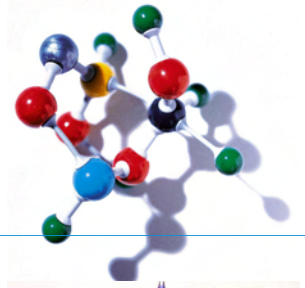
DANI A SCENT OF FUTURE



DANI Instruments *Solutions*

Master GC

Fast Gas Chromatograph

DANI MASTER GC offers a new approach to the world of gas chromatography by dramatically decreasing sample run times in a wide range of GC applications.

Faster than a conventional GC, DANI MASTER GC increases analytical productivity with an excellent sensitivity.

The modular design of the components allows to easily change or upgrade any GC configurations.

Up to three injection units and three detectors can be mounted simultaneously.

An intuitive Touch Screen interface controls both the GC and AS with an ultimate simplicity.

A complete accessibility of the whole system allows easy maintenance and a real cost reduction.

DANI MASTER GC includes a complete range of injectors and in particular DANI PTV ensures unprecedented sample integrity and supports the stringent timing requirements of FAST GC through a rapid cool down.

DANI MASTER GC features a full range of high sensitive detectors. Each detector incorporates a Digital Pressure Control (DPC) for digital setting of the detector gas flowrate.

DANI selective detectors specifically eliminate matrix interferences while providing maximum sensitivity.

DANI comprehensive line of detectors guarantees a cost-effective solution to all application requirements.

The detectors data acquisition rate is up to 300 Hz for a better repeatability and accuracy of chromatographic data.

Gas sampling valves, auxiliary ovens, switching valves and other optional devices make DANI MASTER GC the most suitable gas chromatograph for the development of complex analytical systems in a wide range of applications.

DANI MASTER GC can be connected directly to DDS CLARITY™ Work Station through a local area network (LAN).

Dedicated turnkey systems are the “added value” of all DANI instruments. DANI MASTER GC coupled with DANI HSS 86.50 Head Space Sampler and DANI MASTER TD Thermal Desorber, covers a wide range of applications for environmental, chemical, petrochemical, pharmaceutical, food and beverages.

FAST Gas Chromatograph

High speed analysis with a narrow-bore capillary column reduces operator time and increases sample-throughput.

Oven heating speed rate
up to 140°C/min

Oven cooling rate
from 300°C to 50°C in 4 minutes

Detector data acquisition rate
300 Hz

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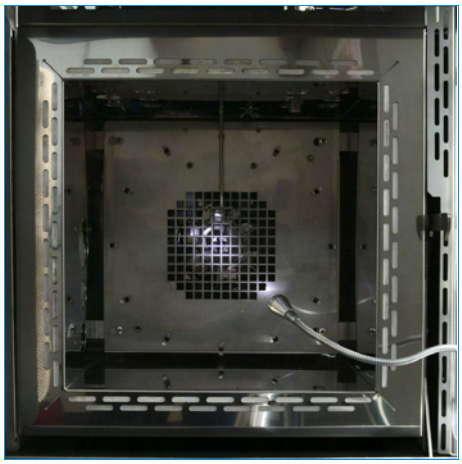
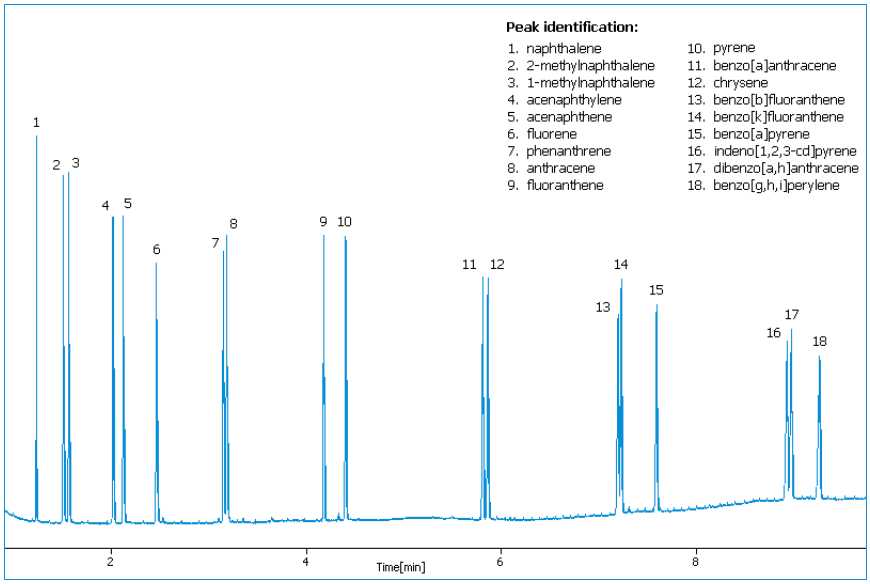


A light inside the oven simplifies column installation.



Polyaromatic Hydrocarbons in less than 10 minutes

Digital Flow Control (DFC)

A patent pending Digital Flow Control (DFC) combined with a digital control of the oven temperature, assures an unsurpassed and verified repeatability in conventional and Fast GC analysis.
The Digital Flow Control (DFC) allows to operate at both constant and programmed flow and pressure.

Constant Linear Velocity Mode

DANI introduces carrier gas linear velocity control.
The best possible separation is obtained by keeping linear velocity constant through all temperature programs.

Pulsed Injection

The high pressure Pulsed Injection allows to get a better repeatability, higher areas and consequently improves sensitivity.

Gas Saving and Leak Check systems

DANI MASTER GC can be programmed after injection to decrease split flow to save carrier gas and to provide precautionary measures during unattended runs with hydrogen carrier gas.

The system is also equipped with an automatic Leak Test feature to reduce time for injector maintenance and column changes.

These two features increase productivity and maximize cost saving.

Pressure and Temperature compensation

DANI MASTER GC with DFC system automatically adjusts carrier gas flow to compensate for ambient temperature and pressure, providing constant retention times at changeable conditions and enhancing system repeatability.

The **Digital Flow Control (DFC)**
allows to operate
in five different modes

Programmed Pressure
Programmed Flow
Constant Pressure
Constant Flow
Constant Linear Velocity

MASTER GC … “increases your analytical productivity”

Master GC

Fast Gas Chromatograph

DANI MASTER GC has been designed to offer the simplest way to use a gas chromatograph.

DANI MASTER GC replaces the complicated keypad user interface with a user friendly, large, full colour Touch screen which avoids a continuous “up and down” among the multiple levels and simplifies the use of the operating manual.

A real time chromatogram is displayed on the Touch screen to monitor the current state of the analysis.

DANI MASTER GC has a counter function to keep track of the numbers of injections carried out in order to change the septum when necessary and to perform the ordinary maintenance at the right moment thus eliminating paper work.

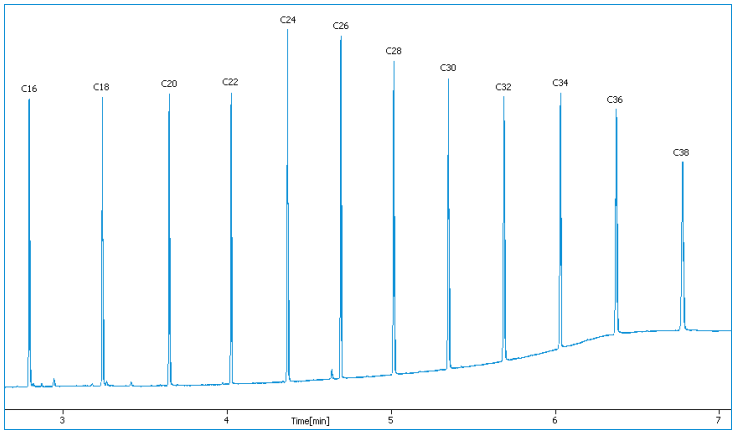
DANI MASTER GC includes clock time events and method events features. Clock time events enable i.e. to load and start a method at a precise day and hour and to decide a frequence once, daily or weekly.
Method events enable to modify i.e. the TCD polarity or signal attenuation during a method at a precise analysis time.

TOUCH Gas Chromatograph
An intuitive Touch Screen interface controls both the GC and AS with an ultimate simplicity.

