

# Agilent Intuvo 9000 GC System Columns and Supplies

Innovation with purpose





## Agilent Intuvo—Innovation with Purpose

Agilent has broken new ground in gas chromatography with the Agilent Intuvo 9000 GC system, an innovative new breed of GC system. Intuvo removes existing operational limitations, encouraging you to re-imagine workflows, efficiencies, and outcomes. What's more, Intuvo is the most cost-effective premium GC system to own and operate, with a range of specially designed innovative columns and supplies. Bring Intuvo into your lab—and dream bigger.



Intuvo simplifies the process of getting high-quality GC results with a host of innovations. These innovations mean Intuvo requires less training to use, so scientists can run more samples with ease, producing the data quality you need.

GC analyses are faster and more efficient with Intuvo. Analyses can be run up to twice as fast, using a quarter of the power of conventional GC systems, thanks to Intuvo's solid-state heating technology. The internal system also makes keeping instruments in top operating condition a straightforward process. Intuvo automatically measures over 100 system touchpoints in real time, and shows critical instrument health information in an easy-to-read format. As a result, the days of fumbling and second guessing while trying to troubleshoot unexpected downtime are over, with Intuvo.

# Intuitive GC Columns and Supplies

When opening the oven door, you will immediately notice Intuvo's innovative range of supplies and fittings. These specially designed components include ferrule-free fittings, Guard Chip retention gap technology, and no-trim columns.

With Intuvo's direct face seal connections, you will never have to fuss with a ferrule again. The click-and-run connections happen with an audible "click", so you know when a connection is made. Thus, unplanned downtime due to incorrectly fitted ferrules is eliminated.

Column trimming is eradicated, thanks to the Intuvo Guard Chip retention gap technology. The Guard Chip is a disposable chip that is easily installed and replaced in minutes. This chip provides almost a meter of sample flowpath just before the Intuvo GC column. With protection like this, you will never need to trim a column again. A 15 m column will always be a 15 m column, no more peak shifting.

The powerful, simple Agilent Intuvo 9000 GC system transforms the way you do GC, offering a new path to laboratory productivity.

**Intelligent. Intuitive. Innovative. Intuvo.**



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# Agilent Intuvo—Dream Bigger



By removing existing operational limitations, Intuvo encourages you to re-imagine workflows, efficiencies, and outcomes. Bring Intuvo into your lab—and dream bigger.

## **Optimal performance**

This can be achieved with any GC detector or single/triple quadrupole mass spectrometer.

## **Productivity**

Intuvo is complemented by all Agilent GC sample introduction systems.

## **Intuitive**

The touch screen user interface displays critical instrument status information.

## **Software control**

Intuvo is designed to allow the completion of installation and maintenance familiarization in a fraction of the time of a classical GC. There's also no need to learn a new operating software—Intuvo runs on OpenLab CDS for all GC applications, and MassHunter for all GC/MS applications.

To learn more, go to:  
[www.agilent.com/chem/intuvo](http://www.agilent.com/chem/intuvo)

# Agilent Intuvo Columns and Supplies

An innovative range of supplies and fittings makes Intuvo an efficient and cost-effective GC system to own and operate. This specially designed range of supplies includes: ferrule-free fittings, Guard Chip retention gap technology, and no-trim columns, transforming your GC experience.



Intuvo Flow Chips are fitted with smart keys, telling Intuvo how to set itself up. This works for splitting, backflush, GC detectors, or mass spectrometry.



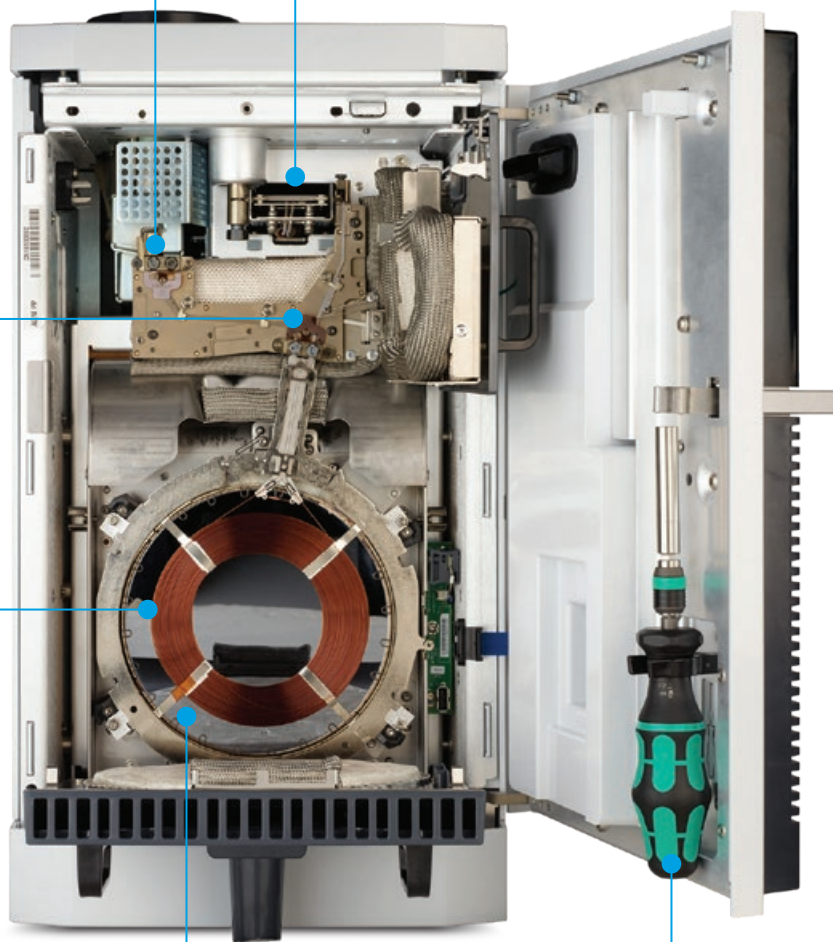
Gaskets take the place of ferrules, providing easy, leak-free face seal connections for columns and detectors of the Intuvo flowpath.



Intuvo columns are coated with industry-proven chemistries in a revolutionary form factor. Smart keys enable immediate identification of the column configuration, temperature limits, and monitor use.



Fast Guard Chip replacement makes troublesome column trimming and associated downtime a thing of the past.



Direct heating can save you time, and improve productivity using half the bench footprint.

The torque driver for column installation is mounted to the inside of your GC.

# Agilent J&W GC Columns for Intuvo



Intuvo columns are identical in dimensions, construction materials, and separation phase to the existing Agilent GC capillary columns, allowing you to easily transfer your existing GC methods over to Intuvo.

Intuvo GC columns differ, however, in their compact, planar design, which works efficiently with the fast, direct heating and cooling technology of Intuvo. Protected by the Intuvo Guard Chip, these columns never need to be trimmed, eliminating costly retention time adjustment. Finally, Intuvo columns are easily replaced using Agilent's patented Intuvo click-and-run connections. One click of a torque driver applies exactly the right force to seal the connection properly, providing audible and tactile feedback that the connection has been made. All Intuvo GC columns include a smart key, which enables the system to immediately identify the column configuration and temperature limits (including column part and serial numbers), as well as tracking the use of the column.

