



Premium Chromatography Solutions

Columns, Accessories and Solutions

- 🧪 35+ Years of Excellence
- 🌐 Global Scientific Standards
- 🔧 EPA & USP Methods

TLS – Tech Lab Service
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MADE IN ITALY

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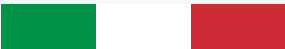
GCxGC Solutions & Support

MultidimensionalGCsolutions,sampleanalysis service, application notes & free resources

GC Columns

TheRightColumn.TheRight Analysis. The Right Results.

Feature	Packed Columns	Capillary (WCOT)	Capillary (PLOT)	Fused Silica
Image				
Description	Stainless steel or glass tube packed with solid support coated with liquid stationary phase	Wall Coated Open Tubular. Stationary phase is a thin liquid film coated on the inner wall	Porous Layer Open Tubular. Stationary phase is a solid adsorbent layer coated on the inner wall	Made of fused silica. Stationary phase is a thin liquid film on the inner wall. High inertness and low bleed
Typical Length	1 – 10 m	10 – 100 m	10 – 50 m	10 – 100 m
Typical ID	2 – 4 mm	0.10 – 0.53 mm	0.32 – 0.53 mm	0.10 – 0.53 mm
Film Thickness	10 – 50 µm (on support)	0.10 – 5 µm	10 – 50 µm (porous layer)	0.10 – 5 µm
Efficiency	Low	High	Medium	Very High
Sample Capacity	High	Low – Medium	Medium	Low
Best For	Preparative work, large sample loads, permanent gases	General purpose separations, wide range of analytes	Small molecules, permanent gases, light hydrocarbons	High resolution separations, complex mixtures, trace analysis
Notes	Robust, inexpensive, easy to use	Most common type in GC	More robust than WCOT, good for gases	Best inertness and thermal stability



About ColOne

- **What We Offer** GC, GC-MS, FAST-GC, Wide-Bore, Chiral columns
- **Advanced Technologies** GCxGC, HT-GC, MEMS Lab-on-a- chip
- **Accessories & Services** Retention gaps, connectors, technical support

Innovation

Special products including Multidimensional-GC (GCxGC), High Temperature GC, and MEMS micro-fabricated "Lab-on-a-Chip" GC .

Quality

Excellent efficiency and inertness. Each column produced and tested one-by-one to assure maximum column-to-column reproducibility.



Custom Solutions

Custom products by request. Since 1980 we develop ad-hoc solutions for your specific analytical problems. We can tune the selectivity of the stationary phase to respond to particular needs.

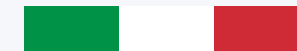
TLS — Tech Lab Service | Premium GC Column
Manufacturer



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Website: www.tlscon.com



GC Column Dimensions

Completely customize your column—every combination of sizes available

FAST

Internal Diameter

0.18 | 0.20 | 0.25 | 0.32 mm

Length

5-60m | 5-105m | 5-105m | 5-105m

Film Thickness

0.05-2.00µm | 0.05-2.00µm | 0.05-3.00µm |
0.05-10.00µm

CONVENTIONAL

Internal Diameter

0.25 mm | 0.32 mm

Length

5-105m | 5-105m

Film Thickness

0.05-3.00µm | 0.05-10.00µm

WIDE-BORE

Internal Diameter

0.45 mm | 0.53 mm

Length

5-75m | 5-75m

Film Thickness

Up to 7.00µm | Up to 10.00µm

Custom Configurations

Completely customize by selecting **every combination of sizes**. Out-of-catalog configurations available. Since **1980** we develop ad-hoc solutions. We can **tune the selectivity** of the stationary phase.

Universal Availability

All stationary phases available for **FAST**, **Conventional**, **Wide-Bore** and **Multidimensional-GC**, including solutions and kits for **GCxGC**.



Additional IDs Available

0.05mm | 0.075mm | 0.10mm | 0.15mm (Length: 1-40m, Film: 0.05-2.00µm)

* Shorter lengths for GCxGC
** Max film depends on phase

Product Highlights

★ Featured Innovative Solutions

Metal MTX Capillary

High temperature GC columns (up to **420-430°C** with HT phases). Almost every stationary phase coated onto high inertness metal capillary tubing.

