

GC COLUMNS

CROSS-REFERENCE GUIDE

Your comprehensive guide to conversion
from non-SCION columns to SCION columns



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GC Capillary Columns Cross-Reference Guide

SCION Instruments offers high quality, reproducible GC capillary columns to meet the most demanding quality assurance specifications in the industry.

All columns are designed and tested to the tightest QC specifications for optimised column bleed, sensitivity and efficiency.

The below cross reference guide will make your conversion from a non-SCION column to a SCION column. Each section of this guide lists by phase selection, the suggested SCION column and the associated application areas. The below is not an exhaustive list of available GC columns but represents the most frequently used capillary columns.

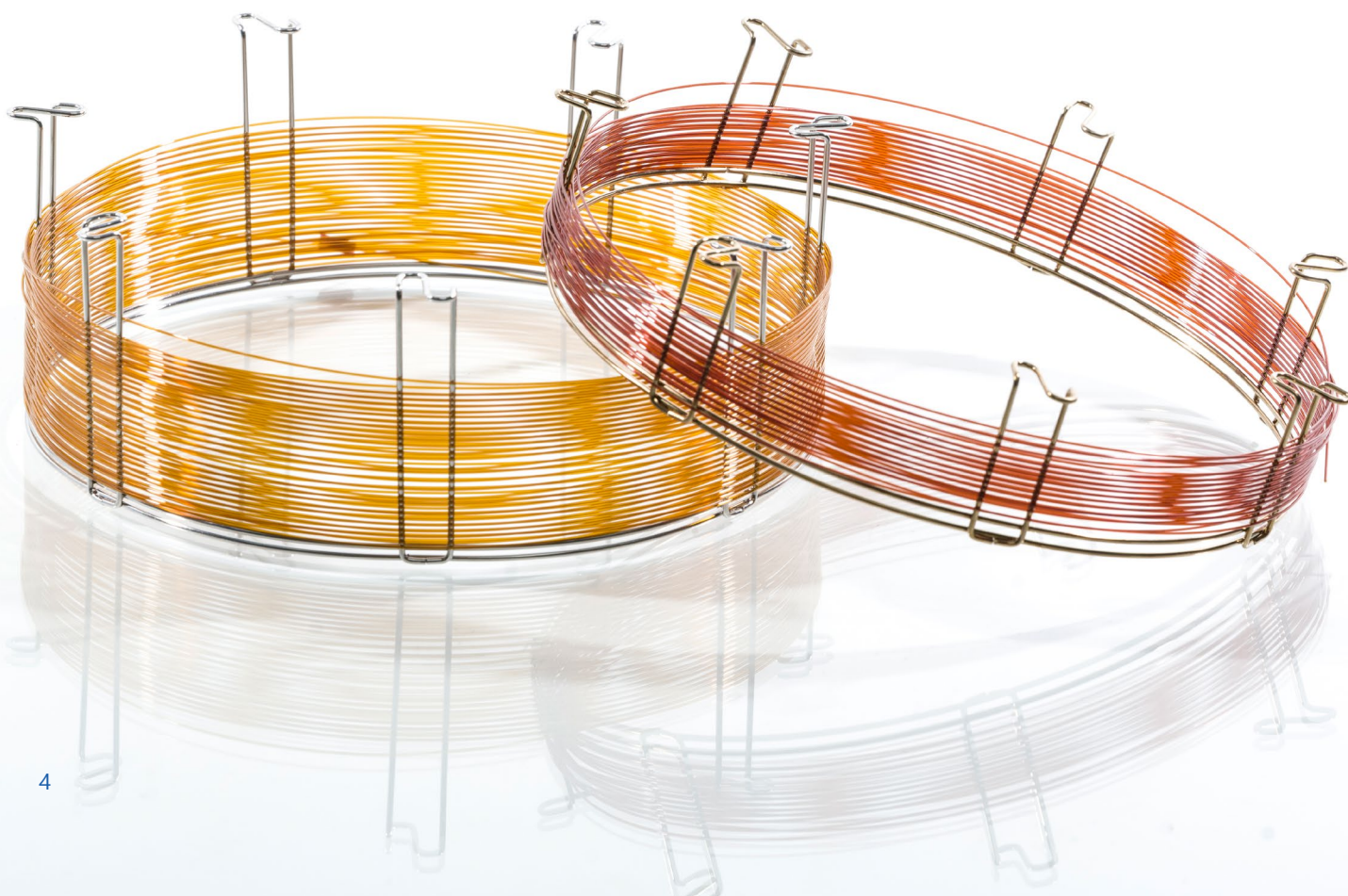
SCION	Phase Description	Agilent	Restek	Supelco	Phenomen.	Shimadzu
SCION-1	100% Dimethyl polysiloxane	DB-1, HP-1	Rtx-1	SPB-1	ZB-1	SH-1
SCION-1MS	100% Dimethyl polysiloxane (low-bleed, inert)	DB-1MS HP-1MS	Rxi-1MS	N/A	ZB-1MS	SH-1MS
SCION-5	5% Diphenyl dimethyl & 95% polysiloxane	DB-5 HP-5	Rtx-5	SPB-5	ZB-5	SH-5
SCION-5MS	5% Diphenyl dimethyl & 95% polysiloxane (low-bleed, inert)	DB-5MS HP-5MS	Rtx-5MS	N/A	ZB-5msi	SH-5MS
SCION-624MS	6% Cyanopropylphenyl & 94% dimethylpolysiloxane (low-bleed, inert)	DB-624ms DB-1301ms	Rxi-624Sil MS	N/A	ZB-624 ZB-624Plus	SH-624
SCION-WAXMS	100% Polyethylene glycol (low-bleed, inert)	VF-WAXms	Stabilwax-MS	Supelco-WAX10	ZB-WAXPlus	SH-WAX
SCION-DHA	100% dimethyl polysiloxane	HP-PONA	Rtx-DHA-100	Petrocol DH	ZB-DHA-PONA	N/A