## Ultra Inert GC columns

### Perform trace-level analysis with the utmost confidence

Achieve parts-per-billion—or parts-per-trillion—detection levels for your most demanding analyses with Ultra Inert GC columns. These columns push industry standards for consistent column inertness and exceptionally low column bleed, resulting in lower detection limits and more accurate data for difficult analytes. Each Ultra Inert Intuvo GC column is tested with the industry's most demanding test probe mixture and we prove it with a performance summary sheet shipped with each column.



The compact, planar design of Intuvo GC columns works efficiently with the fast, direct heating and cooling technology of Intuvo.



Phase	id (mm)	Length (m)	Film (µm)	Part No.
DB-1ms Ultra Inert	0.25	15	0.25	122-0112UI-INT
	0.25	30	0.25	122-0132UI-INT
	0.25	60	0.25	122-0162UI-INT
	0.32	30	0.25	123-0132UI-INT
HP-1ms Ultra Inert	0.18	20	0.18	19091S-677UI-INT
	0.25	5	0.25	19091S-838UI-INT
	0.25	15	0.25	19091S-931UI-INT
	0.25	30	0.25	19091S-933UI-INT
	0.32	15	0.25	19091S-911UI-INT
DB-5ms Ultra Inert	0.18	20	0.18	121-5522UI-INT
	0.18	20	0.36	121-5523UI-INT
	0.25	15	0.25	122-5512UI-INT
	0.25	30	0.25	122-5532UI-INT
	0.25	30	0.50	122-5536UI-INT
	0.25	60	0.25	122-5562UI-INT
	0.32	30	0.25	123-5532UI-INT
	0.32	30	0.25	123-5532UI-INT
HP-5ms Ultra Inert	0.18	20	0.18	19091S-577UI-INT
	0.18	10	0.18	19091S-571UI-INT
	0.25	5	0.25	19091S-430UI-INT*
	0.25	12	0.25	19091S-438UI-INT
	0.25	15	0.25	19091S-431UI-INT
	0.25	30	0.25	19091S-433UI-INT
	0.25	30	0.50	19091S-133UI-INT
	0.25	30	1.00	19091S-233UI-INT
	0.25	60	0.25	19091S-436UI-INT
	0.32	30	0.25	19091S-413UI-INT
DB-35ms Ultra Inert	0.18	20	0.18	121-3822UI-INT
	0.25	15	0.25	122-3812UI-INT
	0.25	30	0.25	122-3832UI-INT
	0.32	30	0.25	123-3832UI-INT

Phase	id (mm)	Length (m)	Film (µm)	Part No.
DB-624 Ultra Inert	0.18	20	1.00	121-1324UI-INT
	0.25	30	1.40	122-1334UI-INT
	0.25	60	1.40	122-1364UI-INT
	0.32	30	1.80	123-1334UI-INT
	0.32	60	1.80	123-1364UI-INT
DB-Select 624 Ultra Inert for USP <467>	0.25	30	1.40	122-0334UI-INT
	0.32	30	1.80	123-0334UI-INT
DB-WAX Ultra Inert	0.18	20	0.18	121-7022UI-INT
	0.25	15	0.25	122-7012UI-INT
	0.25	30	0.25	122-7032UI-INT
	0.25	30	0.50	122-7033UI-INT
	0.25	60	0.25	122-7062UI-INT
	0.32	30	0.25	123-7032UI-INT
	0.32	30	0.50	123-7033UI-INT
DB-UI 8270D Ultra Inert	0.18	20	0.36	121-9723-INT
	0.25	30	0.25	122-9732-INT
	0.25	30	0.50	122-9736-INT
DB-BAC 1 Ultra Inert	0.32	30	1.80	123-9334UI-INT
DB-BAC 2 Ultra Inert	0.32	30	1.20	123-9434UI-INT
DB-FATWAX Ultra Inert	0.18	20	0.18	G3909-63002
	0.25	30	0.25	G3909-63003
	0.32	30	0.25	G3909-63004

\*This configuration is ideal for midcolumn backflush applications.



## Low-bleed GC/MS columns

These MS columns are specifically designed to separate a broad range of trace-level samples and offer low bleed and high inertness even at higher temperatures. Unique polymer chemistry and proprietary surface deactivation make these classic MS-grade columns exceptional, ensuring columns adhere to the tightest quality control specifications in the industry for bleed, inertness, selectivity, and efficiency.

Phase	id (mm)	Length (m)	Film (µm)	Part No.
HP-1ms	0.25	15	0.25	19091S-931-INT
	0.25	60	0.25	19091S-936-INT
VF-1ms	0.25	30	0.25	CP8912-INT
DB-5ms	0.18	20	0.18	121-5522-INT
	0.25	15	0.50	122-5516-INT
	0.25	30	0.25	122-5532-INT
HP-5ms	0.25	30	0.25	19091S-433-INT
VF-5ms	0.25	15	0.25	CP8939-INT
	0.25	30	0.25	CP8944-INT
	0.25	30	1.00	CP8946-INT
DB-17ms	0.25	30	0.25	122-4732-INT
	0.25	60	0.25	122-4762-INT
	0.32	30	0.25	123-4732-INT
VF-17ms	0.25	30	0.15	CP8981-INT
	0.25	30	0.25	CP8982-INT
VF-1701ms	0.25	15	0.25	CP9148-INT
	0.25	30	0.25	CP9151-INT
DB-225ms	0.25	30	0.25	122-2932-INT
DB-35ms	0.20	25	0.33	128-3822-INT
	0.25	60	0.25	122-3862-INT
VF-WAXms	0.25	30	0.25	CP9205-INT
VF-Xms	0.25	60	0.25	CP8809-INT
VF-200ms	0.15	10	0.15	CP5893-INT
	0.25	30	1.00	CP8860-INT
VF-624ms	0.15	20	0.84	CP9100-INT
	0.25	30	1.40	CP9102-INT
	0.32	30	1.80	CP9104-INT
	0.32	60	1.80	CP9105-INT

### Learn more

Sulfur in Gasoline

Agilent publication 5991-7178EN

## Premium polysiloxane GC columns

Polysiloxane GC columns are stable, robust, and versatile, and are available in a wide variety of stationary phases.

