



## SCION GC-TQ

- The Gas Chromatographers' Triple Quadrupole Detector

# Introducing the Scion GC-TQ System

The Scion GC Triple Quadrupole (TQ) detector is a comprehensive solution for your most demanding gas chromatography applications. It delivers unrivalled bench-space savings, the result of an innovative 'lens-free', elliptical ion-path design that delivers ultra-high sensitivity and chemical noise reduction - performance you would expect when innovation merges with a legacy of reliability.

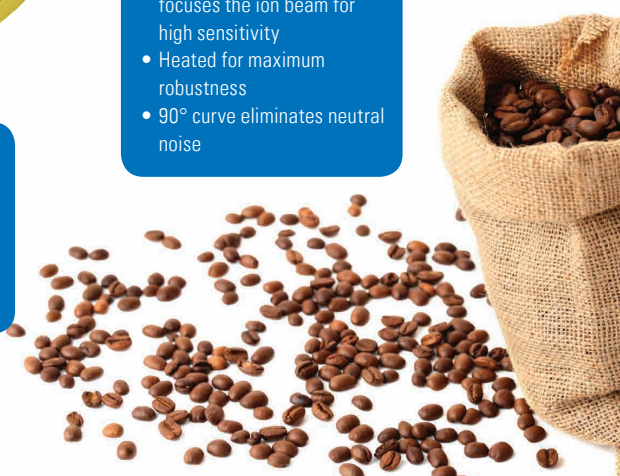
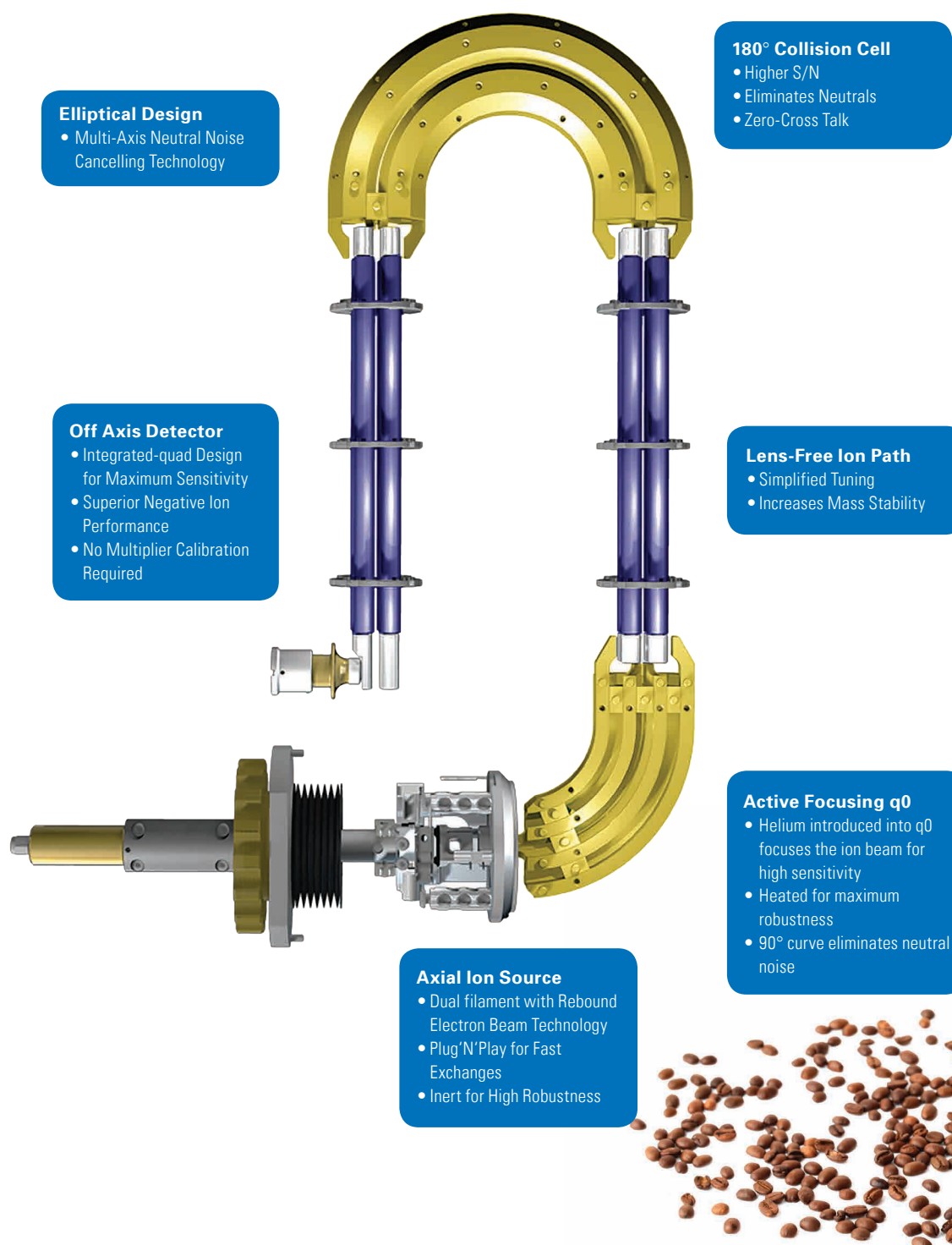
If you are seeking new solutions and real innovation, we invite you to experience the revolutionary design of the Scion GC-TQ system. The Scion GC-TQ delivers the performance you would expect from Scion when true innovation is combined with an extensive legacy of reliability.

