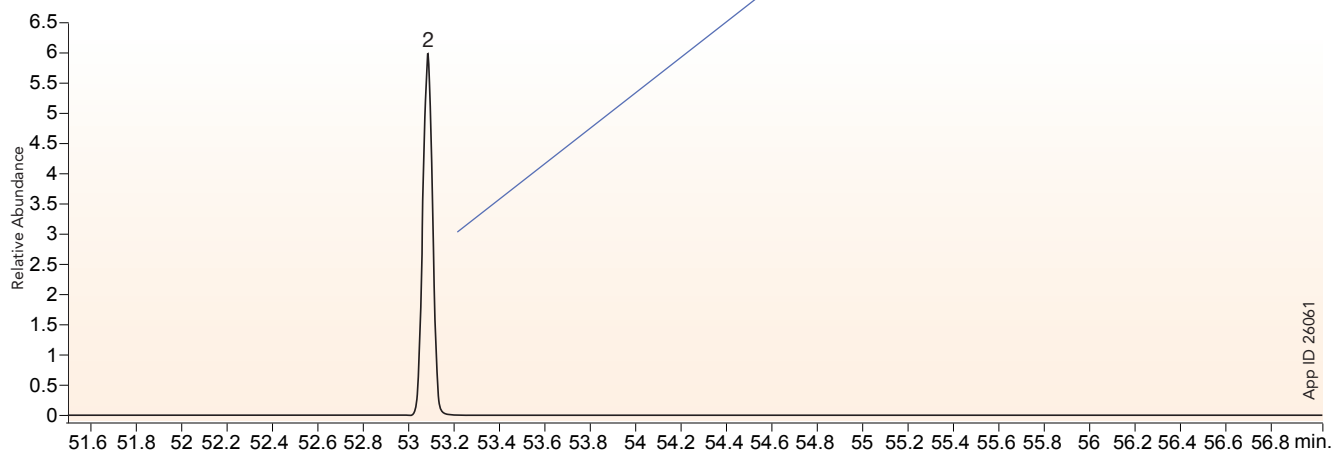
GC-MS/MS Analysis of Tetra through Octa Dioxins and Furans on Zebron ZB-Dioxin GC Columns *(continued)*



GC-MS/MS Separation of OCDD



GC-MS/MS Separation of OCDF



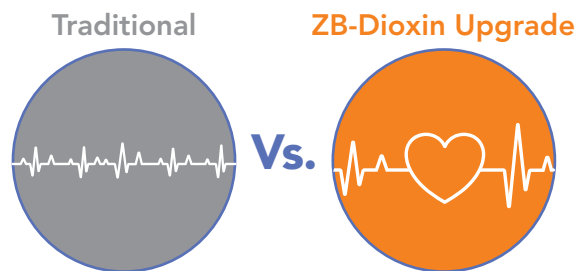
Sharp peak shape for late eluting analytes

GC-MS/MS Conditions for all separations:

- Column:** Zebron ZB-Dioxin w/GUARDIAN™, 5 meter
 - Dimensions:** 60 meter x 0.25 mm x 0.20 µm
 - Part No.:** 7KG-G045-10-GGA
 - Recommended Guard Column:** 5 meter Z-Guard Kit
 - Guard kit Part No.:** 7AG-G000-00-GZK
 - Injection:** Pulse Splitless (1.0 min, 30psi) @ 280°C, 1 µL
 - Recommended Liner:** Zebron PLUS 4mm ID Single Taper Liner
 - Liner Part No.:** AG2-0E00-05
 - Carrier Gas:** Helium @ 1.056 mL/min (constant flow)
 - Oven Program:** 100°C @ 30°C/min to 220°C for 15.5 min @ 2°C/min to 240°C for 4.5 min to 270°C for 5 min @ 4°C/min to 330°C @ 15°C/min for 7 min
 - Detector:** GC-MS/MS
- Sample:**
1. OCDD
 2. OCDF

Column-to-Column Reproducibility

Why compromise your Dioxin analysis quality with an average separation on a 5% Phenyl GC phase when you can upgrade to the Zebron ZB-Dioxin which is specially tailored for reproducible Dioxin analysis.