HT Phases Metal Tubing

COLONE-WAX Plus

New high stable and inert PEG phase (**270°C max**) excellent for GC-MS. Crossbonded and water resistant. Truly equivalent to InnoWax.

GC-MS Optimized Water Resistant

COLONE-FFAP EXT

Crossbonded and water resistant version of COLONE-ACID (FFAP) phase with an extended working temperature range.

Extended Range Crossbonded

COLONE-2D Single

Revolutionary tubing column coated with **two different stationary phases** in series for GCxGC and MD-GC. **No connections needed.**

GCxGC Ready MD-GC Ready

COLONE-XMLB

New selectivity low polarity phase ideal as **confirmation column**. Low bleeding and high temperature stable (up to **360°C**). Excellent for Pesticides, PCBs and PAHs.

Confirmation Up to 360°C

COLONE-PAH 2

Arrives beside COLONE-PAH column to solve **EU-regulated PAHs isomers separation**. High thermal stability and low bleeding assure excellent signal-to-noise ratio.

EU-Regulated PAHs Low Bleeding

 All highlighted products represent cutting-edge innovations in GC column technology

ColOne Columns Catalogue

General Purpose Columns

Stationary Phase	Composition	T max	Equivalent/Alternative	EPA/USP	Applications
COLONE-1	100% methylpolysiloxane	350°C	DB-1, HP-1, AT-1, ZB-1, Rtx-1, BP-1, SPB-1, CPSil5CB	EPA: 504.1, 505, 551, 606, 612, 8141AUSP: G1, G2, G9, G38	General purpose. Solvent impurities, PCBs, SimDist, drugs, natural gases, essential oils, semivolatiles, pesticides, phenols
COLONE-5	5% phenyl, 95% methylpolysiloxane	350°C	DB-5, HP-5, AT-5, ZB-5, Rtx-5, BP-5, SPB-5, CPSil8CB	EPA: 506, 611, 604, 607, 608, 8081, 8082, 8091USP: G27, G36, G41	General purpose. Solvent impurities, PCBs, hydrocarbons, essential oils, semivolatiles, pesticides, phenols
COLONE-SE52	5% phenyl, 95% methylpolysiloxane	350°C	SE52	USP: G27, G36, G41	General purpose. Solvent impurities, PCBs, hydrocarbons, essential oils, semivolatiles, triglycerides, pesticides, poly-waxes
COLONE-SE54	5% phenyl, 1% vinyl, 94% methylpolysiloxane	350°C	SE54	USP: G27, G36, G41	General purpose. Solvent impurities, PCBs, hydrocarbons, essential oils, semivolatiles, allergens, pesticides
COLONE-1701	14% cyanopropylphenyl, 86% methylpolysiloxane	280°C	DB-1701, HP-1701, AT-1701, ZB-1701, Rtx-1701, BP-10, SPB-1701, CPSil19CB	EPA: 513, 515.2, 552.2, 607, 619, 622, 8081, 8121USP: G46	General purpose. Residual solvents, oxygenated pesticides, essential oils, allergens. Ideal as confirmation column and GCxGC
COLONE-17	50% phenyl, 50% methylpolysiloxane	340°C	DB-17, DB-608, HP-17, AT-50, ZB-50, 007-17, Rtx-17, BPX-50, SPB-50, CPSil24CB	EPA: 604, 608, 619, 8080, 8081USP: G3, G17	General purpose. Phthalate esters, herbicides, pharmaceuticals. Ideal as confirmation column and GCxGC



Temperature Range Note

 Temperature range may change depending on stationary phase film thickness. Visit our website for a complete guide to choose your GC column based on EPA normative, USP requirements and/or ASTM method.