## Scion GC-TQ Features

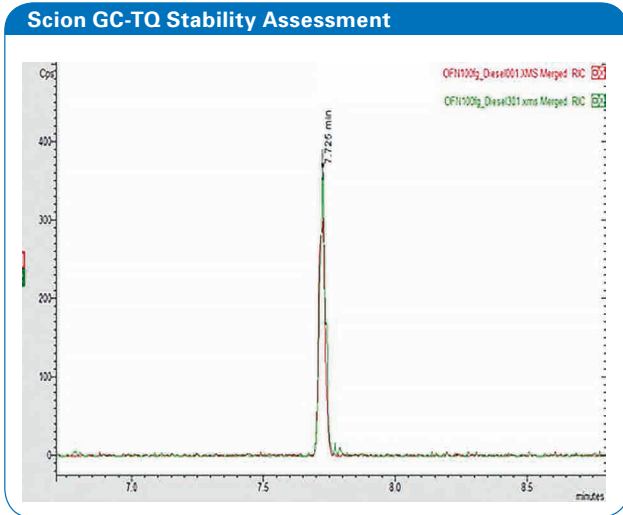
- **Simple Tuning**  
'Lens-Free' ion path for higher stability and sensitivity
- **More Sensitivity**  
Active-Focusing q0 uses helium molecules to increase ion transmission
- **Higher S/N**  
Elliptical ion-path design that results in virtually zero neutral or chemical noise
- **Easy MRM Method Set Up**  
Simply type the name of the compound and the MRM information auto-fills
- **Unrivalled NCI Performance**  
High capacity turbo-pump standard with every Scion GC-TQ
- **Eliminate Re-injections**  
Extended Dynamic Range (EDR) detector with unique Integrated-Quad design

## ● Why Choose the Scion GC-TQ System?

Benefit from the innovations provided by the Scion GC-TQ and increase the confidence in your results while future-proofing your laboratory. The unique elliptical ion-path that is fundamental to the Scion GC-TQ virtually eliminates neutral or chemical noise. Other innovations such as the 'lens-free' design and the active focusing q0 help make quantitative analysis of difficult samples routine.



# Peace of Mind, Delivered



Analytical laboratories may have different applications, but they share many of the same challenges. The Scion GC-TQ is designed to effortlessly analyze thousands of samples from even the dirtiest of matrices such as sewer run-off, food homogenates, oil field sludge, whole blood and tissue. When your QuEChERS assay demands the utmost in reliability and robustness, or your steroid assay requires superior sensitivity, simply use the Scion GC-TQ.

Industry leading robustness indicated by 300 consecutive injections of 1% Diesel Oil matrix containing 100 fg OFN over a one week period. The MRM ( $m/z$  272>222) traces show injection No. 1 and injection No. 301.