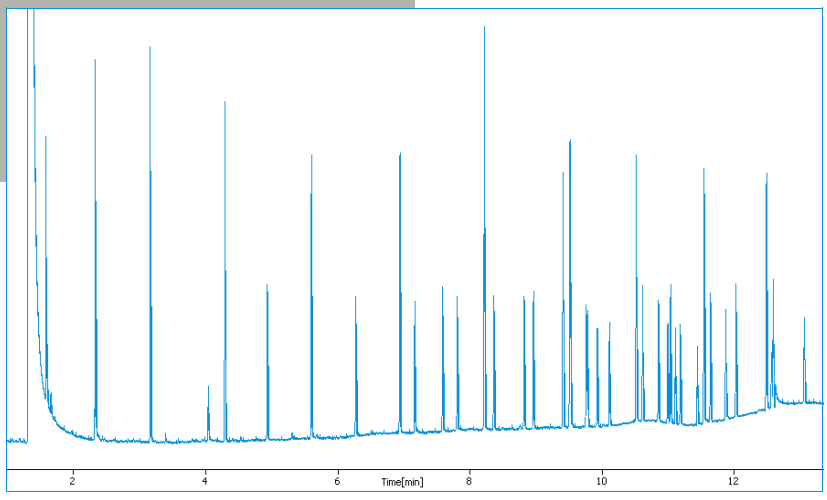
Real-time graphic display of chromatogram
Preventive maintenance Counter
Password protection
Log File
Diagnostic Menu

DANI MASTER GC features a full range of highly sensitive and selective detectors specifically designed for FAST chromatography

Fast FID
Fast ECD
Selective NPD, FPD, PID
Universal TCD and micro TCD



Linear Hydrocarbons from C16 to C38 in less than 7 minutes



37 component FAME standard mixture in 13 minutes

Master AS

LIQUID AUTOSAMPLER

DANI A SCENT OF FUTURE

MASTER AS includes customized injection to optimise the sampling with different samples and any kind of injection technique.

Five solvent wash vials with five waste vials

eliminate the possibility of sample **carry over**.

Providing innovative sampling solutions, DANI MASTER AS maximizes lab productivity by offering leading edge technology in automation. Merging robotic technology with advanced three-dimensional space movements (X-Y-Z), it provides unprecedented automation and greater flexibility in sample capacity.

High productivity

DANI MASTER AS provides maximum sample throughput with a standard 160 sample tray for 2 ml vials or optionally a 65 sample tray for 10 ml vials.

The same sample can be introduced up to 100 times in a single injector or into three injectors alternatively.
The sample can be taken at different selectable needle depths thus performing an extraction directly from the vial.

High flexibility

Parameters are easily programmable to optimise both the most convenient sampling method for extremely volatile or viscous samples and the best injection technique.

These parameters include: number of solvent or sample washings, plunger speed during sampling and injection, delay time of needle into the injector before and after injection and depth of needle into the injector itself.

Precision and Accuracy

Even the most skilful operator can no longer compete with an automatic system in terms of precision and accuracy.

The volumes, selectable from 0.1 to 500µl, are measured with great accuracy thus guaranteeing repeatability and linearity of the quantitative data.

The solvent plug injection in particular is used to obtain high precision with reduced volumes. Coupled with the DANI PTV injector the sampler can carry out multiple injections with up to 100µl sample volume thus increasing the sensitivity of the gas chromatographic system.

Easy complete control

The sampler can be controlled directly from the MASTER GC Touch Screen or from the PC through RS232 port.
The built-in control of DANI DDS Clarity™ acquisition software makes the injection parameters an integral part of the analytical method and the use of a sampling sequence ensures a safe correlation between the sample and the analytical results.

MASTER AS … “improves precision of analysis”

GC1000 DPC Digital Gas Chromatograph

DANI GC1000 gas chromatograph is very versatile and easy to use. Even with its extremely reduced dimensions it is fully equipped to satisfy the most demanding user. The flexible and adaptable basic structure can accommodate up to four injectors and detectors for packed and capillary columns.

The system allows to easily move from a minimal to a very complicated configuration with minor changes and at very reduced costs.

The oven is extremely spacious and easily accessible and contains many columns allowing for complex analytical configurations.

All parameters can be controlled by a powerful internal microprocessor thereby guaranteeing total accuracy and repeatability of timing and temperatures.

Electronic gas regulation, for both injectors and detectors, allows to include in the method timing, temperatures and all gas flow rates. Just recall the method previously stored to reproduce, from time to time and on different instruments, retention times and sensitivity with the utmost accuracy.

The instrument also provides constant column flow rate operation to improve analysis results, whilst preserving the analytical column.

The Digital Pressure Control
of carrier gas allows to operate in three
different ways

Pressure Programming
Constant Flow
Constant Pressure

... reducing

analysis time
baseline drift
columns degradation

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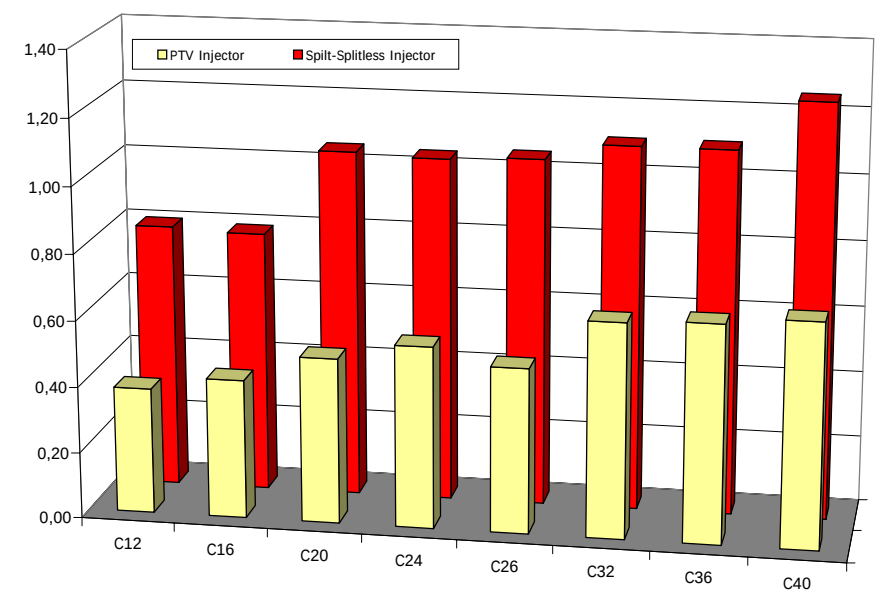
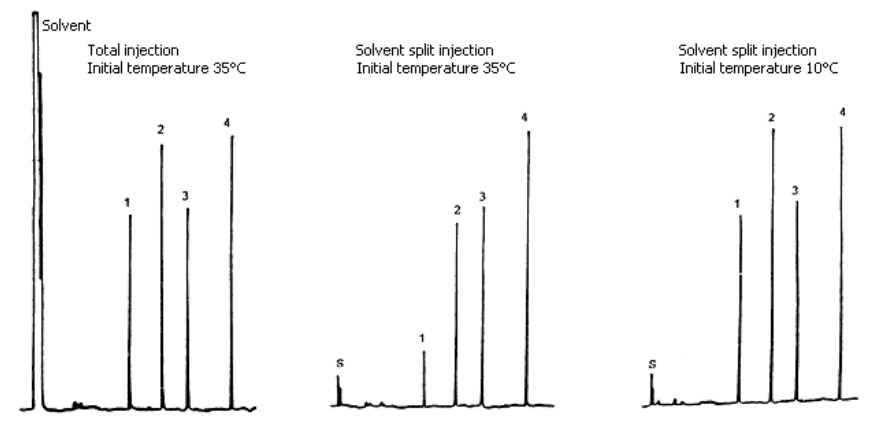


Discrimination Effect - comparison between split/splitless injector and PTV



Solvent Split Mode - Chlorinated Pesticides - Solvent peak removing

The Universal Injector DANI PTV
allows to operate in
7 injection techniques

SPLIT
SPLITLESS
ON-COLUMN
SOLVENT SPLIT
SAMPLE FOCUSING
LARGE VOLUME
SPME

Sample introduction

DANI GC1000 offers a complete range of injectors, all equipped with electronic pressure control, which allow an accurate injection of all samples in packed or capillary columns.

DANI not only provides traditional split/splitless and packed column injectors, but also the programmable temperature injector PTV.

Thanks to cold injection of the sample, the PTV solves all problems of discrimination of complex mixture as well as the treatment of thermally labile compounds.
DANI PTV also combines the best repeatability and accuracy injection with easy-to-use together with all advantages of the traditional split/splitless injector.

Solvent split, large volume, and sample focusing injections and the compatibility with SPME technique, make the DANI PTV a universal injector.