Stationary Phase	Composition	T max	Equivalent/Alternative	EPA/USP	Applications
COLONE-624	6% cyanopropylphenyl, 94% methylpolysiloxane	280°C	DB-624, HP-624, AT-624, ZB-624, 007-624, Rtx-624, Vocol, SPB-624, VF-624ms	EPA: 501.3, 502.1, 502.2, 524.2, 8020, 8021USP: G43, G467	General purpose. Volatile organic pollutants, purgeable aromatics, purgeable hydrocarbons, VOCs, pharmaceuticals
COLONE-WAX	Polyethylene glycol (PEG)	250°C	DB-Wax, HP-Wax, AT-Wax, ZB-Wax, 007-CW, Rtx-Wax, BP-20, CPWax52CB	EPA: 603, 603, 619, 8015CUSP: G14, G15, G16, G467	General purpose. FAMES, flavor compounds, essential oils, BTEX aromatics, solvents, alcohols
COLONE-1MS	100% methylpolysiloxane (low bleeding)	350°C	DB-1ms, HP-1ms, AT-1ms, ZB-1ms, Rtx-1ms, Equity-1, CPSil5CBms	EPA: 504.1, 505, 606USP: G1, G2, G9, G38	General purpose column for GC-MS. See COLONE-1 phase applications
COLONE-5MS	Low bleeding 5% phenyl, 95% methylpolysiloxane	360°C	DB-5ms, HP-5ms, AT-5ms, ZB-5ms, Rtx-5ms, Equity-5, BPX-5	EPA: 513, 528, 552, 610, 613, 1625, 1653, 8081A, 8082, 8141A, 8260AUSP: G27, G36, G41	General purpose column for GC-MS. See COLONE-5 phase applications
COLONE-5MS XI	Silphenylene based MS phase	360°C	DB-5ms(UI), Rtx-5Silms, SLB-5ms, ZB-5ms	EPA: 513, 515.2, 521, 525, 526, 552.2, 610, 625, 1613, 1625, 8041, 8061A, 8081A, 8121, 8270USP: G27, G36, G41	General purpose for GC-MS. Dioxins and furans, herbicides, phthalate esters, PCBs, chlorinated acids
COLONE-35MS	Low bleeding 35% phenyl, 65% methylpolysiloxane	340°C	DB-35ms, BPX-35, BPX-608, ZB-MultiResidue-2, Rtx-35Silms	EPA: 507, 508, 552, 614, 615, 622, 8141A, 8151AUSP: G26, G32, G42	General purpose for GC-MS. See COLONE-35 phase on next page

COLONE-17 MS

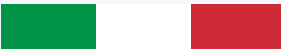
Up to 340°C | DB-17ms, Rtx-17Silms

COLONE-225 MS

Up to 240°C | DB-225ms

COLONE-624 MS & WAX MS

Up to 280°C & 270°C



Application Specific Columns

Stationary Phases

COLONE-225

260°C

25%cyanopropyl,25% phenyl, 50% methylpolysiloxane

Equiv: DB-225, HP-225, AT-225, 007-225, Rtx-225, BP-225, CPSil43CB | EPA: 8095 | USP: G7, G19, G26

Applications: Mid-to-high polarity phase. Carbohydrates, sterols, flavor compounds

COLONE-35

340°C

35% phenyl, 65% methylpolysiloxane

Equiv: DB-35, HP-35, AT-35, ZB-35, 007-11, ZB-MultiResidue-2, Rtx-35, SPB-608 | EPA: 507, 508, 513, 551.1, 615, 622, SPB-608 | USP: G28, G32, G42

Applications: Pesticides, PCBs, substituted polar compounds, phenols. Ideal as confirmation column

COLONE-50

260°C

50%cyanopropyl,50% methylpolysiloxane

Equiv: DB-23, Silar-5, Rtx-2330, SP-2330 | USP: G8

Applications: Mid-to-high polarity phase. Carbohydrates, sterols, FAMES, flavor compounds

COLONE-ALC 1&2

280°C

Proprietaryspecific phases

Equiv: DB-ALC1&2, Rtx-BAC1&2

Applications: Application specific column for blood alcohols testing

COLONE-BASIC

n.d.

Proprietary specific phase

Applications: Application specific column for basic compounds (e.g. amines)

COLONE-BIODIESEL

380°C

Biodiesel Columns (EN14105)

EN14105 (ASTM6584), EN14103, EN14110, EN14331

Applications: For free and total glycerine (phase stable up to 380°C) and for FAMES in biodiesel analysis

COLONE-DAI 1&2

320°C

Proprietaryuniquephasesfor Direct Aqueous Injections

Applications: For direct introduction of aqueous samples, minimizing sample preparation

