

Gas chromatography consumables

# Fully-traceable GC injections

## with Thermo Scientific SMART consumables for autosamplers

Thermo Scientific™ SMART technology offers a traceable, usage-based approach for chromatography consumables. Thermo Scientific™ SMART consumables include syringes, and solvent-free solid phase microextraction (SPME) Arrow Fibers and SPME Fibers. These solutions offer automated management resulting in increased reliability, instrument up-time, confidence in the results, and full traceability.

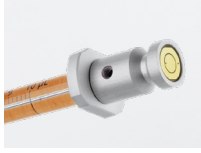
Each SMART consumable contains an ID chip which communicates with the Thermo Scientific™ TriPlus™ RSH SMART Autosampler. Important parameters for specific consumables such as part number, lot number, usage parameters, ranges, and history are available through the Thermo Scientific™ Chromeleon™ Chromatography Data System (CDS) Software records in the audit trail log file.

To support the smooth running of your laboratory, the system will trigger consumable health notifications to help maintain system up-time and the generation of high-quality, reliable data.



## The benefits of SMART technology

- Three types of sample injection techniques are available for your laboratory needs:



Thermo Scientific™ SMART Syringe for liquid and headspace injection



Thermo Scientific™ SMART SPME Arrow Fiber



Thermo Scientific™ SMART SPME Fiber

- Gain higher confidence in analytical results
- Ensure error free usage of syringes or SPME Fibers through automatic identification
- Support Good Laboratory Practice (GLP) accreditation with usage history traceability
- Optimize consumables consumption by monitoring of usage conditions and lifetime
- Facilitate consumables management thanks to color-coded health notification dashboard integrated in Chromeleon CDS



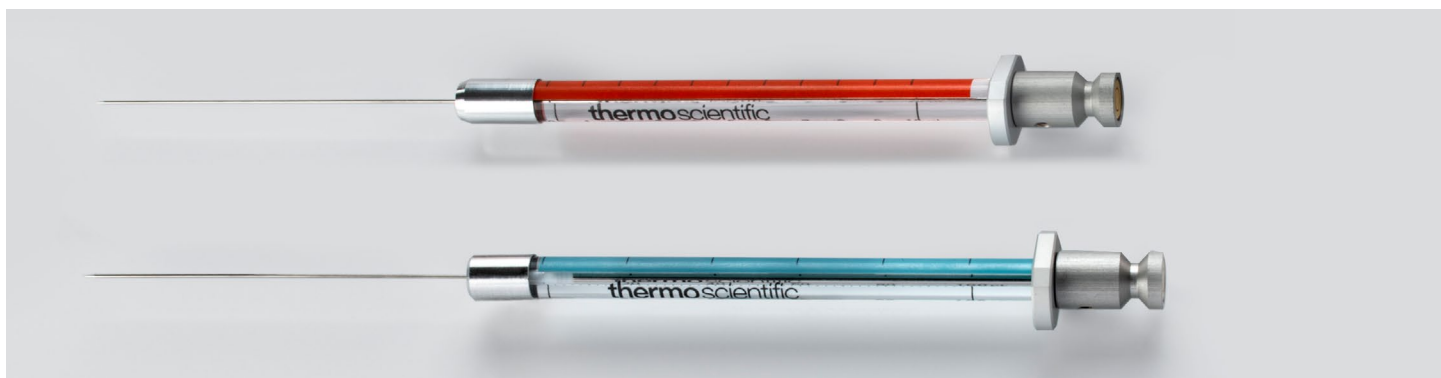
A quick reader (QR) code is available on each syringe package for easy ordering and for instructions on use, care, and maintenance



### Consolidated consumables status. Integrated dashboard into Chromeleon CDS.

- Syringe/fiber health notification
- Intuitive color-coded lifetime visualization
- Customer-settable thresholds