Customised solutions

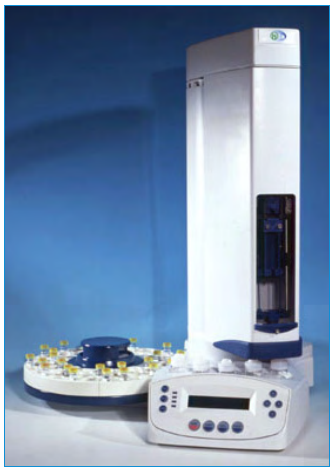
Gas sampling valves, methanizers, auxiliary ovens and other special devices, make DANI GC1000 the most suitable gas chromatograph for the development of complex analytical systems in a wide range of applications from petrochemical to environmental field.

Qualified staff provide total solutions including customised systems, technical support, customer care and trainings.

The detectors

DANI GC1000 has a full range of detectors for different applications:

FID - Flame Ionisation Detector
ECD - Electron Capture Detector
NPD - Nitrogen Phosphorous Detector
TCD e micro TCD - Thermal Conductivity Detector
PID - Photoionisation Detector
FPD - Flame Photometric Detector



HT300A Automatic Liquid Sampler combined with DANI GC1000 gas chromatograph improves precision of analysis and increases productivity, automating the whole analysis process.

GC1000 DPC ... "is very versatile and easy to use"

DDS Clarity™ Chromatography Station

DDS Clarity™ is an advanced chromatography station designed to control up to four instruments and to acquire and evaluate up to four analog signals from each instrument simultaneously.

Clarity™ includes an A/D converter (internal PCI card or external USB and LAN device) and an acquisition and evaluation software designed for 32-bit operating systems Microsoft Windows NT, 2000 and XP.

Clarity™ has a user interface simple and intuitive based on the use of specific windows, explicative icons and interactive tables.

During data acquisition it is possible to visualise and reprocess previous analyses, prepare the methods for next analyses and run other programs.

Synchronisation of start and end analysis allows to control data acquisition directly from the connected instrument. All acquisition parameters are kept in a file to guarantee maximum measurements repeatability.

GLP/FDA 21 CFR PART 11

Clarity™ guarantees security and control of chromatographic data according to GLP and FDA 21 CFR Part 11 standards through the following dedicated tools:

Protection of chromatographic data through a system of access rights and passwords to be individually set for each user;
Electronic signature stored with the name, the date and a set phrase;
Audit Trail of all acquisition parameters and their modifications which allows easy access to the profile of information prior to any modification;
Printing of the results: date and time of the analysis of the results, the number of the pages, the printing of the baseline, the integration markers, the name, retention times and the number of each peak are just a few of the selectable information.

Chromatographic Data Integration

All integration parameters are saved in the method file. Clarity™ highly responsive calculation algorithm enables to detected hundreds of peaks in each chromatogram. The result can be reprocessed without repeating the analysis.

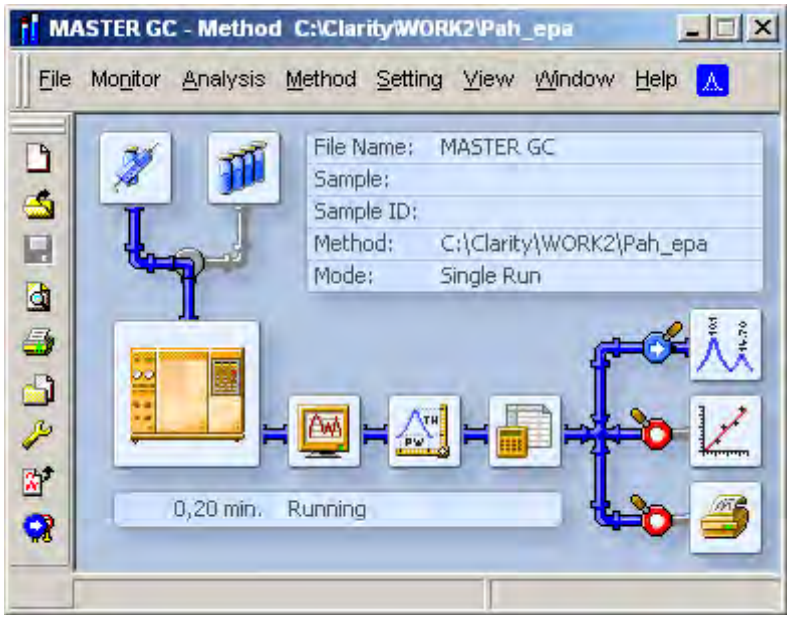
All 27 integration parameters can be set either with numbers or through graphic functions by using the icons on the toolbar. Integration parameters specific for each chromatogram are stored and visualised together with the chromatogram itself.

FDA CFR 21 Part 11

Protection of chromatographic data
Electronic signature
Audit Trail
Printing of the results

System Suitability Test

The System Suitability Test SST enables to monitor the selected parameters (retention time, area amount, system repeatability) within fixed limits indicating a possible non conformity of the system.



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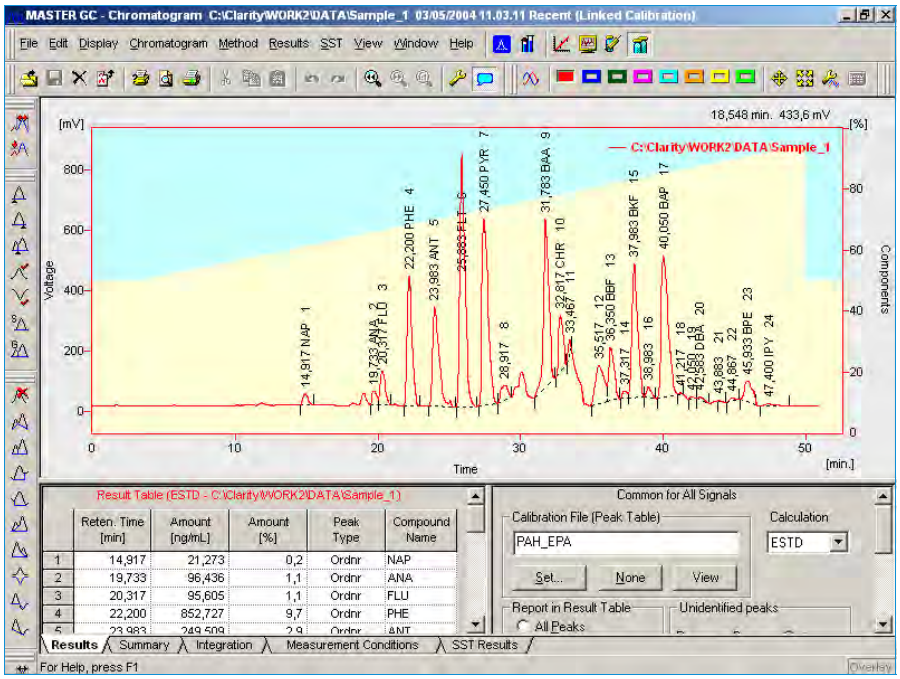
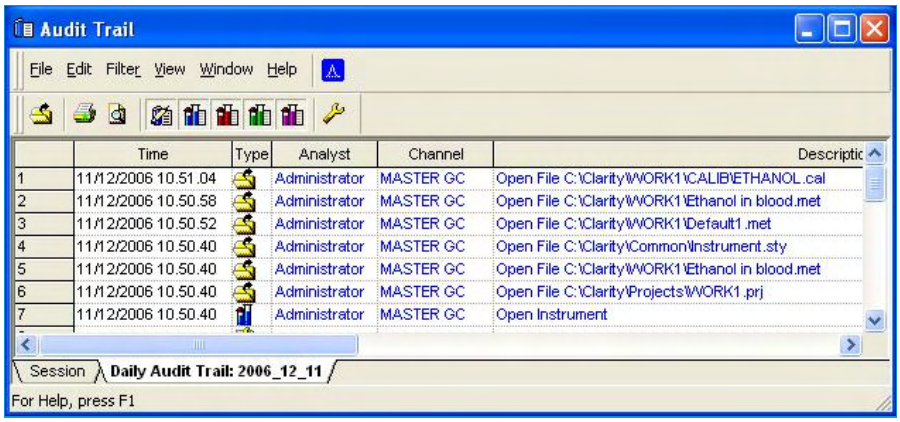




Instruments Control

Clarity™ includes DANI GC1000 and MASTER GC control. All operative parameters can be set from PC, saved in the method file and stored or printed together with acquisition and data processing parameters.
Clarity™ offers the option for DANI autosamplers control.
This allows to set and store different injection methods and to connect the sample sequence with the analysis results.