Selecting Stationary Phase

Selecting the most appropriate stationary phase is dependent upon the polarity of the target analytes and the separation properties of the stationary phase:

	SCION-1 SCION-1MS	SCION-5 SCION-5MS	SCION-624MS	SCION-WAXMS	SCION-DHA
Polarity	Non-polar	Low to Medium	Medium	High	Non-polar
Separation Properties	Elution in boiling point order	Aromatic compounds retained by phenyl groups	Separation of isomers	Strong retention of polar compounds	Elution in boiling point order
Application	Gasoline and Solvents	Flavours, Environmental, Aromatics	Pesticides, PCBS, Oxygenates	Halogenated, Polar, Solvents	Gasoline and Solvents





Selecting Stationary Phase

The application type for each column are listed below. This is not an exhaustive list, for more information visit the application section of the website or contact applications.support@scioninstruments.com

SCION Column	Application
SCION-1 SCION-1MS	<p>General purpose column for method development, Low polarity phase suited for true boiling point compounds, optimal separation of critical pairs in complex petrochemical compounds and symmetrical peaks for sulfur compounds.</p> <p>Alcohols, aromatic hydrocarbons, esters, flavours and aromas, free fatty acids, glycols, halogenated hydrocarbons, hydrocarbons, ketones, organic acids, oxygenates, polyaromatic hydrocarbons, pesticides, polymers, steroids, solvents and sulfur compounds.</p> <p>Determination of Light Hydrocarbons in Stabilised Crude Oils - Gas Chromatography Method SCION Instruments AN0023-US-EPA-Method-TO-15-Volatile-Organic-Compounds-in-Ambient-Air.pdf (scioninstruments.com)</p>
SCION-5 SCION-5MS	<p>Rugged, versatile low polarity column for general purpose applications and method development. Inert column for active compounds such as drugs or pesticides, flavours, FAMES, PCBs, phenols, dioxins</p> <p>Alcohols, amines, hydrocarbons, drugs, EPA methods, fatty acid methyl esters, flavours and aromas, glycerides, halogenated compounds, polyaromatic hydrocarbons, polychlorinated biphenyls, pesticides, steroids, sterols, sugars and sulfur compounds.</p> <p>AN177v2-Determination-of-Polychlorinated-Biphenyls-PCBs-in-water-using-GC-SQMS.pdf (scioninstruments.com)</p> <p>Flavour and Aroma Profile of Hops Using FET-Headspace on the SCION Instruments Versa using GC-MS EPA Method 8270 Using Hydrogen as a Carrier Gas (scioninstruments.com)</p>
SCION-624MS	<p>Specifically designed for VOCs, Volatile organic flavours and fragrances, residual solvents in industrial or pharmaceutical.</p> <p>EPA 501.3, 524.2, 601, 602, 624, 8010, 8015, 8020, 8021, 8240, 8260</p> <p>AN034v1-EPA-8260-Analysis-of-Volatile-Organic-Compounds-by-GC-MS_DM-Edit.pdf (scioninstruments.com)</p> <p>AN139v2-Residual-Solvent-analysis-of-cannabinoid-products-by-Headspace-GC-MS.pdf</p> <p>AN133v2-Determination-of-Terpenes-in-Cannabis-by-GC-FID-1.pdf</p>
SCION-WAXMS	<p>Polyethylene glycol versatility for solvents, acids and amines. Bonded, solvent rinsible phase for separating polar complex mixtures, alcohols, aldehydes, aromatics, basic compounds, essential oils, flavours, fragrances, glycols, pharmaceuticals, solvents, xylene isomers, styrene</p> <p>Detection of Ethylene Oxide (EO) Residue in Medical Protective Products (scioninstruments.com)</p> <p>ASTM D7504 Trace Impurities in Monocyclic Aromatic Hydrocarbons (scioninstruments.com)</p>
SCION-DHA	<p>Detailed hydrocarbon analysis; true boiling point separation, resolving of critical pairs in complex petrochemical samples: ASTM D6729, ASTM D6730, ASTM D5134, ASTM D5441, ASTM D5501, ASTM D7900, IP 344</p> <p>UOP555, Trace impurities in Benzene by Gas Chromatography SCION Instruments</p> <p>ASTM D7900 Light Hydrocarbons in Stabilized Crude Oils (scioninstruments.com)</p>



US Pharmacopeia Nomenclature

In the united states pharmacopeia, the stationary phase of GC columns are indicated with a code number. Representative code numbers are summarised below.

The MS columns are the same phase as the standard column but are optimised for lower bleed.

SCION Column	United States Pharmacopeia (USP) Nomenclature	Stationary Phase
SCION-1	G1, G2, G9, G38	100% Dimethyl polysiloxane
SCION-1MS		
SCION-5	G27, G36	5% Diphenyl dimethyl & 95% polysiloxane
SCION-5MS		
SCION-624MS	G43	6% Cyanopropylphenyl & 94% dimethylpolysiloxane
SCION-WAXMS	G16, G47	100% Polyethylene glycol
SCION-DHA	N/A	100% dimethyl polysiloxane



SCION-1 and SCION-1MS Columns

A non-polar capillary column for accuracy and sensitivity. The SCION-1 and SCION-1MS columns are general purpose, all round columns suitable for a wide range of universal applications.

The SCION-1MS column is specifically designed with highly inert properties for accurate analysis and low bleed, even at trace levels.

Column Phase	Maximum Temperature (°C)		Minimum Temperature (°C)
	Isothermal	Gradient	
SCION-1 SCION-1MS	325	350	-60