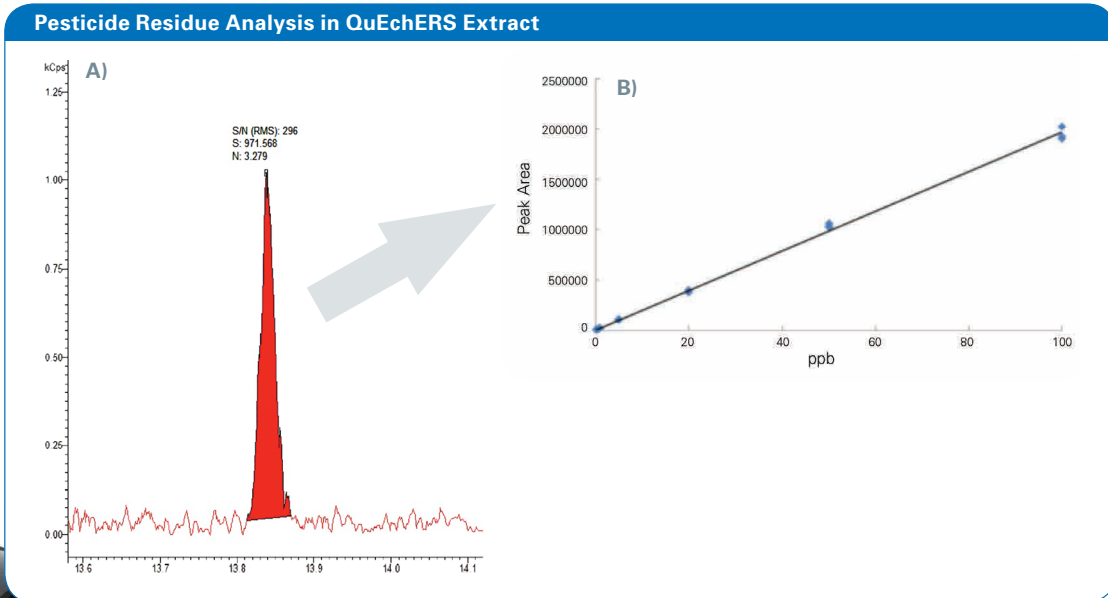
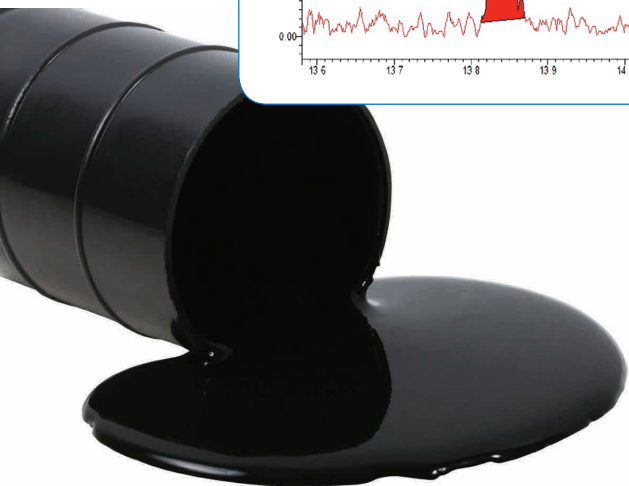


Figure A) 0.1 ppb Heptenophos in QuEChERS extract  
Figure B) Routine dynamic range, sensitivity and precision of the Scion GC-TQ as indicated by excellent linearity range of pesticide Heptenophos in QuEChERS extract matrix of mixed color peppers from 0.1 to 100 ppb. Note also the excellent precision down to the 0.1 ppb.



● Easy to Use Software Increases Productivity



**MRM Method Builder**

With the Scion GC-TQ, you don't need to know the MRM transition of an analyte, let the software auto-fill it for you! Simply drag in the name of your compound from the factory installed compound library that contains over 2500 MRM transitions, and let the software set up the method, and manage the TQ's duty cycle.

The fast-scanning capability of the Scion GC-TQ allows multiple transitions for each compound to be optimally monitored during a single analytical run. By maintaining each compound's unique retention time, the number of simultaneous transitions is reduced, leading to the most efficient duty cycle and thereby increasing assay sensitivity.