Phase	id (mm)	Length (m)	Film (µm)	Part No.
DB-1	0.25	30	0.25	122-1032-INT
	0.25	60	1.00	122-1063-INT
	0.32	5	0.33	123-100A-INT
	0.32	30	0.25	123-1032-INT
	0.32	30	1.00	123-1033-INT
	0.32	60	5.00	123-1065-INT
HP-1	0.32	30	0.25	19091Z-413-INT
	0.32	30	4.00	19091Z-613-INT
CP-Sil 5 CB	0.25	30	0.25	CP8741-INT
	0.32	50	5.00	CP7690-INT
DB-5	0.25	30	0.25	122-5032-INT
	0.32	30	0.25	123-5032-INT
	0.32	30	3.00	123-5034-INT
HP-5	0.20	25	0.50	19091J-202-INT
	0.32	30	0.25	19091J-413-INT
CP-Sil 8 CB	0.32	50	5.00	CP7691-INT
CP-Sil 8 CB for Amines	0.32	30	1.00	CP7596-INT
Ultra 1	0.20	12	0.33	19091A-101-INT
	0.20	17	0.11	19091A-008-INT
	0.20	17	0.33	19091A-108-INT
	0.20	50	0.11	19091A-005-INT
Ultra 2	0.20	25	0.33	19091B-102-INT
	0.32	25	0.52	19091B-112-INT
	0.32	50	0.17	19091B-015-INT
	0.32	50	0.52	19091B-115-INT
DB-XLB	0.25	30	0.25	122-1232-INT
	0.32	30	0.50	123-1236-INT
DB-1701	0.25	30	0.25	122-0732-INT
	0.25	30	1.00	122-0733-INT
	0.32	30	0.25	123-0732-INT
	0.32	30	1.00	123-0733-INT
DB-17	0.25	30	0.25	122-1732-INT
	0.32	30	0.25	123-1732-INT
	0.32	30	0.50	123-1733-INT
DB-23	0.25	30	0.25	122-2332-INT
	0.25	60	0.15	122-2361-INT
	0.25	60	0.25	122-2362-INT
HP-88	0.25	60	0.20	112-8867-INT
DB-200	0.25	30	0.25	122-2032-INT
	0.25	30	0.50	122-2033-INT

Continued

Phase	id (mm)	Length (m)	Film (µm)	Part No.
DB-225	0.25	30	0.25	122-2232-INT
	0.32	30	0.25	123-2232-INT
DB-624	0.20	25	1.12	128-1324-INT
CP-Select 624 CB	0.32	30	1.80	CP7414-INT
CP-Select 624 Hexane	0.15	25	0.84	CP9111-INT
CP-Sil 88	0.25	50	0.20	CP6173-INT
Select PAH	0.15	15	0.10	CP7461-INT
	0.25	30	0.15	CP7462-INT

## High temperature polysiloxane GC columns

The Intuvo high temperature columns are bonded, cross-linked, solvent rinsable, and feature faster elution times for high boilers. The high temperature limits of –60 to 400 °C result from precision-engineered, polyimide-coated fused silica tubing.

Phase	id (mm)	Length (m)	Film (µm)	Part No.
DB-1ht	0.25	15	0.10	122-1111-INT
	0.32	15	0.10	123-1111-INT
DB-5ht	0.25	15	0.10	122-5711-INT
	0.25	30	0.10	122-5731-INT
	0.32	5	0.10	123-57J1-INT
CP-TAP CB for Triglycerides	0.25	25	0.10	CP7483-INT
Select Mineral Oil	0.32	15	0.10	CP7491-INT

## WAX-polyethylene glycol (PEG) GC columns

Agilent offers a range of WAX Intuvo 9000 GC columns, based on the polyethylene glycol polymer. Strict control of the cross-linking and deactivation processes results in various unique phase characteristics to meet your analysis needs. WAX GC columns can be used in many different application areas, such as petrochemical, food, flavor and fragrance, solvents, and pharmaceuticals.

Phase	id (mm)	Length (m)	Film (µm)	Part No.
HP-FFAP	0.20	50	0.33	19091F-105-INT
	0.32	50	0.50	19091F-115-INT
	0.32	30	0.25	19091F-413-INT
	0.25	30	0.25	19091F-433-INT
DB-WAX	0.18	20	0.18	121-7022-INT
	0.25	30	0.25	122-7032-INT

Phase	id (mm)	Length (m)	Film (µm)	Part No.
DB-WAX Ultra Inert	0.18	20	0.18	121-7022UI-INT
	0.25	5	0.25	122-7002UI-INT
	0.25	15	0.25	122-7012UI-INT
	0.25	30	0.25	122-7032UI-INT
	0.25	30	0.50	122-7033UI-INT
	0.25	60	0.25	122-7062UI-INT
	0.32	30	0.25	123-7032UI-INT
	0.32	30	0.50	123-7033UI-INT
DB-HeavyWAX	0.32	60	0.50	123-7063UI-INT
	0.25	30	0.25	122-7132-INT
	0.25	30	0.50	122-7133-INT
	0.25	60	0.25	122-7162-INT
	0.32	30	0.25	123-7132-INT
	0.32	30	0.50	123-7133-INT
DB-FATWAX Ultra Inert	0.32	60	0.50	123-7163-INT
	0.18	20	0.18	G3909-63002
	0.25	30	0.25	G3909-63003
HP-INNOWax	0.32	30	0.25	G3909-63004
	0.25	30	0.25	19091N-133i-INT
	0.32	30	0.25	19091N-113i-INT
VF-WAXms	0.32	30	0.50	19091N-213i-INT
	0.32	60	0.50	19091N-216i-INT
	0.25	30	0.25	CP9205-INT
DB-WAXetr	0.25	30	0.25	122-7332-INT
DB-FFAP	0.25	30	0.25	122-3232-INT
	0.32	30	1.00	123-3234-INT
	0.25	60	0.50	122-3263-INT
	0.32	30	0.25	123-3232-INT
CP-WAX 58 FFAP	0.32	25	0.30	CP7485-INT
CP-WAX 57 CB	0.15	30	0.12	CP97721-INT
	0.25	50	0.20	CP97723-INT
	0.32	50	1.20	CP97773-INT
CP-WAX 52 CB	0.25	25	0.20	CP7713i-INT
	0.25	30	0.25	CP8713i-INT
	0.32	50	1.20	CP7773i-INT
CP-Wax for Volatile Amines and Diamines	0.32	25	1.20	CP7422-INT



## GC environmental specialty columns

Agilent offers various Intuvo GC columns for the increasingly demanding analysis of environmental contaminants, including pesticides and polycyclic aromatic hydrocarbons (PAH), as well as volatile and semivolatile compounds.



### Application note

Multiresidue Pesticide Analysis with the Agilent 9000 Intuvo GC and 7000 Mass Spectrometer

**Agilent publication**  
**5991-7216EN**

### Custom Intuvo columns

Need an Intuvo column configuration for your application that is not listed here? Request custom columns from the Agilent [Custom Column](#) shop.

Note: Only Q and Alumina PLOT phases with particle trap are available.

Lengths greater than 60 m, Megabore (0.53 mm id), and metal columns are not available.

Phase	id (mm)	Length (m)	Film (µm)	Part No.
DB-UI 8270D Ultra Inert	0.18	20	0.36	121-9723-INT
	0.25	30	0.25	122-9732-INT
	0.25	30	0.50	122-9736-INT
DB-EUPAH	0.18	20	0.14	121-9627-INT
Select PAH	0.15	15	0.10	CP7461-INT
	0.25	30	0.15	CP7462-INT
DB-CLP1	0.32	30	0.25	123-8232-INT
DB-CLP2	0.32	30	0.50	123-8336-INT
DB-1701P	0.25	30	0.25	122-7732-INT
	0.32	30	0.25	123-7732-INT
DB-624 Ultra Inert	0.18	20	1.00	121-1324UI-INT
	0.25	30	1.40	122-1334UI-INT
	0.25	60	1.40	122-1364UI-INT
	0.32	30	1.80	123-1334UI-INT
	0.32	60	1.80	123-1364UI-INT
VF-624ms	0.15	20	0.84	CP9100-INT
	0.25	30	1.40	CP9102-INT
	0.32	30	1.80	CP9104-INT
	0.32	60	1.80	CP9105-INT
CP-Select 624 Hexane	0.15	25	0.84	CP7411-INT
	0.32	30	1.80	CP7414-INT
DB-VRX	0.18	20	1.00	121-1524-INT
	0.25	30	1.40	122-1534-INT
	0.25	60	1.40	122-1564-INT
CP-Volamine	0.32	30		CP7447-INT
	0.32	60		CP7448-INT

## GC forensic specialty columns

Forensic analyses offer chromatographers difficult challenges, including complex sample matrices, the need for low-level detection, and the chemically active characteristics of many samples. In response to this, Agilent has created Ultra Inert columns that have become widely used for analyzing forensic drugs of abuse and controlled substances. Intuvo columns are also available for reliable forensic blood alcohol analysis.