SCION-1

Part Number	Description
SC30101	SCION-1 12.5m x 0.32mm x 1.20µm *
SC30102	SCION-1 3m x 0.32mm x 1.20µm
SC30106	SCION-1 10m x 0.53mm x 2.00µm
SC30120	SCION-1 15m x 0.25mm x 0.25µm
SC30123	SCION-1 30m x 0.25mm x 0.25µm
SC30125	SCION-1 30m x 0.25mm x 1.00µm
SC30126	SCION-1 60m x 0.25mm x 0.25µm
SC30128	SCION-1 60m x 0.25mm x 1.00µm
SC30138	SCION-1 60m x 0.32mm x 1.00µm
SC30141	SCION-1 30m x 0.32mm x 2.00µm
SC30144	SCION-1 30m x 0.32mm x 5.00µm
SC30145	SCION-1 60m x 0.32mm x 5.00µm
SC30154	SCION-1 30m x 0.53mm x 0.50µm
SC30160	SCION-1 15m x 0.53mm x 2.00µm
SC30161	SCION-1 30m x 0.53mm x 2.00µm
SC30162	SCION-1 60m x 0.53mm x 2.00µm
SC30164	SCION-1 30m x 0.53mm x 5.00µm
SC30165	SCION-1 60m x 0.53mm x 5.00µm
SC30167	SCION-1 60m x 0.53mm x 0.50µm
SC30180	SCION-1 25m x 0.25mm x 4.00µm
SC30194	SCION-1 30m x 0.32mm x 4.00µm
SC30195	SCION-1 60m x 0.32mm x 8.00µm

SCION-1MS

Part Number	Description
SC32110	SCION-1MS 15m x 0.25mm x 0.10µm
SC32111	SCION-1MS 30m x 0.25mm x 0.10µm
SC32120	SCION-1MS 15m x 0.25mm x 0.25µm
SC32123	SCION-1MS 30m x 0.25mm x 0.25µm
SC32124	SCION-1MS 30m x 0.25mm x 0.50µm
SC32125	SCION-1MS 30m x 0.25mm x 1.00µm
SC32126	SCION-1MS 60m x 0.25mm x 0.25µm
SC32128	SCION-1MS 60m x 0.25mm x 1.00µm
SC32130	SCION-1MS 15m x 0.32mm x 0.25µm
SC32133	SCION-1MS 30m x 0.32mm x 0.25µm
SC32135	SCION-1MS 30m x 0.32mm x 1.00µm
SC32136	SCION-1MS 60m x 0.32mm x 0.25µm
SC32138	SCION-1MS 60m x 0.32mm x 1.00µm
SC32151	SCION-1MS 15m x 0.53mm x 0.50µm

*Supplied on a 5" cage



SCION-5 and SCION-5MS Columns

A general purpose column with a low polarity phase designed for a broad range of target compounds. The cross bonded stationary phase extends the natural life of the column delivering high quality results with optimum separation.

The SCION-5MS column is specifically designed with highly inert properties for accurate analysis and low bleed, even at trace levels.

Column Phase	Maximum Temperature (°C)		Minimum Temperature (°C)
	Isothermal	Gradient	
SCION-5 SCION-5MS	325	350	-60

SCION-5

Part Number	Description
SC30220	SCION-5 15m x 0.25mm x 0.25µm
SC30221	SCION-5 30m x 0.25mm x 0.25µm
SC30224	SCION-5 30m x 0.25mm x 0.50µm
SC30225	SCION-5 30m x 0.25mm x 1.00µm
SC30226	SCION-5 60m x 0.25mm x 0.25µm
SC30233	SCION-5 30m x 0.32mm x 0.25µm
SC30245	SCION-5 60m x 0.32mm x 5.00µm
SC30254	SCION-5 30m x 0.53mm x 0.50µm
SC30257	SCION-5 60m x 0.53mm x 0.50µm
SC30261	SCION-5 30m x 0.53mm x 2.00µm
SC30264	SCION-5 30m x 0.53mm x 5.00µm

SCION-5MS

Part Number	Description
SC32210	SCION-5MS 15m x 0.25mm x 0.10µm
SC32211	SCION-5MS 30m x 0.25mm x 0.10µm
SC32213	SCION-5MS 15m x 0.32mm x 0.10µm
SC32214	SCION-5MS 30m x 0.32mm x 0.10µm
SC32220	SCION-5MS 15m x 0.25mm x 0.25µm
SC32221	SCION-5MS 15m x 0.25mm x 0.50µm
SC32223	SCION-5MS 30m x 0.25mm x 0.25µm
SC32224	SCION-5MS 30m x 0.25mm x 0.50µm
SC32225	SCION-5MS 30m x 0.25mm x 1.00µm
SC32226	SCION-5MS 60m x 0.25mm x 0.25µm
SC32230	SCION-5MS 15m x 0.32mm x 0.25µm
SC32232	SCION-5MS 15m x 0.32mm x 1.00µm
SC32233	SCION-5MS 30m x 0.32mm x 0.25µm
SC32234	SCION-5MS 30m x 0.32mm x 0.50µm
SC32235	SCION-5MS 30m x 0.32mm x 1.00µm
SC32236	SCION-5MS 60m x 0.32mm x 0.50µm
SC32238	SCION-5MS 60m x 0.32mm x 1.00µm
SC32251	SCION-5MS 15m x 0.53mm x 0.50µm