**Compound Based Scanning**

Name	Retention Time	RT window	List Number	Scan Type	Scan Time	Priority
1	1.00	0.25	1000-1.0	MS/MS	70	1
2	1.25	0.25	1000-1.25	MS/MS	30	1
3	1.50	0.25	1000-1.5	MS/MS	30	1
4	1.75	0.25	1000-1.75	MS/MS	30	1
5	2.00	0.25	1000-2.0	MS/MS	30	1
6	2.25	0.25	1000-2.25	MS/MS	30	1
7	2.50	0.25	1000-2.5	MS/MS	30	1
8	2.75	0.25	1000-2.75	MS/MS	30	1
9	3.00	0.25	1000-3.0	MS/MS	30	1
10	3.25	0.25	1000-3.25	MS/MS	30	1
11	3.50	0.25	1000-3.5	MS/MS	30	1
12	3.75	0.25	1000-3.75	MS/MS	30	1
13	4.00	0.25	1000-4.0	MS/MS	30	1
14	4.25	0.25	1000-4.25	MS/MS	30	1
15	4.50	0.25	1000-4.5	MS/MS	30	1
16	4.75	0.25	1000-4.75	MS/MS	30	1
17	5.00	0.25	1000-5.0	MS/MS	30	1
18	5.25	0.25	1000-5.25	MS/MS	30	1
19	5.50	0.25	1000-5.5	MS/MS	30	1
20	5.75	0.25	1000-5.75	MS/MS	30	1
21	6.00	0.25	1000-6.0	MS/MS	30	1
22	6.25	0.25	1000-6.25	MS/MS	30	1
23	6.50	0.25	1000-6.5	MS/MS	30	1
24	6.75	0.25	1000-6.75	MS/MS	30	1
25	7.00	0.25	1000-7.0	MS/MS	30	1
26	7.25	0.25	1000-7.25	MS/MS	30	1
27	7.50	0.25	1000-7.5	MS/MS	30	1
28	7.75	0.25	1000-7.75	MS/MS	30	1
29	8.00	0.25	1000-8.0	MS/MS	30	1
30	8.25	0.25	1000-8.25	MS/MS	30	1
31	8.50	0.25	1000-8.5	MS/MS	30	1
32	8.75	0.25	1000-8.75	MS/MS	30	1
33	9.00	0.25	1000-9.0	MS/MS	30	1
34	9.25	0.25	1000-9.25	MS/MS	30	1
35	9.50	0.25	1000-9.5	MS/MS	30	1
36	9.75	0.25	1000-9.75	MS/MS	30	1
37	10.00	0.25	1000-10.0	MS/MS	30	1
38	10.25	0.25	1000-10.25	MS/MS	30	1
39	10.50	0.25	1000-10.5	MS/MS	30	1
40	10.75	0.25	1000-10.75	MS/MS	30	1
41	11.00	0.25	1000-11.0	MS/MS	30	1
42	11.25	0.25	1000-11.25	MS/MS	30	1
43	11.50	0.25	1000-11.5	MS/MS	30	1
44	11.75	0.25	1000-11.75	MS/MS	30	1
45	12.00	0.25	1000-12.0	MS/MS	30	1
46	12.25	0.25	1000-12.25	MS/MS	30	1
47	12.50	0.25	1000-12.5	MS/MS	30	1
48	12.75	0.25	1000-12.75	MS/MS	30	1
49	13.00	0.25	1000-13.0	MS/MS	30	1
50	13.25	0.25	1000-13.25	MS/MS	30	1
51	13.50	0.25	1000-13.5	MS/MS	30	1
52	13.75	0.25	1000-13.75	MS/MS	30	1
53	14.00	0.25	1000-14.0	MS/MS	30	1
54	14.25	0.25	1000-14.25	MS/MS	30	1
55	14.50	0.25	1000-14.5	MS/MS	30	1
56	14.75	0.25	1000-14.75	MS/MS	30	1
57	15.00	0.25	1000-15.0	MS/MS	30	1
58	15.25	0.25	1000-15.25	MS/MS	30	1
59	15.50	0.25	1000-15.5	MS/MS	30	1
60	15.75	0.25	1000-15.75	MS/MS	30	1
61	16.00	0.25	1000-16.0	MS/MS	30	1
62	16.25	0.25	1000-16.25	MS/MS	30	1
63	16.50	0.25	1000-16.5	MS/MS	30	1
64	16.75	0.25	1000-16.75	MS/MS	30	1
65	17.00	0.25	1000-17.0	MS/MS	30	1
66	17.25	0.25	1000-17.25	MS/MS	30	1
67	17.50	0.25	1000-17.5	MS/MS	30	1
68	17.75	0.25	1000-17.75	MS/MS	30	1
69	18.00	0.25	1000-18.0	MS/MS	30	1
70	18.25	0.25	1000-18.25	MS/MS	30	1
71	18.50	0.25	1000-18.5	MS/MS	30	1
72	18.75	0.25	1000-18.75	MS/MS	30	1
73	19.00	0.25	1000-19.0	MS/MS	30	1
74	19.25	0.25	1000-19.25	MS/MS	30	1
75	19.50	0.25	1000-19.5	MS/MS	30	1
76	19.75	0.25	1000-19.75	MS/MS	30	1
77	20.00	0.25	1000-20.0	MS/MS	30	1
78	20.25	0.25	1000-20.25	MS/MS	30	1
79	20.50	0.25	1000-20.5	MS/MS	30	1
80	20.75	0.25	1000-20.75	MS/MS	30	1
81	21.00	0.25	1000-21.0	MS/MS	30	1
82	21.25	0.25	1000-21.25	MS/MS	30	1
83	21.50	0.25	1000-21.5	MS/MS	30	1
84	21.75	0.25	1000-21.75	MS/MS	30	1
85	22.00	0.25	1000-22.0	MS/MS	30	1
86	22.25	0.25	1000-22.25	MS/MS	30	1
87	22.50	0.25	1000-22.5	MS/MS	30	1
88	22.75	0.25	1000-22.75	MS/MS	30	1
89	23.00	0.25	1000-23.0	MS/MS	30	1
90	23.25	0.25	1000-23.25	MS/MS	30	1
91	23.50	0.25	1000-23.5	MS/MS	30	1
92	23.75	0.25	1000-23.75	MS/MS	30	1
93	24.00	0.25	1000-24.0	MS/MS	30	1
94	24.25	0.25	1000-24.25	MS/MS	30	1
95	24.50	0.25	1000-24.5	MS/MS	30	1
96	24.75	0.25	1000-24.75	MS/MS	30	1
97	25.00	0.25	1000-25.0	MS/MS	30	1
98	25.25	0.25	1000-25.25	MS/MS	30	1
99	25.50	0.25	1000-25.5	MS/MS	30	1
100	25.75	0.25	1000-25.75	MS/MS	30	1