Compound	Relative Retention Time (RRT)			% RSD
	Column 1	Column 2	Column 3	
2,3,7,8-TCDF	1.000	1.000	1.000	-
1,2,3,7,8-PeCDF	1.098	1.097	1.097	0.05
2,3,4,7,8-PeCDF	1.127	1.127	1.128	0.05
1,2,3,4,7,8-HxCDF	1.220	1.223	1.223	0.14
1,2,3,6,7,8-HxCDF	1.225	1.227	1.228	0.12
2,3,4,6,7,8-HxCDF	1.248	1.249	1.248	0.05
1,2,3,7,8,9-HxCDF	1.280	1.277	1.277	0.14
1,2,3,4,6,7,8-HpCDF	1.321	1.319	1.319	0.09
1,2,3,4,7,8,9-HpCDF	1.382	1.381	1.381	0.04
OCDF	1.482	1.485	1.485	0.12

Low % RSD =
Reproducible results

Our Customer Says YES!

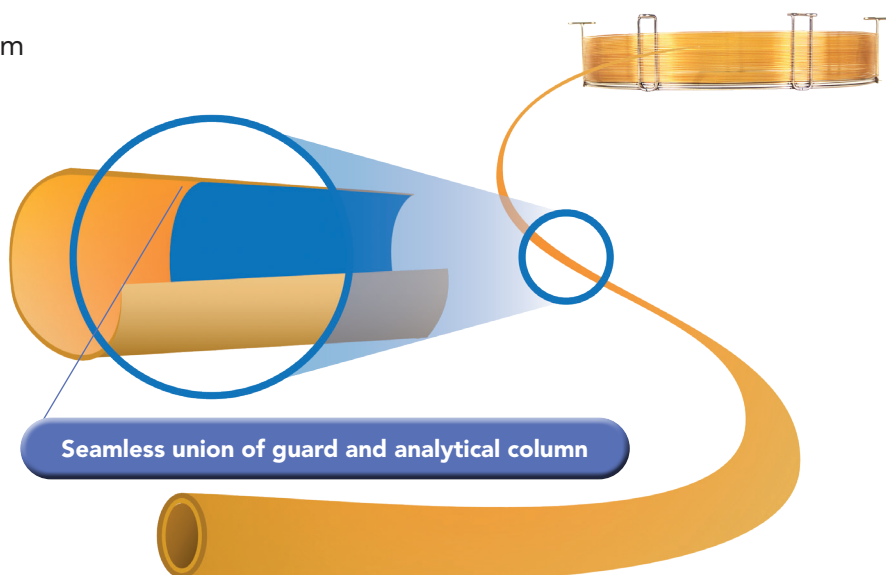


"The ZB-Dioxin achieves superior resolution for both 2,3,7,8-TCDD and 2,3,7,8-TCDF while not only maintaining chromatography for the hexes but improving it. This is all performed while reducing the overall runtime over traditional 5ms dioxin columns by as much as 25%. The ZB-Dioxin increases throughput by not only eliminating the need for a second column confirmation, but also by allowing additional samples to be analyzed in each 12-hour analytical sequence"

Andrew Patterson, Technical Director, Eurofins Specialty Services, USA

NEW! Extend your ZB-Dioxin Lifetime with Integrated Zebron Dioxin Guardian™ Column

- Prevent non-volatile contaminants from entering the analytical column
- Prevent excessive trimming of analytical column
- Improve peak focusing of early eluters
- Seamless union of guard and analytical column that is leak-free
- Longer column lifetime with Zebron Dioxin Guardian column
Part No. 7KG-G045-10-GGA



Zebtron™ PLUS Liners

- Remarkably Inert
- Ridiculously Easy to Install



Find Your GC Liner!