Phase	id (mm)	Length (m)	Film (µm)	Part No.
DB-ALC1	0.32	30	1.80	123-9134-INT
DB-ALC2	0.32	30	1.20	123-9234-INT
DB-BAC 1 Ultra Inert	0.32	30	1.80	123-9334UI-INT
DB-BAC 2 Ultra Inert	0.32	30	1.20	123-9434UI-INT

For Forensic Use

## GC petroleum specialty columns

Petroleum applications vary greatly in character from detailed hydrocarbon analysis to simulated distillation. Agilent offers Intuvo GC columns designed to meet the needs of the petroleum/petrochemical chromatographer.

Phase	id (mm)	Length (m)	Film (µm)	Part No.
HP PONA	0.20	50	0.50	19091S-001-INT
DB-Sim-Dist	0.25	4	0.25	122-4002-INT
DB-Petro	0.20	50	0.50	128-1056-INT
Select Mineral Oil	0.32	15	0.10	CP7491-INT
Select Low Sulfur	0.32	60		CP8575-INT

## GC food and beverage specialty columns

These application-specific Intuvo GC columns are designed for food composition/nutrition applications, as well as for food safety applications.

Phase	id (mm)	Length (m)	Film (µm)	Part No.
DB-FATWAX Ultra Inert	0.18	20	0.18	G3909-63002
	0.25	30	0.25	G3909-63003
	0.32	30	0.25	G3909-63004
HP-88	0.25	60	0.20	112-8867-INT
CP-Sil 88 for FAME	0.25	60	0.20	CP7487-INT
CP-TAP CB for Triglycerides	0.25	25	0.10	CP7483-INT
Select FAME	0.25	50	0.25	CP7419-INT
DB-FastFAME	0.18	20	0.20	G3909-63005
	0.25	30	0.25	G3909-63006
	0.25	60	0.25	G3909-63007

## GC Porous Layer Open Tubular (PLOT) columns

PLOT columns are ideal for separating compounds that are gases at room temperature. The Agilent J&W Alumina and Q PLOT Intuvo GC Columns are recommended for the analysis of fixed gases, low molecular weight hydrocarbon isomers, and volatile solvents. Only PLOT GC columns with particle trap will be available.

Phase	id (mm)	Length (m)	Film (µm)	Part No.
HP-PLOT Q, with particle trap	0.32	30	20	19091P-Q04PT-INT
HP-PLOT Q, with particle trap	0.32	15	20	19091P-Q03PT-INT
HP-PLOT Al <sub>2</sub> O <sub>3</sub> KCl, with particle trap	0.32	50	8	19091P-K15PT-INT
HP-PLOT Al <sub>2</sub> O <sub>3</sub> S, with particle trap	0.32	25	8	19091P-S12PT-INT
HP-PLOT Al <sub>2</sub> O <sub>3</sub> S, with particle trap	0.32	50	8	19091P-S15PT-INT
HP-PLOT Al <sub>2</sub> O <sub>3</sub> M, with particle trap	0.32	50	8	19091P-M15PT-INT

# Agilent Intuvo Supplies



## Intuvo Guard Chips and Jumper Chips

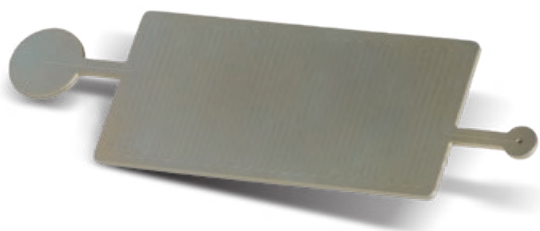
The Intuvo Guard Chip is an innovative solution that replaces guard columns and extends column lifetime. The Guard Chip is a simple, disposable chip that is easily installed and replaced in minutes. These chips prevent unwanted material from depositing on, and damaging, the head of the column by providing almost a meter of sample flowpath just before the Intuvo GC column. This protection eliminates the time adjustment associated with column trimming. With the Intuvo Guard Chips, you never have to trim a column again.

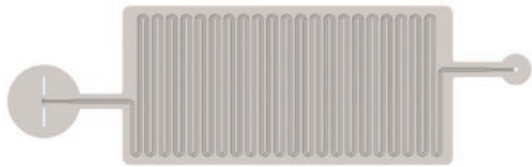
Most customer applications use Guard Chips to ensure column longevity. However, for some ultraclean applications and those that do not require column trimming, Intuvo Jumper Chips provide a direct flowpath. The Guard and Jumper Chips are inlet-dependent so versions are available for split/splitless and multimode inlets.

Need help deciding whether to use a Jumper Chip or Guard Chip for your application? For more information, see the technical brief on [Guard and Jumper Chips](#), publication number 5991-8447EN.

### Guard Chips

Description	Part No.
Guard Chip, Intuvo, split/splitless inlet	G4587-60565
Jumper Chip, Intuvo, split/splitless inlet	G4587-60575
Guard Chip, Intuvo, multimode inlet	G4587-60665
Jumper Chip, Intuvo, multimode inlet	G4587-60675