Precursor	Product	Collision Energy	Q1 Resolution	Q3 Resolution	Time (s)	Qualifier 1	Qualifier 1%	Qualifier 2	Qualifier 2%
200.05	162.05	18.00	8.75	8.75	11.250	1	8.00%		
200.05	150.05	18.00	8.75	8.75	11.250	2	15.00%		
200.05	117.05	30.00	8.75	8.75	11.250	3	28.00%		

**Industry First Triple Quadrupole Software That Lets You Think Like a Chromatographer**

Compound	Retention Time	Transition
1	1.00	1000-1.0
2	1.25	1000-1.25
3	1.50	1000-1.5
4	1.75	1000-1.75
5	2.00	1000-2.0
6	2.25	1000-2.25
7	2.50	1000-2.5
8	2.75	1000-2.75
9	3.00	1000-3.0
10	3.25	1000-3.25
11	3.50	1000-3.5
12	3.75	1000-3.75
13	4.00	1000-4.0
14	4.25	1000-4.25
15	4.50	1000-4.5
16	4.75	1000-4.75
17	5.00	1000-5.0
18	5.25	1000-5.25
19	5.50	1000-5.5
20	5.75	1000-5.75
21	6.00	1000-6.0
22	6.25	1000-6.25
23	6.50	1000-6.5
24	6.75	1000-6.75
25	7.00	1000-7.0
26	7.25	1000-7.25
27	7.50	1000-7.5
28	7.75	1000-7.75
29	8.00	1000-8.0
30	8.25	1000-8.25
31	8.50	1000-8.5
32	8.75	1000-8.75
33	9.00	1000-9.0
34	9.25	1000-9.25
35	9.50	1000-9.5
36	9.75	1000-9.75
37	10.00	1000-10.0
38	10.25	1000-10.25
39	10.50	1000-10.5
40	10.75	1000-10.75
41	11.00	1000-11.0
42	11.25	1000-11.25
43	11.50	1000-11.5
44	11.75	1000-11.75
45	12.00	1000-12.0
46	12.25	1000-12.25
47	12.50	1000-12.5
48	12.75	1000-12.75
49	13.00	1000-13.0
50	13.25	1000-13.25
51	13.50	1000-13.5
52	13.75	1000-13.75
53	14.00	1000-14.0
54	14.25	1000-14.25
55	14.50	1000-14.5
56	14.75	1000-14.75
57	15.00	1000-15.0
58	15.25	1000-15.25
59	15.50	1000-15.5
60	15.75	1000-15.75
61	16.00	1000-16.0
62	16.25	1000-16.25
63	16.50	1000-16.5
64	16.75	1000-16.75
65	17.00	1000-17.0
66	17.25	1000-17.25
67	17.50	1000-17.5
68	17.75	1000-17.75
69	18.00	1000-18.0
70	18.25	1000-18.25
71	18.50	1000-18.5
72	18.75	1000-18.75
73	19.00	1000-19.0
74	19.25	1000-19.25
75	19.50	1000-19.5
76	19.75	1000-19.75
77	20.00	1000-20.0
78	20.25	1000-20.25
79	20.50	1000-20.5
80	20.75	1000-20.75
81	21.00	1000-21.0
82	21.25	1000-21.25
83	21.50	1000-21.5
84	21.75	1000-21.75
85	22.00	1000-22.0
86	22.25	1000-22.25
87	22.50	1000-22.5
88	22.75	1000-22.75
89	23.00	1000-23.0
90	23.25	1000-23.25
91	23.50	1000-23.5
92	23.75	1000-23.75
93	24.00	1000-24.0
94	24.25	1000-24.25
95	24.50	1000-24.5
96	24.75	1000-24.75
97	25.00	1000-25.0
98	25.25	1000-25.25
99	25.50	1000-25.5
100	25.75	1000-25.75