Search by:

- Application
- System Manufacturer
- Injection Type
- Part Number

www.phenomenex.com/FindLiner

GC Inlet Liner Ordering Information



Zebron PLUS GC Liners

Description	Application	Inlet Style	Dimensions ID x L (mm)	Deactivation	Part No.	Unit
For Agilent® and Thermo Scientific® GC Systems						
 <p>Direct Connect</p>	Trace analysis, Splitless injections	S/SL	4 x 78.5	PLUS Inert	AG2-0A50-01	Ea
					AG2-0A50-05	5/pk
					AG2-0A50-25	25/pk
 <p>Single Taper</p>	Pesticides	S/SL	4 x 78.5	PLUS Inert	AG2-0A10-01	Ea
					AG2-0A10-05	5/pk
					AG2-0A10-25	25/pk
 <p>Single Taper Z-Liner™</p>	Semi-volatiles, Dirty samples	S/SL	4 x 78.5	PLUS Inert	AG2-0A13-01	Ea
					AG2-0A13-05	5/pk
					AG2-0A13-25	25/pk
 <p>Single Taper with Wool</p>	Semi-volatiles	S/SL	4 x 78.5	PLUS Inert	AG2-0A11-01	Ea
					AG2-0A11-05	5/pk
					AG2-0A11-25	25/pk
 <p>Straight</p>	Volatiles	S/SL	4 x 78.5	PLUS Inert	AG2-0A00-01	Ea
					AG2-0A00-05	5/pk
					AG2-0A00-25	25/pk
 <p>Straight Z-Liner</p>	Dirty samples, Volatiles, High initial oven temperatures	S/SL	4 x 78.5	PLUS Inert	AG2-0A03-01	Ea
					AG2-0A03-05	5/pk
					AG2-0A03-25	25/pk
 <p>Straight Single Baffle</p>	Semi-volatiles, Pesticides	S/SL	1.8 x 71	PLUS Inert	AG2-1F06-01	Ea
					AG2-1F06-05	5/pk
					AG2-1F06-25	25/pk
For Shimadzu® 17A, 2014 and 2025 Models						
 <p>Single Taper Z-Liner™</p>	Pesticides	S/SL	3.4 x 95	PLUS Inert	AG2-3B13-01	Ea
					AG2-3B13-05	5/pk
					AG2-3B13-25	25/pk
 <p>Straight Z-Liner</p>	Volatiles, Dirty samples, High initial oven temperatures	S/SL	3.4 x 95	PLUS Inert	AG2-3B03-01	Ea
					AG2-3B03-05	5/pk
					AG2-3B03-25	25/pk
For Shimadzu 2010 Models						
 <p>Single Taper</p>	Volatiles, Dirty samples, High initial oven temperatures	S/SL	3.4 x 95	PLUS Inert	AG2-4B10-01	Ea
					AG2-4B10-05	5/pk
					AG2-4B10-25	25/pk
 <p>Single Taper Z-Liner</p>	Pesticides	S/SL	3.4 x 95	PLUS Inert	AG2-4B13-01	Ea
					AG2-4B13-05	5/pk
					AG2-4B13-25	25/pk
 <p>Straight</p>	Volatiles	S/SL	3.4 x 95	PLUS Inert	AG2-4B00-01	Ea
					AG2-4B00-05	5/pk
					AG2-4B00-25	25/pk
 <p>Straight Z-Liner</p>	Volatiles, Dirty samples, High initial oven temperatures	S/SL	3.4 x 95	PLUS Inert	AG2-4B03-01	Ea
					AG2-4B03-05	5/pk
					AG2-4B03-25	25/pk
For PerkinElmer® GC Systems						
 <p>Single Taper</p>	Pesticides	S/SL	4 x 92	PLUS Inert	AG2-2A10-01	Ea
					AG2-2A10-05	5/pk
					AG2-2A10-25	25/pk
 <p>Single Taper Z-Liner™</p>	Semi-volatiles, Dirty samples	S/SL	4 x 92	PLUS Inert	AG2-2A13-01	Ea
					AG2-2A13-05	5/pk
					AG2-2A13-25	25/pk
 <p>Straight</p>	Volatiles	S/SL	4 x 92	PLUS Inert	AG2-2A00-01	Ea
					AG2-2A00-05	5/pk
					AG2-2A00-25	25/pk
 <p>Straight Z-Liner</p>	Volatiles, Dirty samples	PSS	2 x 86.2	PLUS Inert	AG2-2E03-01	Ea
					AG2-2E03-05	5/pk
					AG2-2E03-25	25/pk
 <p>Straight Z-Liner</p>	High initial oven temperatures	S/SL	4 x 92	PLUS Inert	AG2-2A03-01	Ea
					AG2-2A03-05	5/pk
					AG2-2A03-25	25/pk

Zebron Gas Management Filters

Extend the Lifetime of Your GC Column and Instrument!