Data processing

The results of calibrated and non calibrated analyses are shown as used in the analytical practice (area, height and peak width, quantity of compound). Clarity™ station also offers calculations of parameters for evaluation of chromatographic system quality (asymmetry, number of plates). These calculations can be furthermore integrated with SST option. It is possible to implement predefined and customised calculation and visualise the results in additional columns.

Calibration

Calibration curves are saved in separate file which refers to the template or chromatogram. Any modification to the calibration file is automatically implemented in the calculation of the chromatogram and in the file.
Calibration can be carried out using external or internal standard methods. Six types of curves are available with or without passing through the origin.
Calibration can be activated automatically or manually.
Reference peaks and identification windows can be set for each peak whereas the recalibration functions allow to update the results of the analytical system.
All calibration results are reported in a table.
Table and calibration curve of each compound are shown on a single page.

Display of the chromatograms

Clarity™ has many graphical tools: the user can easily zoom into any section of the chromatogram, choose the colours, the axis selection, the positioning of the text and the notes. It is possible to overlay a large number of chromatograms and to perform basic mathematical operations including shifting, scaling, summing and the 3D visualisation.
Chromatograms can always be identified through a legend with the name of the file and the detector.

Report and Management of results

The format of the analysis report can be customised by the user and stored into a report file. The printing can be done from any page and a preview function is always available.
Report can include analysis data managed with Batch function. The chromatogram can be converted into a image file .EMF format.
Clarity™ includes import/export of files in various formats (ASCII, AIA, EzChrom). The results can be also exported in .DBF format.

DDS Clarity™ ... "is a complete station for data integration and evaluation"

HSS 86.50 Head Space Sampler

DANI HSS 86.50 static headspace sampler is the result of 30 years of experience in the production of automatic samplers offering most accuracy, reliability, outstanding repeatability and increase in the productivity of analysis activities.
It allows volatile compounds to be extracted from a non-volatile matrix and to be quickly introduced into a gas chromatograph with reduced sample preparation.
Whatever the sample type, the process no longer requires difficult extraction, purification and preconcentration which often cause errors.

Integration and productivity

DANI HSS 86.50 is easy to use and can be coupled to DANI GC or any other gas chromatograph or GC/MS.

The system is coupled by connecting the carrier gas and inserting the transfer line into the injector.

DANI HSS 86.50 is able to analyse up to 44 samples in 20 or 10 ml vials and to optimise analysis times for high productivity: one sample is heated while the previous sample is analysed. This process eliminating waiting times between each run.

HSS 86.50, used with the DANI PTV injector, is the ideal solution to obtain maximum sensitivity and best analytical performances with highly volatile compounds at low concentrations.

Field of applications

The headspace sampling technique is a tested method used in the most different fields of application.
DANI HSS 86.50 allows analysis times to be reduced and increases productivity while maintaining high standards of precision in a wide range of applications like quality control of food, drinks and industrial products e.g. for the determination of monomer residues in polymers or residual solvents in food packaging.
DANI HSS 86.50 headspace sampler has proved to be particularly useful for monitoring environmental pollution and to determine organic solvents and light hydrocarbons in waters and soils.

Overlapping sample processing

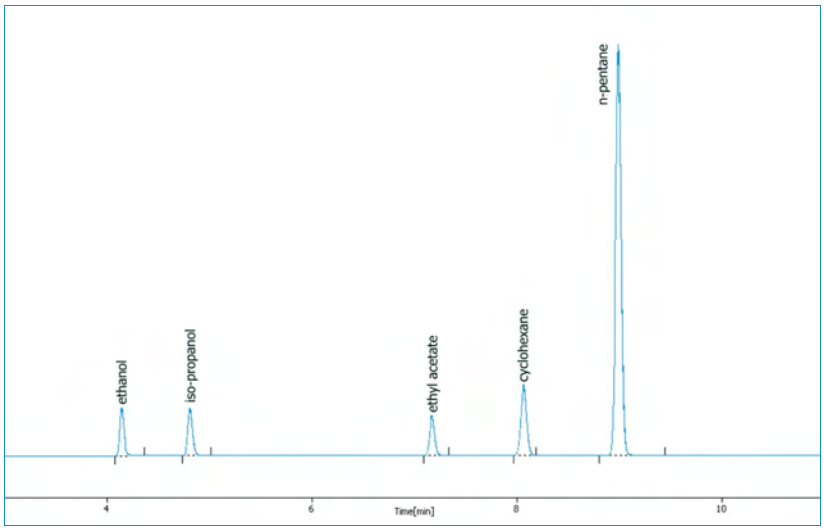
You can heat the next sample
while the current one
is analyzed

... increasing

the Productivity

	Benzene	Toluene	Xylene	Trimethylbz	Tetramethylbz
1	1283	1964	2186	2489	2981
2	1301	1988	2209	2512	3003
3	1293	1980	2204	2499	2988
4	1302	1994	2220	2527	3026
5	1278	1960	2183	2491	2984
6	1290	1980	2207	2511	3012
7	1270	1944	2163	2459	2938
8	1288	1967	2186	2475	2952
9	1281	1963	2186	2487	2975
10	1316	2011	2233	2531	3022
Average	1290	1975	2198	2498	2988
std dev	13	20	21	23	29
RSD %	1.04	0.99	0.94	0.90	0.96

1 ppm Aromatics in water - 75°C, 30min, shaking



Residual solvents in food packaging

The chemical inertness of the sample pathway, the low dead volumes and the constant washing flow to negligible levels improve sensitivity and maintain the peaks shape unchanged and the sample integrity.

Precision

Repeatability is assured by accurate temperature and pressure control, by constant incubation time and by use of the Valve&Loop technique. This allows a known, repeatable amount of the gas phase to be introduced, regardless to system pressure and without using a syringe, thus avoiding the risk of condensation.

Simple to use and flexible

The keyboard and the display allow easy and immediate management of operating parameters.

The following features make HSS 86.50 more flexible and extend its range of applications:

Constant Heating Time: used for consistent sampling, this features allow to analyse samples under the exact same time and temperature conditions;
MHE technique (Multiple Headspace Extraction): used for quantitative analysis of complex matrices, particularly solid samples.
Automatic increase of incubation time and temperature: both parameters, essential for determining the sensitivity of a method, are gradually increased by a constant value. Optimum conditions can be readily identified from chromatographic responses;
Sample shaking: a mechanical system without the use of magnets, allows shaking at two selectable power settings. The shaking of the sample during heating reduces incubation times and improves sensitivity and repeatability;
Variable loops: from 0.5 to 3 ml, offer maximum application flexibility and compatibility with any capillary or packed column.

HSS 86.50 ... "reduces sample preparation and assures great precision"

Master TD

Thermal Desorber

Thermal Desorption technique is becoming the alternative method to traditional solvent extraction offering many advantages like a considerable increase in sensitivity (up to 1000-10000 times), a higher percentage recovery (over 95% for all volatile substances), a reduced sample handling and the reuse of the sampling tubes which decreases the costs.

Without the use of solvents, the thermal desorption eliminates the introduction of impurities into the column by masking the peaks of interest.

This minimizes the negative effects in the environment, safeguards the operators' health and eliminates considerable solvents costs.

Two-Stage Thermal Desorption

DANI MASTER TD guarantees excellent analysis performances by using a two-stage thermal desorption process: the volatile and semi-volatile compounds (**up to C44**) are desorbed from the sample by heating in a flow of inert gas and refocused in a narrow-bore packed trap kept a low temperature and filled with one or more sorbent materials. The trap is heated instantaneously and the components are introduced in a narrow band directly into the analytical column through a heated transfer line.

The refocusing step offers significant advantages if compared with a direct desorption into the column: the rapid transfer of the analytes keeps the peak width and the chromatographic resolution uncompromised; furthermore the trap desorption in back-flush mode improves efficiency in the transfer and allows the use of multi-layer traps.

Compared to cryofocusing devices, the use of a packed trap eliminates the need of cryogenic liquid, reduces the risk of ice formation and guarantees more reliable quantitative results.

Automation

MASTER TD operates automatically from thermal extraction to injection into the analytical column. The synchronization with the gas chromatograph, the 50 places carousel, the high reliability and the easy use maximise laboratory productivity.

MASTER TD can be connected to any kind of GC or GC/MS either with packed or capillary columns by simply inserting the transfer line into the injector.