# Gas Chromatographs

## An Infusion of Innovation with a Legacy of Reliability

The GC is a key part to the reliability, robustness, and sensitivity of any GC-MS analysis. Scion's philosophy of innovation is highlighted by the use of two GCs built to support the ultra-sensitive Scion GC-TQ. The compact 436-GC and the versatile 456-GC can accommodate two columns in the oven and are available with new backflush technology and the innovative ChromatoProbe™. The GCs are also equipped with the multilanguage touchpad display supporting 13 languages and enabling MS control.

### 436-GC

Compact design for those focused on routine applications requiring maximum throughput using one or two injectors

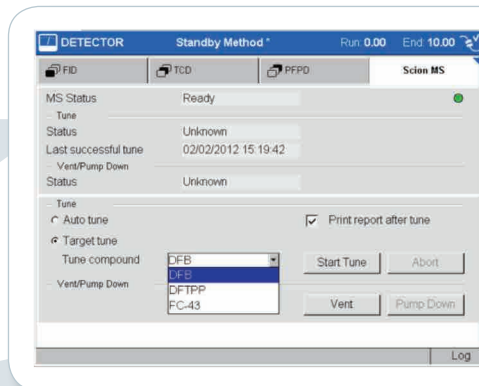
- Select up to 2 injectors: Split/Splitless (SSL), Programmable Temperature Vaporization (PTV)
- Support one GC detector and the mass spectrometer
- High precision electronic pressure control
- All temperature zones up to 450 °C
- Automated with Model 8400/8410 or CTC liquid/headspace autosampler

### 456-GC

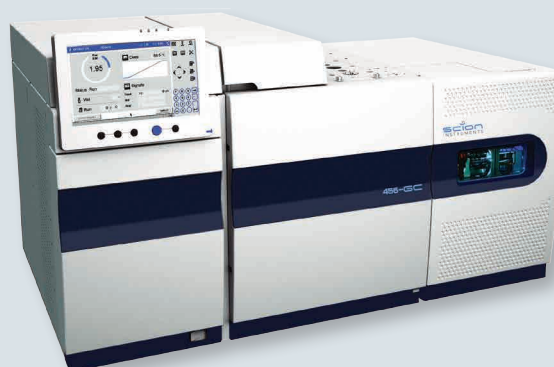
Versatile design with additional injector and detector options for laboratories seeking multipurpose analysis using both GC and GC-MS

- Select up to 3 injectors: SSL, PTV
- Add up to 3 GC detectors-FID, ECD, TCD, PFPD
- High precision electronic pressure control
- All temperature zones up to 450 °C
- Automated with Model 8400/8410 or CTC liquid/headspace autosampler

Scion has now set the industry standard for ease-of-use: Basic operation of Scion GC-TQ systems can be directly controlled from the multi-language touchpad on the gas chromatograph. Automatic tuning, along with tune-to-target for meeting specific USEPA methods can be done with a touch of a button. And the MS can be vented and pumped down from the interface for the ultimate in easy maintenance.