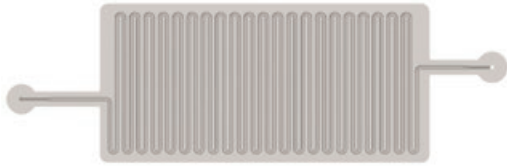




G4587-60565



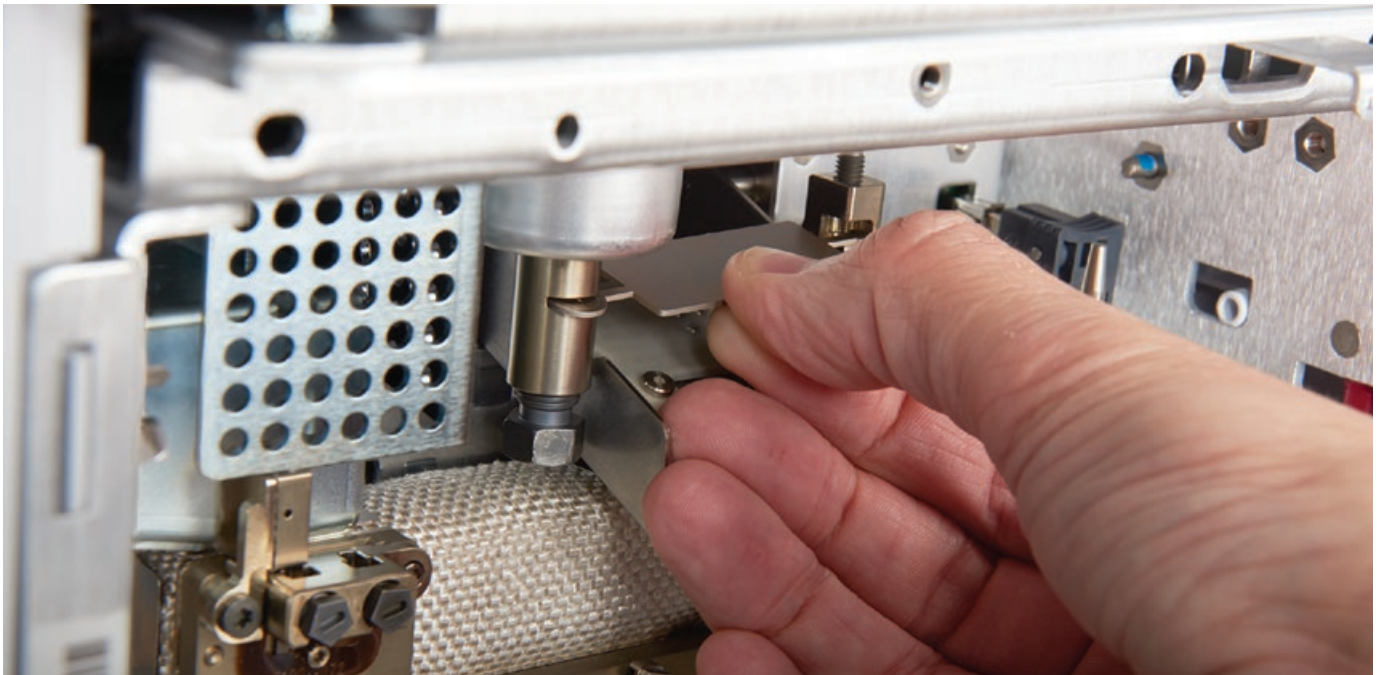
G4587-60575



G4587-60665



G4587-60675



Removal and replacement of the Guard and Jumper Chips, accessible by lifting off the top door, is accomplished in a few straightforward steps.

## Intuvo Flow Chips

Intuvo Flow Chips are modular components that enable flexible configuration of the GC flowpath. These chips provide connections between the inlet, column, and detector without the need for cumbersome ferrules. Furthermore, Intuvo Flow Chips are fitted with smart keys, telling Intuvo how to set itself up for splitting, backflush, GC detectors, or mass spectrometry.

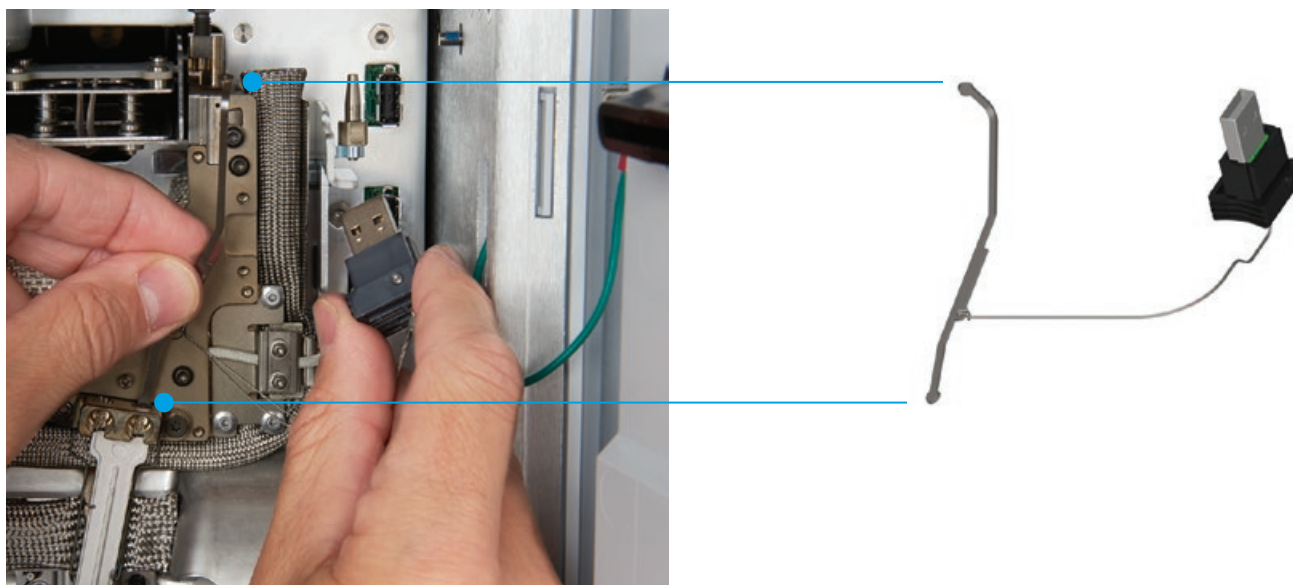
The inlet chip provides a direct connection from the Guard Chip to the column. The D1 and D2-MS chips provide a connection from the column to detector 1, detector 2, or the mass spectrometer. The remaining Flow Chips combine all the complex connections for backflush and splitting into a single device.

Note that some of the Flow Chips require an Intuvo with an additional configured EPC module.