Inert Sample Pathway

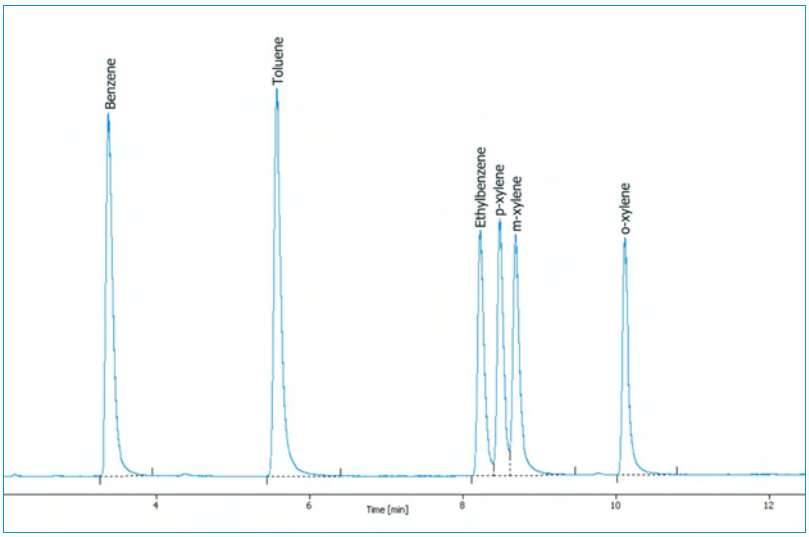
The inert Siltek® sample pathway provides outstanding analytical results by eliminating adsorption, reactivity and also reduces carryover.

Electrical cooling

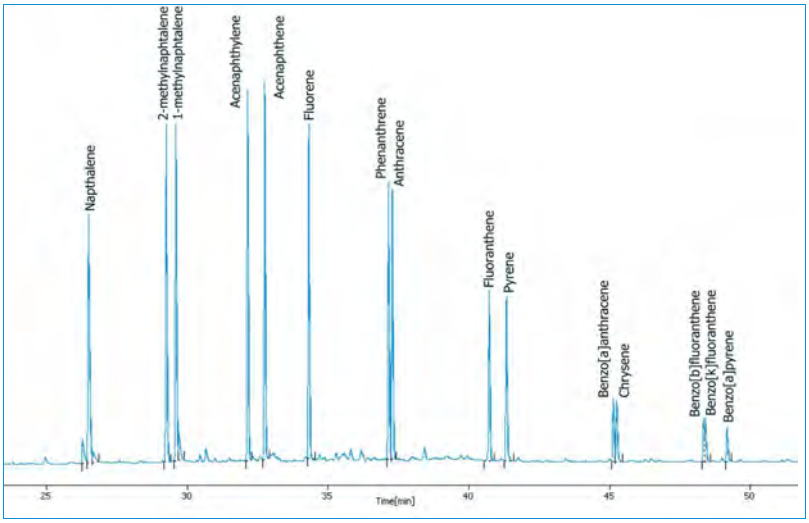
The electrical cooling device of the trap, able to cool down to –40°C, is included in the MASTER TD. Used with suitable sorbet material it allows focusing even of extremely volatile compounds. Cooling is very fast and no cryogenic liquid is required.

Instant Desorption

A patented instant desorption system preserves resolution and chromatographic accuracy, in particular in applications with capillary columns



VOCs - BTEX Analysis



Polyaromatic Hydrocarbons Analysis

Applications

MASTER TD is invaluable for monitoring pollutants in ambient air or in working places. It is also largely employed for determining volatile and semi-volatile substances released from polymers, packaging, pharmaceuticals, food, paints and varnishes.

MASTER TD is in accordance with main international standards like US-EPA TO-17, MDHS, ISO 16017-1, -2, CEN, ASTM.

Tube and Leak Test

MASTER TD uses standard 1/4" x 3.5" stainless steel or glass tubes and is also compatible with Radiello® samplers. The analytical results are guaranteed by an effective leak test performed on each tube before desorption. The non-leak tubes are not desorbed and their number is stored in a "log-file".
A function dedicated to the trap leak test is available and can be activated upon the operator's request.

Dry step and Splitting

DANI MASTER TD includes the Dry Step function with programmable time and temperature, as well as the splitting at the inlet of the trap for processing highly concentrated or extremely humid samples. The split flow rate and splitting ratio are shown on the display.

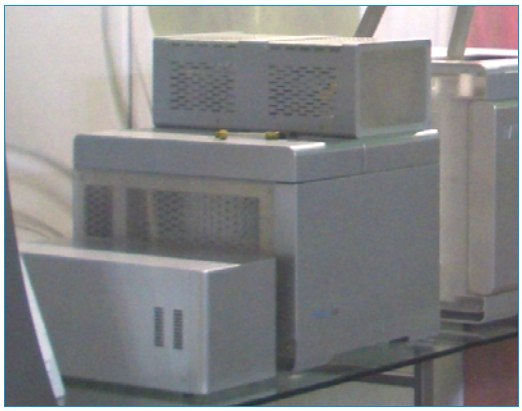
AIR SAMPLER - On-line Sampling

AIR SAMPLER provides the automatic sampling of gaseous samples from ambient, gas streams, sampling bags or canisters directly into the focusing trap of MASTER TD Thermal Desorber.
AIR SAMPLER/MASTER TD station is the perfect solution for on-line and off-line monitoring of volatile organic compounds at trace concentrations.

AIR SAMPLER is compliant with U.S. EPA TO14-TO15 canister sampling methods to keep pace with U.S. EPA regulations regarding Ambient Air Quality.

TD Manager

The control software TD Manager provides complete control of the MASTER TD and displays the status of all parameters. Methods and sequences can be easily edited, stored and uploaded to the instrument.



AIRSampler and MASTER TD Station

MASTER TD … "increases sensitivity of your analytical system"

DANI GC Capillary Columns

DANI new line of capillary GC columns provides the best performance required for general purposes, special purposes GC/MS and FAST GC applications.

DANI GC Capillary Columns are manufactured using highest quality polyamide coated synthetic fused silica.
They are mounted on a rugged wear-resistant cage.

All Capillary Columns are individually tested and flame sealed. Each column includes Test Certificate performed with a Certified Grob Mixture, instructions for installation and Grob Test performance.

Columns with standard phases and lengths (DN-1, DN-5, DN-WAX ...), dedicated stationary phases (DN-SOLVE, DN-LAP...), chiral columns and low bleeding stationary phases ideal for GC/MS systems are available.

DANI supplies “on demand” columns with modified stationary phases, lengths and film thicknesses.

DANI offers a wide and unsurpassed range of FAST GC columns with internal diameter 0.05 and 0.10 mm.

DANI GC Capillary Columns		
DN-1	DN-1 MS	DN-1 FAST
DN-5	DN-5 MS	DN-5 FAST
DN-20		
DN-17		DN-17 FAST
DN-624		
DN-1701		DN-1701 FAST
DN-200		DN-200 FAST
DN-225		DN-225 FAST
DN-50		DN-50 FAST
DN-WAX	DN-WAX MS	DN-WAX FAST
DN-FFAP		DN-FFAP FAST
DN-10		DN-10 FAST
DN-13		DN-13 FAST
DN-PLUS		DN-PLUS FAST
DN-264		DN-264 FAST
DN-SOLVE		
DN-68		
DN-BASIC		
DN-LAP		
DN-Beta 1		
DN-Beta 2		
DN-Beta 3		
DN-Beta 4		
DN-Gamma 1		
DN-Gamma 2		

DANI has a full range of consumable parts for his instrumentation

Visit our website
www.danispa.it

and download...

... the Catalog 2007 with the new **DN Series** GC capillary columns and the complete list of DANI consumables.