SCION-624MS Columns

Specifically designed for volatile organic compounds (VOC's), particularly for EPA and USP methods.

The 6% cyanopropylphenyl / 94% dimethylpolysiloxane stationary phase provides stable baselines and enhanced selectivity of VOC's. The SCION-624MS is inert offering lower bleed, increasing sensitivity at trace levels.

Column Phase	Maximum Temperature (°C)		Minimum Temperature (°C)
	Isothermal	Gradient	
SCION-624MS	280	300	-40

SCION-624MS

Part Number	Description
SC32591	SCION-624MS 30m x 0.25mm x 1.4µm
SC32592	SCION-624MS 60m x 0.25mm x 1.4µm
SC32594	SCION-624MS 30m x 0.32mm x 1.8µm
SC32595	SCION-624MS 60m x 0.32mm x 1.8µm
SC32597	SCION-624MS 30m x 0.53mm x 3.00µm
SC32598	SCION-624MS 60m x 0.53mm x 3.00µm



SCION-WAXMS Columns

A high performance, low bleed 100% Polyethylene glycol column designed for analysing compounds with polar functional groups. These inert columns provide symmetrical peak shape, enhanced critical pair separation and improved sensitivity.

Column Phase	Maximum Temperature (°C)		Minimum Temperature (°C)
	Isothermal	Gradient	
SCION-WAXMS	280	300	-40

SCION-WAXMS

Part Number	Description
SC32420	SCION-WAXMS 15m x 0.25mm x 0.25µm
SC32423	SCION-WAXMS 30m x 0.25mm x 0.25µm
SC32424	SCION-WAXMS 30m x 0.25mm x 0.50µm
SC32425	SCION-WAXMS 30m x 0.25mm x 1.00µm
SC32426	SCION-WAXMS 60m x 0.25mm x 0.25µm
SC32427	SCION-WAXMS 60m x 0.25mm x 0.50µm
SC32430	SCION-WAXMS 15m x 0.32mm x 0.25µm
SC32433	SCION-WAXMS 30m x 0.32mm x 0.25µm
SC32434	SCION-WAXMS 30m x 0.32mm x 0.50µm
SC32435	SCION-WAXMS 30m x 0.32mm x 1.00µm
SC32436	SCION-WAXMS 60m x 0.32mm x 0.25µm
SC32437	SCION-WAXMS 60m x 0.32mm x 0.50µm
SC32438	SCION-WAXMS 60m x 0.32mm x 1.00µm
SC32451	SCION-WAXMS 15m x 0.53mm x 0.50µm
SC32454	SCION-WAXMS 30m x 0.53mm x 0.50µm
SC32455	SCION-WAXMS 30m x 0.53mm x 1.00µm
SC32457	SCION-WAXMS 60m x 0.53mm x 0.50µm
SC32461	SCION-WAXMS 30m x 0.53mm x 2.00µm
SC32462	SCION-WAXMS 60m x 0.53mm x 2.00µm



SCION-DHA

The SCION-DHA columns is designed specifically for Detailed Hydrocarbon Analysis. The 100% dimethyl polysiloxane phase columns easily characterizes hydrocarbon streams by their individual components and bulk hydrocarbons.

Column Phase	Maximum Temperature (°C)		Minimum Temperature (°C)
	Isothermal	Gradient	
SCION-DHA	325	350	-60

SCION-DHA

Part Number	Description
SC38181	SCION-DHA 100m x 0.25mm x 0.50µm

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