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.

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).

*Hydrocarbon filters do not include a color indicator

Zebron Gas Management Traps

Serve Multiple GC Instruments at One Switch



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.

Know When to Replace

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

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.

Secure Wall Mount

These wall mounting clamps will EASILY help attach a Zebron 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.



Ordering Information



Zebron 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



Zebron 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



Zebron 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

Zebron 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



Electronic Indicator



Wall-mounting Clamp Set



O-ring



Brass Click-on Connector

First time ordering Zebron Click-on Gas Traps?

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



Inlet Base Seals

Easy Seals™ for Agilent® GCs



Phenomenex Easy Seals



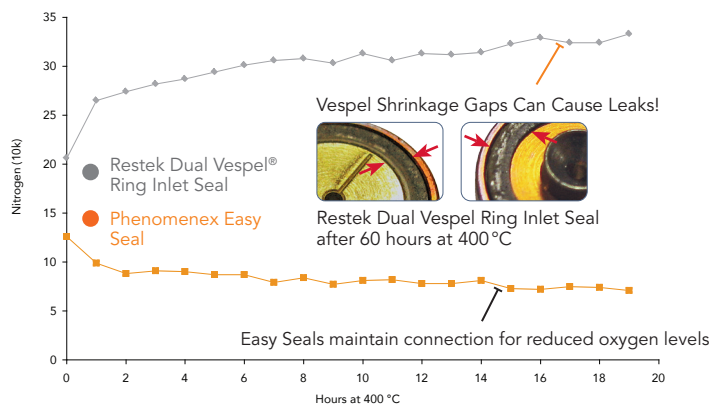
Traditional Gold Plated Seals



The Oxygen Test: 20 Hours at 400 °C

Easy Seals are designed to create leak-tight connections that reduce the amount of oxygen entering the GC system, even up to 400 °C! Our testing showed that the Easy Seal maintained a good connection while the Restek® Dual Vespel® Ring Inlet Seal showed increasing levels of oxygen in the system — increased potential for contamination!

Test Conditions: Both inlet base seals were new and unused prior to testing. Seals were installed in an Agilent 6890 Series instrument with a 5973 MS with a Zebtron ZB-5ms GC column (15 meter x 0.25 mm x 0.25 µm). An initial air and water check was performed upon installation to ensure there was no error in installation. The inlet temperature was set to 400 °C and counts of oxygen were measured over time.



Ordering Information

Easy Seals Inlet Base Seals				2/pk	10/pk
Description	Injection Type	Groove Style	Inlet Hole Diameter (mm)	Part No.	Part No.
Easy Seals Gold Inlet Seal	Splitless	Single	0.8	AG0-8619	AG0-8620

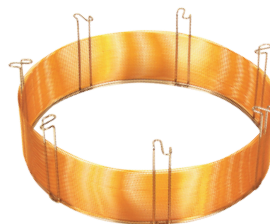


Ordering Information



Zebron ZB-Dioxin GC Column

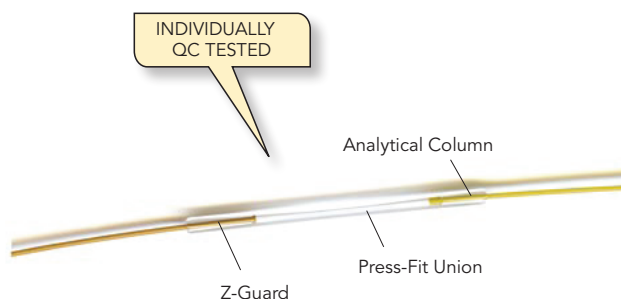
ID (mm)	df (µm)	Temp. Limits (°C)	Part No.
60 meter			
0.25	0.2	40 to 320/340	7KG-G045-10
60 meter with 5 meter Guardian™			
0.25	0.2	40 to 320/340	7KG-G045-10-GGA
40 meter			
0.18	0.14	40 to 320/340	7PD-G045-47



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



Standard Z-Guard Columns and Kits

ID (mm)	Description	Part No.	
		5-Meter	10-Meter
0.25	Guard Column	7AG-G000-00-GZ0	7CG-G000-00-GZ0
	Guard Column Kit	7AG-G000-00-GZK	7CG-G000-00-GZK

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