## SMART syringe ordering information



SMART syringes for liquid syringe tool 1R77010-1007 or D7/57						
Part number	Syringe volume (µL)	Needle length (mm)	Gauge	Needle type	Gas tight	For use with
365A0241-SM	0.5	57	23	Cone	No	Microvolume injections of highly concentrated samples or Fast GC applications with narrow bore columns
365B0251-SM	1	57	23	Cone	No	Microvolume injections of highly concentrated samples or Fast GC applications with narrow bore columns
365C0231-SM	5	57	23s	Cone	No	PTV all injection modes, or SSL all injection modes, or injector with Merlin adaptor
365C0251-SM	5	57	26s	Cone	No	PTV all injection modes, or SSL all injection modes
365D0271-SM	10	57	23s	Cone	No	PTV all injection modes, or SSL all injection modes, or injector with Merlin adaptor
365D0291-SM	10	57	26s	Cone	No	PTV all injection modes, or SSL all injection modes
365D0391-SM	10	57	26s	Bevel	No	PTV injection with empty straight liner (requires PTV liner cap PN 29004014), suggested for polar solvents
365D0311-SM	10	57	23s	Cone	Yes	PTV all injection modes, or SSL all injection modes, or injector with Merlin adaptor. Particularly suitable for volatile solvents or corrosive samples.
365D0331-SM	10	57	26s	Cone	Yes	PTV all injection modes, or SSL all injection modes. Particularly suitable for volatile solvents or corrosive samples.
365F2441-SM	25	57	23s	Cone	Yes	PTV all injection modes, or SSL all injection modes, or injector with Merlin adaptor
365F2461-SM	25	57	26s	Cone	Yes	PTV all injection modes, or SSL all injection modes
365G2311-SM	50	57	23s	Cone	Yes	Large volume splitless with SSL, or PTV, or injector with Merlin adaptor
365G2331-SM	50	57	26s	Cone	Yes	Large volume splitless with SSL or PTV
365H2141-SM	100	57	23s	Cone	Yes	Large volume splitless with SSL, or PTV, or injector with Merlin adaptor
365H2161-SM	100	57	26s	Cone	Yes	Large volume splitless with SSL or PTV
365H2181-SM	100	57	23	Side hole	Yes	Large volume PTV with and without Merlin adaptor

**SMART syringes for liquid syringe tool 1R77010-1008 or D7/85**

Part number	Syringe volume (µL)	Needle length (mm)	Gauge	Needle type	Gas tight	For use with
365C0221-SM	5	85	23s	Cone	No	SSL on Trace Ultra, TSI, or injector with Merlin adaptor
365C0241-SM	5	85	26s	Cone	No	On-column injection, SSL on Trace Ultra, or TSI
365D0261-SM	10	85	23s	Cone	No	SSL on Trace Ultra, TSI, or injector with Merlin adaptor
365D0281-SM	10	85	26s	Cone	No	On-column injection, SSL on Trace Ultra, or TSI
365D0301-SM	10	85	23s	Cone	Yes	SSL on Trace Ultra, TSI, or injector with Merlin adaptor. Particularly suitable for volatile solvents or corrosive samples.
365D0321-SM	10	85	26s	Cone	Yes	On-column injection, SSL on Trace Ultra, or TSI. Particularly suitable for volatile solvents or corrosive samples.
365F2451-SM	25	85	26s	Cone	Yes	On-column injection, SSL on Trace Ultra, or TSI
365G2321-SM	50	85	26s	Cone	Yes	Large volume on-column injection
365H2151-SM	100	85	26s	Cone	Yes	Large volume on-column injection
365H2171-SM	100	85	23	Side hole	Yes	Variable depth, large volume PTV with and without Merlin adaptor

**SMART syringes for liquid syringe tool 1R77010-1009 or D8/57**

Part number	Syringe volume (µL)	Needle length (mm)	Gauge	Needle type	Gas tight	For use with
365I2331-SM	250	57	26	Cone	Yes	Large volume splitless with SSL without Merlin adaptor
365I2351-SM	250	57	23	Side hole	Yes	Large volume PTV with and without Merlin adaptor
365J2421-SM	500	57	26	Cone	Yes	Large volume splitless with SSL without Merlin adaptor, Sample preparation (i.e., dilutions, calibrations)
365J2441-SM	500	57	23	Side hole	Yes	Large volume PTV with and without Merlin adaptor
365K2811-SM	1000	57	22	LC	Yes	Sample preparation (i.e., dilution, derivatization, liquid-liquid extraction, micro-SPE)

**SMART syringes for liquid syringe tool 1R77010-1010 or D8/85**

Part number	Syringe volume (µL)	Needle length (mm)	Gauge	Needle type	Gas tight	For use with
365I2321-SM	250	85	26	Cone	Yes	Large volume on-column injection
365I2341-SM	250	85	23	Side hole	Yes	Variable depth large volume PTV with and without Merlin adaptor
365J2411-SM	500	85	26	Cone	Yes	Large volume on-column injection

**SMART syringes for liquid syringe tool 1R77010-1011 or D18/57**

Part number	Syringe volume (µL)	Needle length (mm)	Gauge	Needle type	Gas tight	For use with
365N2721-SM	10000	57	19	LC	Yes	Sample preparation (i.e., sample dilution, derivatization, liquid-liquid extraction)

### SMART syringes for headspace tool 1R77010-1012 or HS1000

Part number	Syringe volume (μL)	Needle length (mm)	Gauge	Needle type	Gas tight	For use with
365K2871-SM	1000	65	23	Side hole	Yes	Headspace