DANI Instruments *Solutions*

DANI A SCENT OF FUTURE

MASTER GC - Fast Gas Chromatograph

Code	Description
0305.100 012	MASTER GC Main Frame
Capillary columns injection systems	
0305.102 071	OPT 011M - PTV-DHR Programmable Temperature Vaporizer
0305.102 072	OPT 022M - SL/IN Split-Splitless Injector
Packed columns injection systems	
0305.102 333	OPT 333M - Packed Column Injector with adapter for Widebore columns
Capillary and Packed columns detection systems	
0305.102 070	OPT 100M - FID Flame Ionization Detector
0305.102 111	OPT 111M - NPD Nitrogen Phosphorous Detector
0305.102 133	OPT 133M - ECD Electron Capture Detector
0305.102 144	OPT 144M - FPD Flame Photometric Detector with sulfur filter
0305.102 155	OPT 155M - PID Photoionisation Detector
0305.102 166	OPT 166M - TCD Thermal Conductivity Detector for Widebore columns + auxiliary gas line
0305.102 270	OPT 270M - micro TCD Thermal Conductivity Detector for Capillary columns
0305.102 266	OPT 266M - TCD Thermal Conductivity Detector for Packed Columns

GC1000 - Digital Gas Chromatograph

Code	Description
0305.100 005	GC1000 Main Frame
Capillary columns injection systems	
0305.102 037	OPT 011 - PTV-DHR Programmable Temperature Vaporizer
0305.102 036	OPT 022 - SL/IN Split-Splitless Injector
Packed columns injection systems	
0305.102 038	OPT 333 - Packed Column Injector with adapter for Widebore columns
Capillary and Packed columns detection systems	
0305.102 030	OPT 100 - FID Flame Ionization Detector
0305.102 033	OPT 111 - NPD Nitrogen Phosphorous Detector
0305.102 034	OPT 133 - ECD Electron Capture Detector
0305.102 043	OPT 144 - FPD Flame Photometric Detector with sulfur filter
0305.102 032	OPT 155 - PID Photoionisation Detector
0305.102 067	OPT 166 - TCD Thermal Conductivity Detector for Widebore columns + auxiliary gas line
0305.102 042	OPT 270 - micro TCD Thermal Conductivity Detector for Capillary columns
0305.102 049	OPT 266 - TCD Thermal Conductivity Detector for Packed Columns

Software

	Work Stations
0320.000 011	DANI DDS CLARITY™ 1 instrument 2 Channels + GC Control
0320.000 017	DANI DDS CLARITY™ 2 Channels + GC Control - U-PAD version
	Software
0320.000 012	DDS Clarity™ Single Instrument Station
0320.000 013	DDS Clarity™ Instruments Add-on
	Converters
3450.100 001	Board INT7 1 Channel
3450.100 002	Board INT7 2 Channels
3450.100 003	Board INT7 4 Channels
3450.100 004	U-PAD - External USB 2 Channels
3450.100 005	NET-PAD - External LAN 2 Channels
	Instruments Control Module (Clarity integrated)
0305.000 002	MASTER GC-AS Control Module
0305.000 001	GC1000 Control Module
0305.010 001	Liquid Samplers Control Module (ALS1000 - HT-300A)
	Software Options (Clarity integrated)
0305.010 002	SST - System Suitability Test
3950.000 001	DANI PETROCal Software
	Instruments Control Module (stand alone version)
3950.000 002	TD Manager Software
	DDS Clarity™ LITE
0320.000 014	DDS Clarity™ LITE - 1 channel
0320.000 015	DDS Clarity™ LITE - 2 channels
0320.000 016	DDS Clarity™ LITE - 4 channels

Liquid Autosamplers

Code	Description
0310.500 100	MASTER AS Liquid Autosampler
0307.310 001	HT310A Liquid Autosampler 10 vials
0307.300 001	HT300A Liquid Autosampler 110 vials

Head Space Samplers

0310.100 001	HSS 86.50 Head Space Sampler, with Pressure regulator
0310.100 003	HSS 86.50 Head Space Sampler, with Flow regulator

Thermal Desorbers

0310.600 003	MASTER TD Thermal Desorber
0305.500 002	DANI AIRSampler for MASTER TD
0305.500 001	DANI AIRSampler for STD1000
3821.019 500	Line Selector for AIRSampler

Distributor

DANI A SCENT OF FUTURE

HT280T – Multimode Autosampler

The HT280T is a single unit combining static Headspace analysis, Liquid sample injection and SPME (Solid Phase Microextraction)
The HT280T is a compact Headspace autosampler which mounts directly on top of most Gas Chromatography systems rather than taking up valuable bench space next to the GC.
A simple change of the syringe mechanism allows the unit to perform automated SPME.
It then takes just a few minutes to transform the instrument into a precision autosampler for Liquid samples.
This means that there is no longer any need for multiple autosamplers – the HT280T simply maximises the efficiency of a single GC system.

Headspace Mode

The HT280T utilises a heated syringe to transfer the samples from the 6 position orbital oven/shaker directly into the injector. This eliminates tubing, dead volume and sample absorption. Vial transport is positive and incredibly reliable – the system constantly checks that vials are present and are located in the correct place. No expensive magnetic caps are required.
No transfer lines are needed and the unit mounts directly on top of the GC, thus reducing bench space requirements. Operation is via the simple keypad or by DDS CLARITY software.
Up to 40 headspace vials of 10ml or 20ml may be stored in the standard tray.
Progressive sample preparation means that samples are automatically loaded into the oven at the correct time to ensure an injection is ready as soon as the previous run is complete – this maximises GC efficiency.
The temperature of the injection syringe is programmable along with the post injection Nitrogen flush to eliminate sample carry-over.

Liquid Mode

Up to 110 samples may be processed using one or more injection methods. Any 12x32mm vial may be used with any cap type. All parameters from the sampling depth through to the injection speed, depth and dwell times may be programmed through the front panel or via HT-COMSoft Windows™ software.
The automatic injection sequence may have up to 15 steps which can be programmed to include:

- First and last samples of group
- Injection method
- Number of injections for each sample
- Pre and Post-washing solvent position
- Internal Standard

SPME Mode

SPME is a unique sample preparation technique which eliminates most of the drawbacks associated with extracting organics. SPME requires no solvents or complicated apparatus.
SPME has gained widespread acceptance as the technique of preference for many applications including: flavours, fragrances and contaminants in food; forensic and toxicology applications; environmental and biological matrices; organic volatiles in pharmaceutical compounds.
Automated SPME with the HT280T delivers more accurate results with greater throughput than manual SPME. The HT280T can extract volatile and non-volatile compounds in both liquid and headspace samples using variable vial penetration depth. Samples can be derivatised pre or post-extraction as the application requires.
The extraction is performed by exposing the fibre into the sample vial. Samples can be agitated by orbital rotation and heated during extraction. Both the shaking speed and oven temperature are programmable. The oven door is kept closed during extraction to maintain constant temperature.
After the compounds have been thermally desorbed in the GC injector, the fibre may be fully cleaned again in the optional heated fibre cleaning station positioned at the back of the unit.

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HT280T – Multimode Autosampler

Technical Specifications - Headspace Mode

System type	X-Y
Sampling Method	Syringe
Vial volume	20 mL or 10 mL
Sample capacity	40
Cleaning System	Nitrogen flush
Conditioning	
Oven Temperature	40 - 150°C
Time	0 - 23h 59m
Progressive Increase	0 - 9h 59m
Shaking Method	Orbital
Shaker Speed	320 - 720 rpm
Shaking Cycles On/Off	0 - 9.9 min
Sampling	
Syringe Temperature	40 - 150°C
Pre-fill Volume	Steps of 0.01 ml
Pull Up Strokes	Up to 15 Strokes
Equilibrium Delay	Up to 60 sec
Sampling Volume	Steps of 0.01 ml
Filling Speed	0.1 - 100 ml/min
Injection	
Sampling Repeats	Up to 15
Waiting Time between sample	0 - 99 min
Injection Speed	0.1 - 100ml/min
Waiting Time (before and after injection)	0 - 99 sec
Injection port	Up to 2
User interface	Keypad
Remote Control	Complete control by DDS CLARITY software
Data communication	RS232 port Start out and ready in signals
Power supply	115-220V 50-60 Hz
Dimensions (WxHxD)	420x620x400 mm
Weight	11.50 Kg

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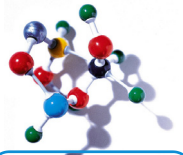

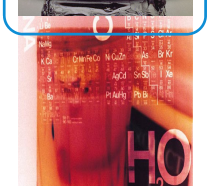
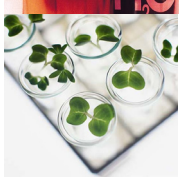

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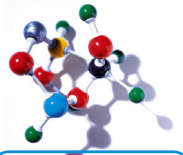
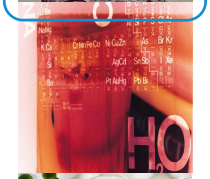
HT280T – Multimode Autosampler