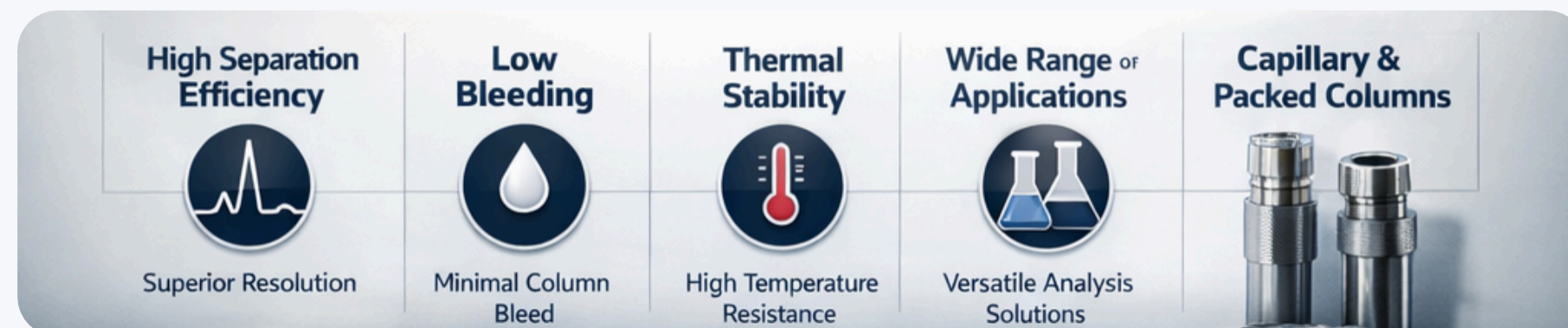
COLONE-FFAP EXT

260°C

Acidmodifiedpolyethylene glycol (PEG)

Equiv: DB-FFAP, AT-1000, ZB-FFAP, 007-FFAP, Stabilwax-DA, BP-21, Nukol, CPWax57CB | EPA: 6032 | USP: G14, G15, G16, G25, G35, G39

Applications: Free acids, FAMES, BTEX aromatics, flavor compounds, alcohols, spirits, polar compounds. Extended temperature range, crossbonded, aqueous samples compatible



Application-specific phases designed for targeted analytical challenges

ColOne Columns Catalogue

High Temperature Columns

🔥 Up to 400°C Operation Range

i For our COLONE-HT High Temperature Columns range with fused silica tubing, we use specifically engineered high resistance polyimide coating, resulting in high temperature endurance and flexure with superior bend radius. All stationary phases available for FAST-GC. 0.15mm, 0.18mm and 0.20mm I.D. tubing sizes available.

COLONE-1 HT 100% methylpolysiloxane Equiv: DB-1HT, ZB-1HT Applications: High MW waxes, motor oils, polymers/plastics, SimDist	400°C	COLONE-5 HT 5% phenyl, 95% methyl polysiloxane Equiv: DB-5HT, ZB-5HT (Inferno) Applications: Diesel fuels, surfactants, triglycerides, SimDist	400°C	COLONE-8 HT Low-to-mid polarity special phase Equiv: HT8 Applications: PCBs compounds, pesticides, environmental analysis	400°C
COLONE-35 HT 35%phenyl,65% methylpolysiloxane Equiv: ZB-35HT (Inferno) Applications: Semi-volatiles, pesticides, pharmaceuticals	370°C	COLONE-17 HT 50% phenyl, 50% methylpolysiloxane Equiv: DB-17HT Applications: Confirmation analysis, GCxGC-HT configurations	370°C	COLONE-65 HT 65% phenyl, 35% methylpolysiloxane Equiv: 007-65HT, Rtx-65TG, TAP-CB Applications: Triglycerides separations based on carbon number and unsaturation	360-370°C
COLONE-SE54 HT 5% phenyl, 1% vinyl, 94% methylpolysiloxane Unique column Applications: High boiling petroleum products, long-chained hydrocarbons	400°C	COLONE-I701 HT 14% cyanopropylphenyl, 86% methyl polysiloxane Unique column Applications: Confirmation analysis, GCxGC-HT mid-polar column	320°C	COLONE-WAX HT Polyethyleneglycol (PEG) Unique column Applications: Extend temperature limits of FAST-GC and GCxGC with polar WAX phase	300°C

🔥 HT series with high resistance polyimide coating for superior temperature endurance

Chiral Columns & Accessories

COLONE-DEX Chiral Columns

Based on **cyclodextrin derivatives** for enantiomeric separations. COLONE has **more than 35 years** experience in manufacturing and developing chiral GC columns.