436-GC



456-GC

# SCION SQ™ GC-MS

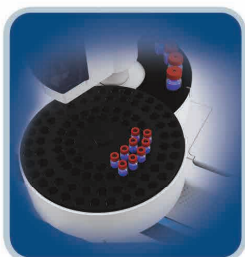
The SCION SQ series GC-MS systems combine innovative engineering with detailed customer requirements to produce a truly innovative system. The SCION SQ series. By designing the GC-MS systems to exceed the most critical performance and reliability needs of GC users, Scion Instruments has delivered systems that are especially for, and all about, the ultimate success of the GC users. The SCION SQ Select and Premium models are designed to meet many important user specific requirements – reliable performance, ease-of-use and simple maintenance – all in a small footprint that saves valuable bench space.



## ● Additions to Enhance System Capability and Performance

### Automated Sample Handling

Regardless of your sample throughput requirements, Scion can provide an automated solution to meet your needs. Four samplers are available, the CP-8410, CP-8400, and the PAL Combi-xt. Each is tailored to meet a differing need and workload.



#### CP-8400

- High throughput
- 100 x 2ml sample capacity
- Dual/Duplicate Injection
- SPME



#### CP-8410

- Flexibility
- Accommodates 2, 5, 10 ml vials
- Low cost/high performance
- Ease of use



#### PAL Combi-xt

- High throughput
- Liquid handling capability
- SPME
- ITEX

### Atomx Purge and Trap (P&T) System from Teledyne Tekmar

#### Automated VOC Sample Prep System

Combine an autosampler and purge and trap concentrator into a single platform. Unique Automated Methanol Extraction (ME) features for high level soil samples. 80-position carousel design for optimal throughput. Teklink™ software with fully optimized user interface including diagnostic tools and benchmark tests for instrument validation.

#### PTV Inlet with Back flush

The perfect addition for the SCION SQ PTV inlet is the backflush option. Complex sample matrix can quickly ruin the chromatographic performance of GC columns. However, the Programmable Temperature Vaporization inlet, used in conjunction with "backflushing", can reliably divert the higher boiling sample components away from the column. The benefits of this accessory include:

- Run more samples per day – decrease analysis times as the heavy components are quickly eliminated
- Save time by eliminating column bakeout
- Preserve column performance for extended period of time

# Scion-Certified Consumables for Your SCION GC Series

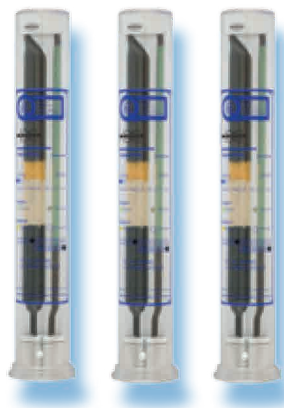
Scion GC columns span a broad range of column diameters, stationary phases, and capillary column materials: Fused Silica (FS) and Inert Steel (IS). Ideal for either routine or research type analyses. Scion GC column offerings bridge across many important applications and include a number of offerings such as:



- Standard WCOT (Wall Coated Open Tubular)
- Solid Stationary Phase PLOT (Porous Layer Open Tubular)
- Inert Steel Micro-Packed and Packed

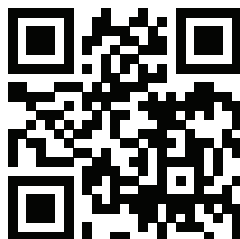
## Super Clean™ Gas Filters

Scion Gas Purification Systems have the range to satisfy your needs from individual to combination filters, from Ultra purity combined with Ultra capacity, to all in one solution kits. Innovative features designed into the product yield extensive benefits to the user.



- Ultra-high capacity for long life, less change and improved productivity
- High-purity output ensures 99.9999% Pure Gas
- "Quick connect" fittings for easy, leak-tight filter changes
- Glass internals prevent diffusion; plastic externally for safety
- Easy-to-read indicators for planned maintenance and improved up-time

For research use only. Not for use in diagnostic procedures.



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