Technical Specifications - Liquid Mode

System type	X-Y
Vial volume	2 mL, 10 mL
Sample capacity	110 (2 mL or 2.5 mL vials)
Solvent	4 (10 mL vials)
Waste	1 (20 mL vials)
Syringe	1, 10, 25, 50, 100 µL
Injection volume range	0.1µL - 100µL
Priority Vials	YES
Internal Standard Addition	YES
Parameter control	Pre and post injection solvent washing Sample/Internal Standard rinse Sample vial depth Injection depth Syringe strokes before injection Plunger sampling and injection speed Pre and post injection delay Viscosity delay Solvent plug volume Internal Standard Addition Sample volume Air plug volume
Needle washing	Up to 15 strokes
Washing mode	Every injection, Sample or step
Air bubble removing	Up to 15 strokes
Viscosity time	0 - 15 sec
Injection speed	1 - 100 µL/sec
Injection depth	variable
Injection port	Up to 2
User interface	Keypad
Remote Control	Complete control by DDS CLARITY software
Data communication	RS232 port Start out and ready in signals
Power supply	115-220V 50-60 Hz
Dimensions (WxHxD)	420x620x400 mm
Weight	11.50 Kg





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HT280T – Multimode Autosampler

Technical Specifications - SPME Mode

System type	X-Y
Extraction	Liquid and Headspace
Vial volume	20 mL or 10 mL
Tray capacity	40
Oven Temperature	40 - 150°C
Extraction depth	Variable
Shaking Method	Orbital
Shaker Speed	320 - 720 rpm
Injection port	Up to 2
User interface	Keypad
Remote Control	Complete control by DDS CLARITY software
Data communication	RS232 port Start out and ready in signals
Power supply	115-220V 50-60 Hz
Dimensions (WxHxD)	420x620x400 mm
Weight	11.50 Kg

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DANI Headquarters

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Summary

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Our Mission

Satisfy customers' expectations, by offering outstanding products and performances

Provide total solutions ranging from implementation of customized systems to technical support, customer care and technical trainings

Assure high quality of the products as a result of continuous investment in advanced technology

History

DANI Instruments was established in 1975 by a group of experts in the field of analytical instrumentation who have devoted their knowledge to the new gas chromatographic technique, cooperating with the most prestigious Italian scientific institutes.

DANI has always used innovative technology in planning systems and products specializing in sample handling techniques. The Static Head Space Sampler is considered the most outstanding product which covers two thirds of the total market.

Milestones

1975: First DANI Gas Chromatograph	GC 3200
1977: First DANI Liquid Autosampler	ALS 3641
First DANI Head Space Sampler	HSS 3640
First DANI Capillary GC	GC 3900
1981: Symposium of Hindelang - Presentation of Programmable Temperature Vaporizer PTV	
1985: Manufacturing Agreement with Hewlett Packard for Head Space Sampler HSS 39.50 (HP19395A)	
1987: First DANI Thermal Desorber	STD 33.50
1989: Gas Chromatograph	GC 8610
1990: First DANI Natural Gas Analyzer	PGC 90.25
1993: Head Space Sampler	HSS 86.50
1996: Digital Gas Chromatograph	GC1000
1998: Environmental Line:	THM, TNMH, BTX Analyzers
2000: Digital Gas Chromatograph	GC1000 2nd Series
Head Space Sampler	HSS 86.50 2nd Series
2002: Thermal Desorber	STD1000
2006: New *Master* Line	MASTER GC, MASTER AS, MASTER TD
2007: New GC Capillary Columns Line	DN Series

Facilities

Headquarters
viale Brianza, 87 20093 Cologno Monzese MI ITALY

Manufacturing Site – Pavia - ITALY

Software development and manufacturing site
Contone - Switzerland

Our Strengths

- Highly qualified and experienced staff
- Very reliable, versatile and easy to use instruments
- Excellent analytical qualities, combined with an up-to-date and compact electronic
- Total solutions ranging form costumer care, technical support and training programs
- Well established international sales and service network of accredited world wide distributors
- Flexibility as well as compliance with the higher standards and ISO9001 conformity

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DANI's new line of capillary GC columns provide the best performance you demand for your general purpose, special purpose GC/MS or FAST GC applications.

DANI GC Capillary Columns are manufactured from the highest quality polyamide coated synthetic fused silica. They are mounted on a rugged wear-resistant cage.

All Capillary Columns are individually tested and flame sealed. In each column you can find a Test Certificate performed with a Certified Grob Mixture and instructions for installation and Grob Test performance.

How to select a GC Capillary Column

Internal diameter - Selection is based on sample concentration and instrumentation.

Film thickness - Film thickness has a direct effect on retention times, the thicker the film, the higher the retention times.

Column Length - The column length affects both the resolution and the analysis time. A longer column provides better resolution, but a double column length will double the analysis time (isothermal conditions).

Stationary Phase - The stationary phase selection must take into account the affinity towards the components to be separated.

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To order **STANDARD** DANI GC Capillary column please specify only the

Part Number

Maximum Temperature | **Part Number** | **Length**

Stationary Phase → **DN-1** **30m**

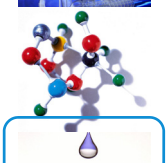
Internal Diameter →

Film thickness →

← **Chromatogram Number**

ID	Film	Max Temp	Code	Chroma
0.25mm	0.15µm	350°C	9414.116 039	
0.25mm	0.25µm	350°C	9414.116 040	
0.25mm	0.45µm	330°C	9414.116 041	
0.25mm	1.00µm	330°C	9414.116 042	
0.25mm	1.50µm	330°C	9414.116 043	
0.32mm	0.15µm	350°C	9414.116 044	004
0.32mm	0.25µm	350°C	9414.116 045	
0.32mm	0.45µm	330°C	9414.116 046	
0.32mm	1.00µm	330°C	9414.116 047	
0.32mm	1.50µm	330°C	9414.116 048	
0.32mm	3.00µm	320°C	9414.116 049	
0.32mm	5.00µm	320°C	9414.116 050	001
0.53mm	0.15µm	350°C	9414.116 051	
0.53mm	0.25µm	350°C	9414.116 052	
0.53mm	0.45µm	330°C	9414.116 053	
0.53mm	1.00µm	330°C	9414.116 054	
0.53mm	1.50µm	330°C	9414.116 055	
0.53mm	3.00µm	320°C	9414.116 056	
0.53mm	5.00µm	320°C	9414.116 057	

On request
DANI Instruments
can supply GC Capillary columns with
length, internal diameter and stationary phase
other than what listed in this Catalog



To order **CUSTOM** DANI GC Capillary column please specify

Stationary Phase + Internal Diameter + Length + Film Thickness

DANI GC Capillary Column Installation instructions

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01 Preliminary Check

The carrier gas must be pure and free from O2 traces or other contaminants, to prevent column degradation, base line fluctuations, increased bleeding and because, with some detectors, they cause ghost peaks. The carrier gas purity requirements can be found in the GC operating manuals. It is advisable to use filters on carrier and make-up gas lines: traps for moisture, oxygen and hydrocarbons with indicators, are available on the market and in this catalogue.
Don't install the column prior to injector periodic maintenance.
Check that the liner and the glass wool inside.
Check the septum.

02 Installation at the injector

When a column is new, there is no stationary phase in its ends and the ends are flame sealed. Cut 2-3cm of both ends by using a ceramic scoring wafer or a special cutter. Try to make a clean square cut. Don't install the column if the cut is not perfect, otherwise you risk getting bad peak shapes. Even if the column is not new, it could be necessary to cut a piece of it, especially from the injector side, where it is likely to be dirty or burned. Select the correct ferrule for your column diameter. Vespel® – graphite ferrules are highly recommended instead of graphite ones. The part numbers of nuts, washers and ferrules can be found in this catalogue. It is advisable to consult your GC operating manual for the correct column insertion distance in the injector. Refer to GC1000 and MASTER GC operating manuals and find a complete and illustrated description of the procedure and the parts mentioned. Even in case of other GC manufacturers, the information can be usually found in the operating manual.

03 Carrier gas flow check

Turn on the carrier gas, select flow control mode for carrier gas and set the correct flow for your column.
See the table below.

Column diameter	Carrier gas flow
0.05mm	0.3mL/min
0.10mm	0.5mL/min
0.25mm	1-2mL/min
0.32mm	2-4mL/min
0.53mm	5-10mL/min

To operate without carrier gas damages irreparably the column. Check the carrier gas is exiting the column by dipping its end into a vial with a solvent, acetone for instance, and observing a stream of bubbles. In case there is not a flow, check the column for possible damages and the connection at the injector for leak by using a leak check solution.