### Flow Chips

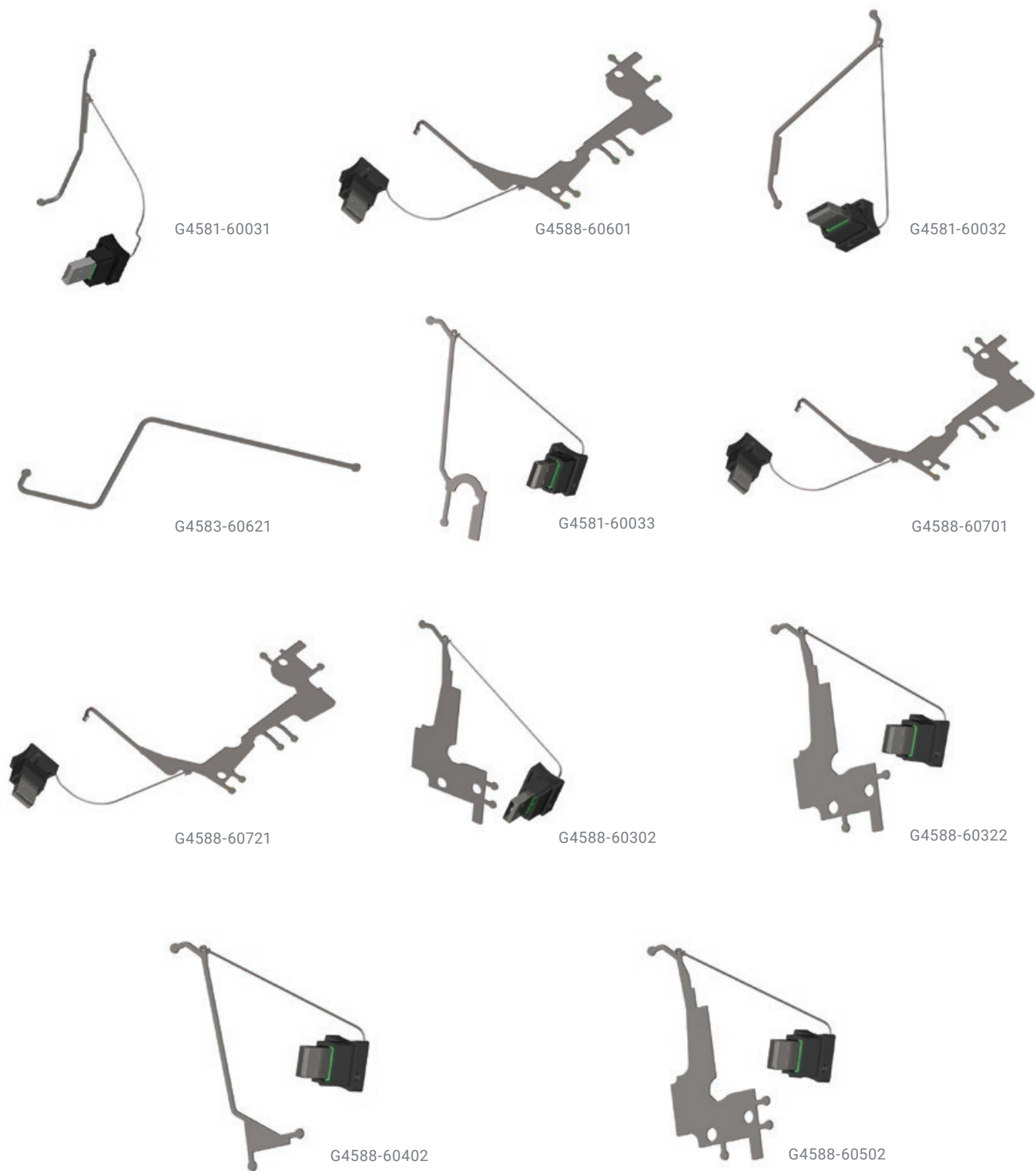
Description	Purpose	Part No.
Flow Chip, Intuvo, inlet	Connects Guard Chip to column	G4581-60031
Flow Chip, Intuvo, inlet splitter chip	Splits flow from Guard Chip to two columns	G4588-60601
Flow Chip, Intuvo, D1	Connects column to detector 1	G4581-60032
Flow Chip, Intuvo, D2-connector	Completes connection to detector 2	G4583-60621
Flow Chip, Intuvo, D2-MS	Connects column to detector 2 or MS	G4581-60033
Flow Chip, Intuvo, D1 midcolumn backflush*	Connects column to detector 1, midcolumn backflush capability	G4588-60701
Flow Chip, Intuvo, D2-MS midcolumn backflush*	Connects column to detector 2, midcolumn backflush capability	G4588-60721
Flow Chip, Intuvo, D1 postcolumn backflush*	Connects column to detector 1, postcolumn backflush capability	G4588-60302
Flow Chip, Intuvo, D2-MS postcolumn backflush*	Connects column to detector 2 or MS, postcolumn backflush capability	G4588-60322
Flow Chip, Intuvo, D1-D2 splitter chip, 1:1	Equally splits column effluent between two GC detectors	G4588-60402
Flow Chip, Intuvo, D1-MS splitter chip, 1:1*	Equally splits column effluent between GC detector and MS	G4588-60502

\*These Flow Chips require an additional EPC module.





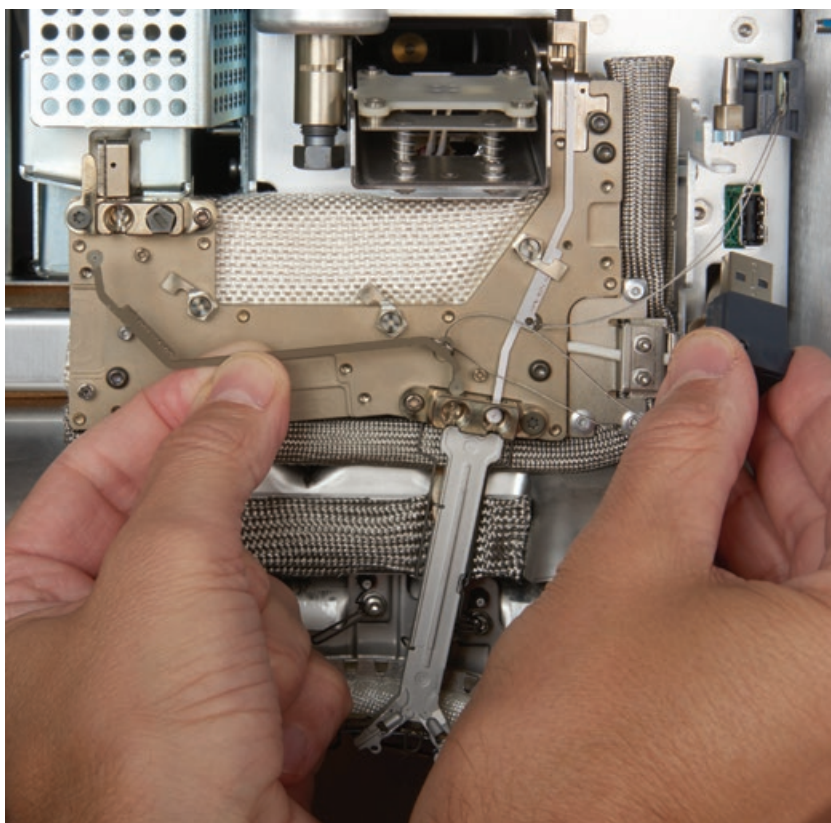
The Flow Chip channel is held within a rigid housing and has an inlet and an outlet at each end. Precise microfluidic manufacturing processes mean that Intuvo Flow Chips are reproducible in their dimensions. Methods and results are therefore consistent from operator-to-operator and instrument-to-instrument.



## Detector tails

Detector tails provide the specific flowpath for the indicated detector. Replacement part numbers are shown in the following table.

Description	Part No.
Detector tail, Intuvo, MS	G4590-60009
Detector tail, Intuvo, HES MS	G4590-60109
Detector tail, Intuvo, FID or TCD	G4583-60331
Detector tail, Intuvo, ECD	G4583-60333
Detector tail, Intuvo, NPD	G4583-60334
Detector tail, Intuvo, FPD	G4583-60335
Detector tail, Intuvo, XCD	G4583-60336



Smart ID keys communicate vital flowpath information to the instrument. Simply changing the Flow Chip and plugging in the key automatically updates the instrument configuration.

## Intuvo gaskets

Intuvo uses ferrule-free face seals for all fittings within the sample gas flowpath. Gaskets take the place of ferrules throughout the GC, providing the face seal between components of the Intuvo flowpath. Easily replaced, these unique leak-free connections enable confident click-and-run column changes.

The Intuvo gaskets are available in three types: polyimide, nickel, and as a plug. The polyimide gasket is for standard use up to 350 °C, while the nickel gasket provides a solution for high-temperature applications up to 450 °C. The plug gasket can be used to check for leaks and for troubleshooting the flowpath.