DAC Beta / Gamma
Diacetyl TBS | Up to 230°C

DET Beta / Gamma
Diethyl TBS | Up to 230°C

DMP Beta
Dimethyl-pentyl TBS | Up to 230°C

B-SE / DMT Beta
Dimethyl TBS / New derivative | 230°C

B-03
New cyclodextrin derivative | Up to 230°C

G-01
Unique column for Bornyl Acetate | 250°C

G-03
For pyrethroids & pesticides | 250°C

B-01 / B-02
Contact us for more info

FAST Chiral Columns

A full line of COLONE-DEX FAST chiral columns is available to speed up your enantiomeric separations while keeping excellent resolution efficiency.



COLONE-DEX Series & More

Accessories

COLONE-GAP

Built-in Retention Gap — No Connections needed. Incorporates both guard column and analytical column in continuous tubing.

Extend lifetime

Excellent inertness

Easy install

Retention Gaps

Deactivated for any purpose. Suitable for polar solvents, water containing samples. Available in all ID sizes (0.05 to 0.53mm).

Press-Fit Connectors

Universal fit for any tubing size. Available as: Linear 2-ways union, "Y" 3-ways, Personalized Multiways for MD-GC.



35+ years of expertise in chiral GC column manufacturing and development

ColOne Columns Catalogue

GCxGC Solutions & Support

 Multidimensional GC & Services

GCxGC Solutions

COLONE offers **innovative products** and **unique solutions** for GCxGC analysis. We provide completely custom GCxGC solutions, including ready-to-use kits.

Stationary Phase Selectivity

The selectivity of the stationary phase plays a fundamental role in GC and GCxGC. Ask us to tune the selectivity to explore new solutions and optimize orthogonality and efficiency.

- ★ COLONE-2D Single Column
Twodifferentstationaryphasesinone colum
- ★ COLONE-WAX HT on 2nd Dimension
For essential oil GCxGC analysis
- ★ COLONE-2D for Allergens
Uniquecolumnforstandardmix analysi

Phase Polarity Quick View

Apolar



Polar

Reference: COLONE-5



Support & Services

Sample Analysis Service

Just **send us your real sample** to improve your GC analysis. Our experienced team will help you optimize your analytical method.

 info@tlscon.com

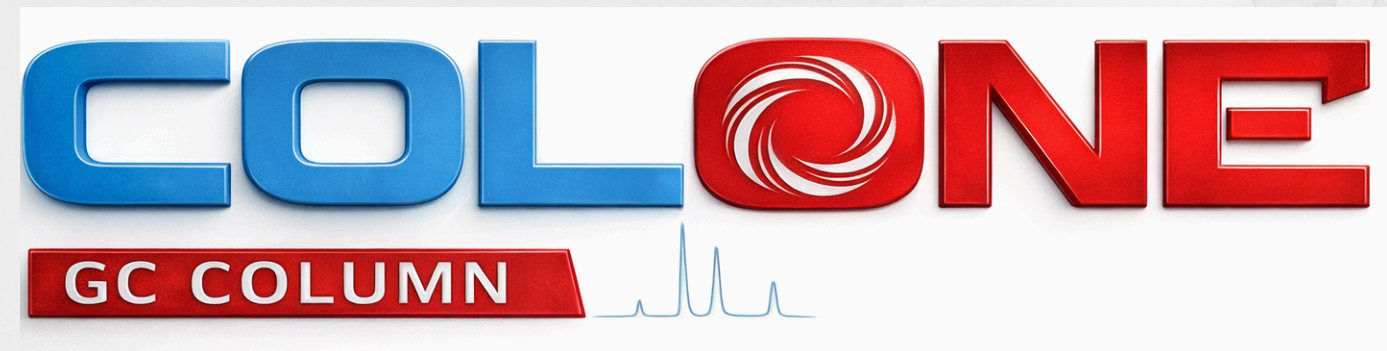
Application Notes

Visit our applications webpage to discover **hundreds of application notes** and useful information on how to develop your analytical method. New technical notes constantly added.

Free Resources

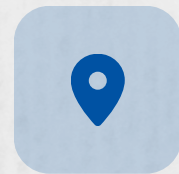
Download our **free guide to FAST-GC** with tons of application notes and technical tips to perform and optimize your FAST-GC analysis.





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