### SMART syringes for headspace tool 1R77010-1013 or HS2500

Part number	Syringe volume (μL)	Needle length (mm)	Gauge	Needle type	Gas tight	For use with
365L2321-SM	2500	65	23	Side hole	Yes	Headspace

### SMART syringes for headspace tool 1R77010-1014 or HS5000

Part number	Syringe volume (μL)	Needle length (mm)	Gauge	Needle type	Gas tight	For use with
365M2331-SM	5000	65	23	Side hole	Yes	Headspace

Notes:

- SMART syringes are compatible with all Thermo Scientific™ TriPlus™ RSH autosamplers, as well as PAL platforms and AOC-6000 series autosamplers
- For instructions on use, care, and maintenance of SMART syringes, please refer to the user guide or scan the QR code

## SMART SPME ordering information




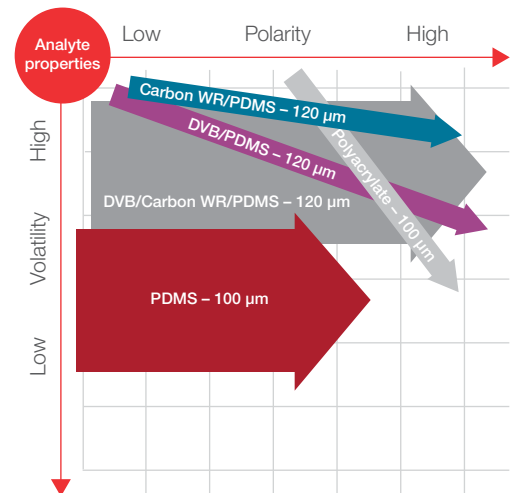
### Comparison of surface area and volume

Fiber	Outer diameter (mm)	Phase thickness (μm)	Surface (mm <sup>2</sup> )	Volume (μL)
PDMS SPME Arrow Fiber	1.5	250	63	12
PDMS SPME Arrow Fiber	1.1	100	44	3.8
PDMS SPME Fiber	0.6	100	9.4	0.6

# SMART SPME Arrow Fibers ordering information



-  PDMS – 100  $\mu\text{m}$
-  Polyacrylate – 100  $\mu\text{m}$
-  Carbon WR/PDMS – 120  $\mu\text{m}$
-  DVB/PDMS – 120  $\mu\text{m}$
-  DVB/Carbon WR/PDMS – 120  $\mu\text{m}$
-  PDMS – 250  $\mu\text{m}$



SMART SPME Arrow Fibers stationary phase selection guide

## Selection of SMART SPME Arrow Fibers

Part number/Pack of 1	Part number/Pack of 3	Phase	Outer diameter (mm)	Phase thickness ( $\mu\text{m}$ )	Color code
36SA10P1-SM	36SA10P3-SM	PDMS	1.1	100	Red
36SA25P1-SM	36SA25P3-SM	PDMS	1.5	250	Black
36SA10A1-SM	36SA10A3-SM	Polyacrylate	1.1	100	Gray
36SA12B1-SM	36SA12B3-SM	Carbon WR/PDMS	1.1	120	Light Blue
36SA12E1-SM	36SA12E3-SM	DVB/PDMS	1.1	120	Violet
36SA11T1-SM	36SA11T3-SM	DVB/Carbon WR/PDMS	1.1	120	Dark Grey

**36SA10M5-SM:** Collection of five different SMART SPME Arrow Fibers—  
 PDMS-Red, Polyacrylate-Grey, Carbon WR/PDMS-Light Blue, DVB/PDMS-Violet, DVB/Carbon WR/PDMS-Dark Grey

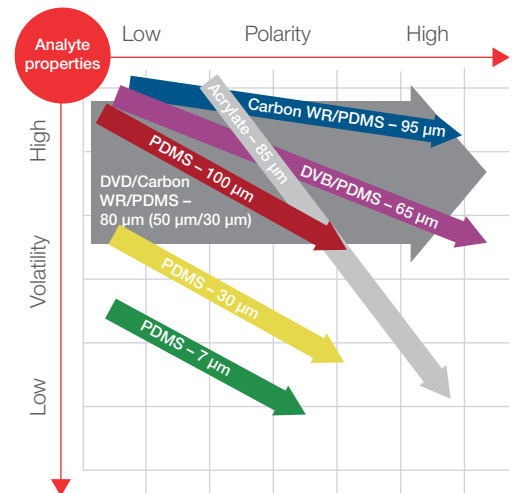
Notes:

- SMART SPME Arrow Fibers are compatible with all TriPlus RSH autosamplers, as well as PAL platforms and AOC-6000 series autosamplers
- For instructions on use, care, and maintenance of SMART SPME Arrow Fibers, please refer to the user guide

# SMART SPME Fibers ordering information



-  PDMS – 7  $\mu\text{m}$
-  PDMS – 30  $\mu\text{m}$
-  PDMS – 100  $\mu\text{m}$
-  Acrylate – 85  $\mu\text{m}$
-  Carbon WR/PDMS – 95  $\mu\text{m}$
-  DVB/PDMS – 65  $\mu\text{m}$
-  DVB/Carbon WR/PDMS – 80  $\mu\text{m}$  (50  $\mu\text{m}$ /30  $\mu\text{m}$ )



SMART SPME Fibers stationary phase selection guide

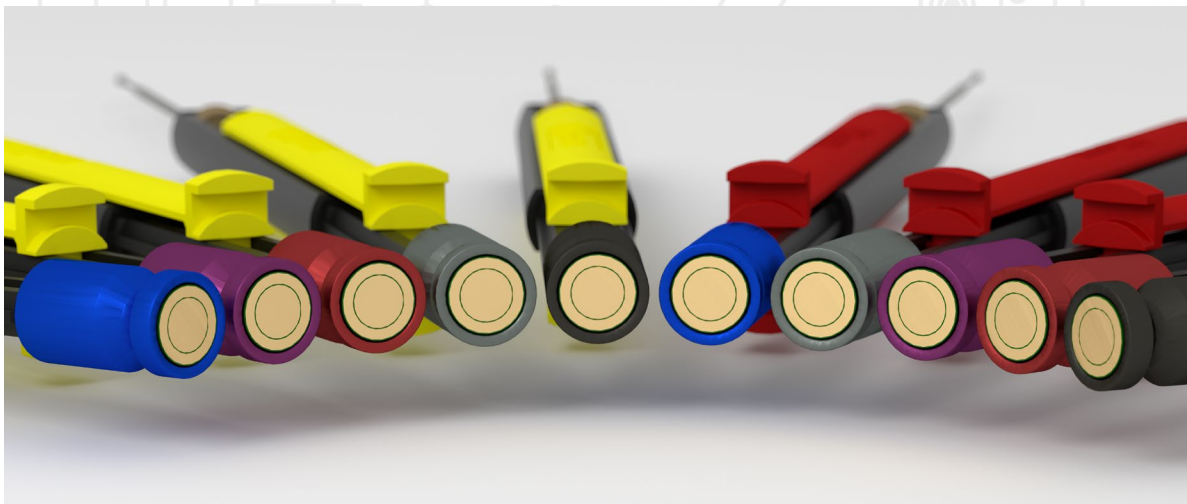
## Selection of SMART SPME Fibers

Part number/Pack of 1	Part number/Pack of 3	Phase	Outer diameter (mm)	Phase thickness ( $\mu\text{m}$ )	Color code
36SP01P1-SM	36SP01P3-SM	PDMS	0.6	7	Green
36SP03P1-SM	36SP03P3-SM	PDMS	0.6	30	Golden
36SP10P1-SM	36SP10P3-SM	PDMS	0.6	100	Red
36SP08A1-SM	36SP08A3-SM	Acrylate	0.6	85	Gray
36SP09C1-SM	36SP09C3-SM	Carbon WR/PDMS	0.6	95	Dark Blue
36SP05T1-SM	36SP05T3-SM	DVB/Carbon WR/PDMS	0.6	50/30	Dark Grey
36SP06E1-SM	36SP06E3-SM	DVB/PDMS	0.6	65	Violet

**36SP08M5-SM:** Collection of five different SMART SPME Fibers—  
 PDMS-Red, Acrylate-Grey, DVD/Carbon WR/PDMS-Dark Blue, DVB/PDMS-Violet, DVB/Carbon WR/PDMS-Dark Grey

### Notes:

- All SMART SPME Fibers have a standard length of 10 mm and a 23-gauge needle
- SMART SPME Fibers are compatible with all TriPlus RSH autosamplers as well as PAL platforms and AOC-6000 series autosamplers
- For instructions on use, care, and maintenance of SMART SPME Fibers, please refer to the user guide



Thermo Scientific SMART consumables for autosamplers are ideal for ultra-trace and trace GC and GC-MS analysis of solid, liquid, or gas samples from environmental, food, clinical, and forensic industries

Learn more at [thermofisher.com/smartchromatographsyringe](https://thermofisher.com/smartchromatographsyringe)  
and [thermofisher.com/triplusrsh](https://thermofisher.com/triplusrsh)

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