Description	Unit	Part No.
Gasket, Intuvo, polyimide	5/pk	5190-9072
Gasket, Intuvo, nickel	2/pk	5190-9073
Gasket plug, Intuvo, polyimide	2/pk	5190-9074



5190-9072

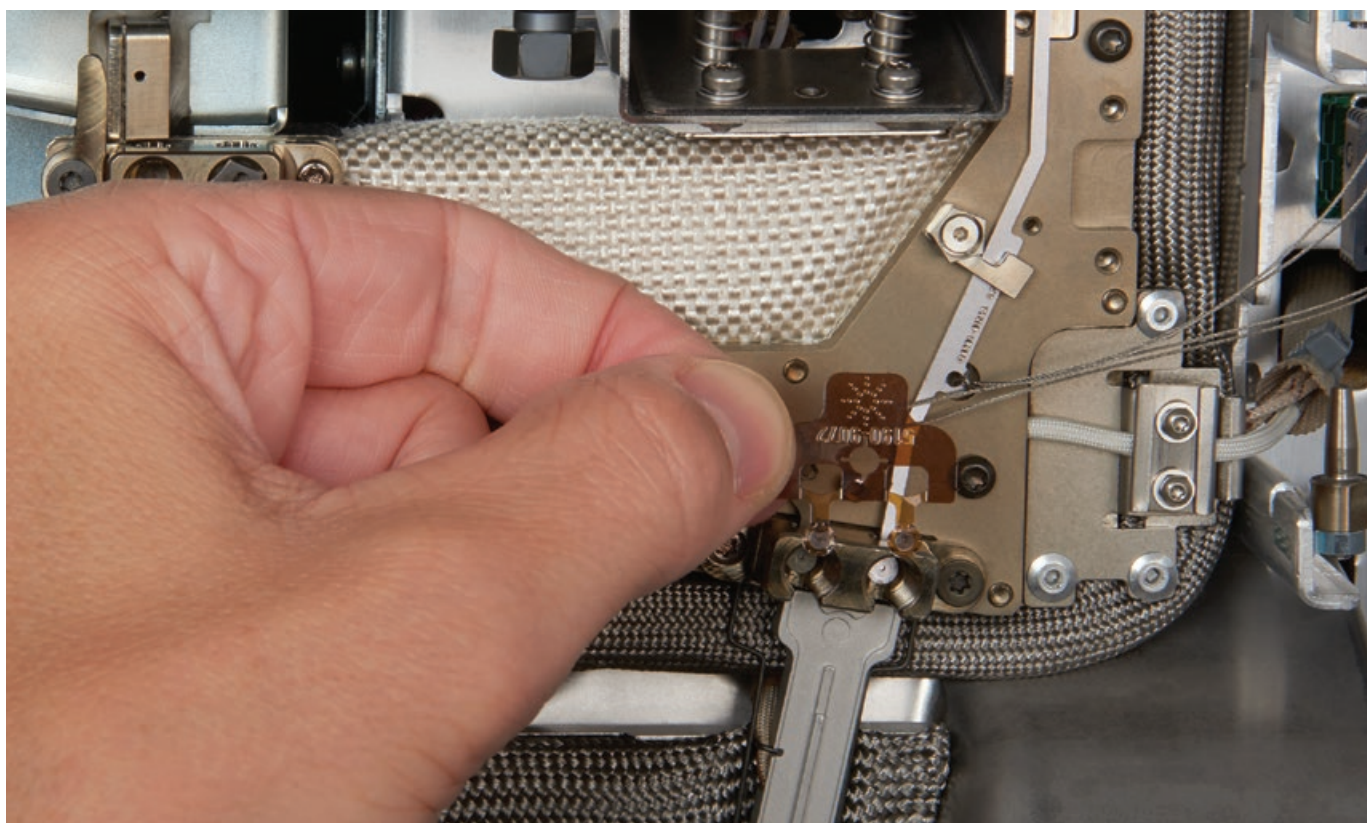


5190-9073



5190-9074

Intuvo gaskets are intended for one-time use.



The gaskets are easy to install. Upon tightening the compression bolts, discrete audible and tactile feedback lets the operator know exactly when a connection is made.

## Agilent Ultra Inert inlet liners

### Agilent Ultra Inert inlet liners ensure a complete inert flowpath

Agilent Ultra Inert inlet liners provide a reproducible and reliable inert flowpath, liner after liner. They are rigorously tested and certified to ensure exceptional batch-to-batch uniformity, low bleed, and superior coverage, even with highly active compounds. What's more, the Ultra Inert inlet liners are delivered in Agilent's exclusive touchless packaging with a precleaned, conditioned, and nonstick atmospheric plasma-treated O-ring preinstalled. These liners are the perfect companion to Ultra Inert GC columns.

Agilent Ultra Inert GC inlet liners are available in split and splitless options, with and without wool, and are recommended for use with your Agilent Intuvo 9000 GC system for trace-level analysis of samples, especially samples with active compounds.

Description	Wool	Volume (µL)	id (mm)	1/pk	5/pk	25/pk	100/pk*
<b>Split liners</b>							
Liner, Ultra Inert, split, straight	Yes	990	4	5190-2294	5190-3164	5190-3168	5190-3172
Liner, Ultra Inert, universal, low pressure drop	Yes	870	4	5190-2295	5190-3165	5190-3169	5190-3173
<b>Splitless liners</b>							
Liner, Ultra Inert, splitless, single taper	No	900	4	5190-2292	5190-3162	5190-3166	5190-3170
Liner, Ultra Inert, splitless, single taper	Yes	900	4	5190-2293	5190-3163	5190-3167	5190-3171
Liner, Ultra Inert, 2 mm, dimpled, splitless	No	200	2	5190-2297	5190-4006		
Liner, Ultra Inert, splitless, double taper	No	800	4	5190-3983	5190-4007		
Liner, Ultra Inert, straight	No	250	2	5190-6168			
Liner, Ultra Inert, straight	No	60	1	5190-4047			
Liner, Ultra Inert, straight, for SPME	No	35	0.75	5190-4048	5190-4056	5190-7045	
Liner, 2 mm, dimpled, deactivated			2	5190-2296			

\*The 100/pk is not available in touchless packaging. O-rings must be purchased separately, using the part number 5190-2269.

### Remove the risk of contamination with touchless packaging

Ultra Inert inlet liners are delivered in exclusive Agilent touchless packaging so you can quickly and easily install the new, clean liner.

View a demonstration of the touchless packaging at

[www.agilent.com/chem/touchless](http://www.agilent.com/chem/touchless)



## Agilent Blue Line autosampler syringes

Agilent has what you need for precise, effective, sample delivery from your GC autosampler. Blue Line syringes are designed to support the higher productivity features of the Agilent 7693A automatic liquid sampler, while increasing plunger life and reducing costly downtime. Blue Line syringes are available in a choice of PTFE-tipped or metal-fitted plunger to meet your application needs. Our top autosampler syringes are listed below.

Description	Needle Type, Gauge/Length/Termination	Unit	Part No.
Syringe, 5 $\mu$ L, fitted plunger	Fixed tapered needle, 23-26s/42/cone	1/pk	G4513-80206
		6/pk	G4513-80201
Syringe, 10 $\mu$ L, fitted plunger	Fixed tapered needle, 23-26s/42/cone	1/pk	G4513-80204
		6/pk	G4513-80200
Syringe, 10 $\mu$ L, PTFE-tipped plunger	Fixed tapered needle, 23-26s/42/cone	1/pk	G4513-80203
		6/pk	G4513-80208

## Nonstick low-bleed and temperature optimized (BTO) septa

The Agilent premium nonstick BTO inlet septa provide a reliable noncontaminating seal. With a maximum injection port temperature of 400 °C, they are functional over an extended temperature range. Even at these high temperatures, atmospheric plasma treatment eliminates sticking in the injection port. These septa are ideal for use with low-bleed GC/MS columns, as they generate the lowest bleed possible. Agilent BTO inlet septa are supplied in a tri-fold blister pack, ensuring that each septum remains clean and ready to use.

Description	Unit	Part No.
Septa, nonstick BTO inlet, 11 mm	50/pk	5183-4757
Septa, nonstick BTO inlet, 11 mm	100/pk	5183-4757-100
Septa, nonstick BTO inlet, 11 mm	400/pk	5190-3157



## ADM Flow Meter

ADM Flow Meters provide peace of mind for your GC analyses. These flow meters deliver an external reference for verifying gas flows and are a valuable tool for troubleshooting detector problems. ADM Flow Meters are ideal for measuring gas streams with a changing gas composition because they measure gas volumetrically, eliminating the need to select a gas type. The ADM Flow Meter is also easy to maintain, due to its removable calibration cartridge. Instead of returning the meter to a third party, you simply replace the cartridge once a year to keep the meter compliant.

- Range: 0.5 to 750 mL/min
- Accuracy:  $\pm 2$  % of reading or 0.2 mL/min, whichever is greater
- Data Port: USB
- Recalibration: Customer replicable calibration cartridge
- Automatic notification of cartridge replacement
- New composite materials
- Universal 3AA or USB power
- USB connects to Web interface for added functionality
- Easy to view OLED screen
- Web interface for updates and monitoring



ADM Flow Meter

Description	Part No.
ADM Flow Meter	G6691A
Replacement cartridge for ADM Flow Meter	G6692A



## Gas Clean filter

The Agilent Gas Clean filter system provides enhanced gas quality to your Intuvo GC system for maximum productivity. Clean gases reduce the risk of column damage, sensitivity loss, and instrument downtime. Inserting a Gas Clean filter system in the gas line, immediately before the instrument inlet, greatly reduces the level of impurities entering the system, thus improving trace analysis.

Replacing the filters when they have reached absorption capacity ensures maximum protection of your Intuvo GC columns and analytical hardware. The sensitive indicators change color, alerting you that the filter needs replacing.

Intuvo has an improved enclosure for the GC split vent trap, which makes replacement easier. Split vent traps capture contaminants released by split injection systems. The split vent cartridge should therefore be replaced every six months to prevent unstable flows, split vent valve damage, sample carryover, and increased odors in the lab.



Gas Clean filter kit, CP17995



Split vent trap, single cartridge, 5188-6495

Description	Part No.
Gas Clean filter kit, Intuvo, includes bracket, connecting unit, and filter	CP17995
Replacement Gas Clean filter, carrier gas	CP17973
Split vent trap, single cartridge	5188-6495
Split vent trap, 2/pk	G1544-80530

## Gas leak detector

Gas leaks cause detector noise and baseline instability, shorten column life, and waste expensive carrier gas. The Agilent G3388B electronic gas leak detector is an easy way to quickly identify leaks in your system and prevent system downtime.

## Intuvo installation kit

Contains all the equipment needed to install your Intuvo GC system.

- Fittings, brass, 0.125 in, 20/pk
- Leak detector, 8 oz
- Brass union tee, 0.125 in, 4/pk
- Copper tubing, 50 ft coil, 0.125 x 0.065 in
- Ball valve, 0.125 in, 2/pk
- Intuvo tool kit with:
  - Tool bag
  - Wrench, 0.25 to 0.3125 in
  - Cutter, tube
  - Torx screwdriver, T20 size
  - Torx screwdriver, T10 size
  - Magnifying lens
  - Septum tool, knurled handle
  - Tweezers, 4.75 in length
  - Needle nose pliers, pointed serrated jaws

Description	Part No.
Intuvo installation kit	19199U

## Agilent Intuvo sample containment solutions

Agilent vials, closures (cap/septa), and associated crimping/decapping tools are essential components of your Intuvo analytical workflow. The best results start with containing your sample with confidence before it's introduced into the workflow. Agilent A-Line glass vials will support the best possible results in throughput and cost-effectiveness when combined with the lowest bleed cap/septa materials available on the market.

The following vials, caps, and crimpers are recommended for your Intuvo workflow.



A-Line crimp, amber with write-on spot 5190-9592



A-Line screw, clear with write-on spot 5190-9589

11 mm blue screw cap, PTFE/silicone septa 5190-7024



A-Line crimp, clear with write-on spot 5190-9591

9 mm crimp cap, silver aluminum, PTFE/silicone septa 5182-0552



Crimper, electronic 5190-3188

Crimper, manual 5040-4667

### Vials

Description	Part No.
A-Line crimp, clear with write-on spot, 100/pk	5190-9591
A-Line crimp, amber with write-on spot, 100/pk	5190-9592
A-Line screw, clear with write-on spot, 100/pk	5190-9589
A-Line screw, amber with write-on spot, 100/pk	5190-9590

### Caps

Description	Part No.
9 mm crimp cap, silver aluminum, PTFE/silicone septa, 100/pk	5182-0552
11 mm blue screw cap, PTFE/silicone septa, 100/pk	5190-7024

### Crimpers and decappers

Description	Part No.
Crimper, electronic, with lithium battery, for 11 mm caps	5190-3188
Crimper, manual, for 11 mm caps	5040-4667
New A-Line electronic crimper, for 11 mm caps*	5191-5616

\*Available November 2018.

For further information about our range of over 600 products and vial selection guides, go to: [www.agilent.com/en/promotions/vialsresources](http://www.agilent.com/en/promotions/vialsresources)





G4591-20320

## Unique detector parts

Description	Part No.
FID jet, 0.011 in (0.29 mm) id	G4591-20320



G4581-20006

## Compression bolts

Description	Part No.
Compression bolt, detector tail	G4583-20005
Compression bolt, Intuvo	G4581-60260
Compression bolt, Guard Chip	G4581-20006
Compression bolt, split/splitless inlet	G4582-20085
Compression bolt, multimode inlet	G4586-20027



G4582-20085

## Tools

Description	Part No.
Wrench, open end, 0.3125 in	8710-2801
Wrench, open end, 0.25 in	8710-2800
Torque driver kit, includes G4581-20522 and 8710-2790	5190-9571
Torque driver extension*	G4581-20522
Screw driver, torque, preset adjustable*	8710-2790

\*Included in 5190-9571.



G4580-68300

## Exhaust vent

Description	Part No.
Exhaust vent	G4580-68300

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