04 Column conditioning

DANI columns have been pre-conditioned, however, to get excellent performances and to remove any possible contaminants coming from the liner septum and column handling, we recommend conditioning again the column for 4-6 hours, with the detector end uninstalled. Set the injector 20°C above the operating temperature. Set a purge flow.
Set *Split* injection mode and a split ratio of 1:20.
For most columns the following temperature program is suggested:
Initial temperature : 40-60°C
Temperature rate : 2-4°C/min
Final temperature : 20°C above the operating temperature without exceeding the maximum allowed for the column.

When the operating temperature is the maximum allowed, a longer conditioning time may be necessary.

05 Installation at the detector

Don't install the column into the detector before the end of conditioning.
The installation procedure at the detector is the same as for the injector, only the insertion distance is different: consult the operating manual of your gas chromatograph. Respect the manufacturer's instructions: if the distance from the nozzle is too big, the make-up gas can't work properly and the peaks shape can be compromised; even in case the column exits the nozzle, the make-up gas can't improve peaks shape, the column burns when there is a flame and the baseline becomes noisy.

06 Leak Test

Check the system for leaks. This is **very important** because in case of leaks in the sample path, an unknown and non-repeatable fraction of the sample doesn't reach the detector, the peak areas also become non-repeatable and the calibration files useless.
Some gas chromatographs have an automatic leak test function. You can consult your GC operating manual and follow the instructions to perform the leak test.

07 Column performance: Grob Test

Switch on the FID and perform the Grob test following the instructions on CAPILLARY COLUMN TEST CHROMATOGRAM inserted in the column package.

08 Column Storage

When the column is not in use, it is advisable to plug the ends with rubber septa or close them by a butane-oxygen flame, possibly with the column filled with inert gas.

09 Columns cleaning

In case of loss of efficiency, peak tailing etc. probably due to contamination, the column can be washed. **Try first** to recover column performances by conditioning again the column **according to the above temperature program**; only in case it is not enough, try to wash with a solvent.
Using nitrogen or another inert gas, fill completely the column from the end which was connected to the detector, and then drain it. Usually a series of solvents with different polarity is used, for instance in order: hexane, methylene chloride, methanol, methylene chloride, hexane.
Dry with nitrogen and condition again as described above.
Only bonded and cross-linked columns are solvent resistant.
Don't wash columns that are not bonded and cross-linked with a solvent.

10 Retention Gap

When analysing dirty samples, the use of a pre-column (retention gap) is advisable: it retains non-volatile compounds and protect the analytical column from contamination.
The pre-column is connected to the column by means of a press – fit union.
In case of efficiency loss or peak tailing, replace the pre-column.

Standard Phase Cross Reference

Composition	DANI	Similar Phases	Page
100% Dimethylpolysiloxane	**DN-1**	DB™-1, Rtx™-1, SPB™-1, SPB™-Sulfur, SP™-2100, HP™-1, HP™-101, ULTRA™-1, BP™-1, CP-Sil™ 5 CB, 007™-1, OV™-1, SE™-30, DC™-200, RSL™-150, RSL™-160, PE-1, ZB-1, AT™-1, EC™-1	
100% Dimethylpolysiloxane	**DN-1 MS**	DB™-1ms, HP™-1ms, Rtx™-1ms, CP-Sil™ 5 CB low bleed/ms, AT™-1ms	
100% Dimethylpolysiloxane	**DN-1 FAST**	DB™-1, Rtx™-1, SPB™-1, SPB™-Sulfur, SP™-2100, HP™-1, HP™-101, ULTRA™-1, BP™-1, CP-Sil™ 5 CB, 007™-1, OV™-1, SE™-30, DC™-200, RSL™-150, RSL™-160, PE-1, ZB-1, AT™-1	
(5% Phenyl) - 95% methylpolysiloxane	**DN-5**	007-2, CP-Sil 8CB, DB™-5, DB™-5.625, HP™-5, SAC-5, OV™-5, PTE-5, PTE-5QTM, PAS-5, RSL-200, Rtx™-5, SE-54, SPB-5, ULTRA-2, XTI-5, SE-52, BP-5, PE-2, ZB-5, AT™-5, EC™-5	
(5% Silphenyl) - 95% methylpolysiloxane	**DN-5 MS**	DB™-5ms, Rtx™-5 sil ms, HP™-5ms, BPX-5, 007-5ms, AT™-5ms	
(5% Phenyl) - 95% methylpolysiloxane	**DN-5 FAST**	007-2, CP-Sil 8CB, DB™-5, DB™-5.625, HP™-5, SAC-5, OV™-5, PTE-5, PTE-5QTM, PAS-5, RSL-200, Rtx™-5, SE-54, SPB-5, ULTRA-2, XTI-5, SE-52, BP-5, PE-2, ZB-5, AT™-5	
(20% Phenyl) - 80% methylpolysiloxane	**DN-20**	Rtx™-20, SPB™-20, 007™-7, VOCOL, PE-7, AT™-20, EC™-20	
(50% Phenyl) - 50% methylpolysiloxane	**DN-17**	HP™-50+, Rtx™-50, SP-2250, SPB-50, SPB-17, BPX-50, Rtx-65TG, BPX-50, CP-TAB-CB, 007-17, DB-17, HP™-17, SP-50, CP Sil 24CB, PE-17, ZB-50, AT™-50	
(50% Phenyl) - 50% methylpolysiloxane	**DN-17 FAST**	HP™-50+, Rtx™-50, SP-2250, SPB-50, SPB-17, BPX-50, Rtx-65TG, BPX-50, CP-TAB-CB, 007-17, DB-17, HP™-17, SP-50, CP Sil 24CB, PE-17, ZB-50, AT™-50	
(3.5% Cyanopropyl, 3.5% Phenyl) - 93% methylpolysiloxane	**DN-624**	007-1301, DB™-624, DB™-1301, HP™-1301, HP™-624, Rtx™-1301, Rtx™-624, SPB-1301, SPB-624, 007-624, ZB-624, AT™-624, AT™-1301	
(7% Cyanopropyl 7% Phenyl) - 86% methylpolysiloxane	**DN-1701**	007-1701, CP-Sil 19CB, DB-1701, HP™-1701, OV™-1701, PAS-1701, Rtx™-1701, SPB-1701, BP-10, ZB-1701, AT™-1701	
(7% Cyanopropyl 7% Phenyl) - 86% methylpolysiloxane	**DN-1701 FAST**	007-1701, CP-Sil 19CB, DB-1701, HP™-1701, OV™-1701, PAS-1701, Rtx™-1701, SPB-1701, BP-10, ZB-1701, AT™-1701	
Trifluoropropyl-methylpolysiloxane	**DN-200**	DB™-210, RSL-400, Rtx™-200, OV™-202, OV™-210, OV™-215, QF-1, SP-2401, AT™-210	
Trifluoropropyl-methylpolysiloxane	**DN-200 FAST**	DB™-210, RSL-400, Rtx™-200, OV™-202, OV™-210, OV™-215, QF-1, SP-2401, AT™-210	
(50% Cyanopropylphenyl) - 50% methylpolysiloxane	**DN-225**	007-225, CP-Sil43CB, DB™-225, HP™-225, OV™-225, RSL-500,Rtx™-225, BP-225, PE-225, AT™-225	
(50% Cyanopropylphenyl) - 50% methylpolysiloxane	**DN-225 FAST**	007-225, CP-Sil43CB, DB™-225, HP™-225, OV™-225, RSL-500,Rtx™-225, BP-225, PE-225, AT™-225	

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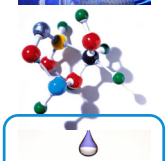

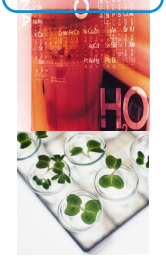

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Standard Phase Cross Reference

Composition	DANI	Similar Phases	Page
(50% Cyanopropyl) - 50% methylpolysiloxane	**DN-50**	DB™-23, 007-23, PE-23, Rtx™-2330, SP 2330, AT™-SILAR	
(50% Cyanopropyl) - 50% methylpolysiloxane	**DN-50 FAST**	DB™-23, 007-23, PE-23, Rtx™-2330, SP 2330, AT™-SILAR	
Polyethyleneglycol	**DN-WAX**	007-CW, Carbowax® 20M, CP-Wax 52CB, DB™-WAX, Rtx™-WAX, HP-20M, HP™-Wax, Innowax™, Omegawax, Stabilwax®, SUPELCOWAX®-10, SUPEROX®II, BP-20, ZB-WAX, AT™-WAX, EC™-WAX	
Polyethyleneglycol	**DN-WAX MS**	007-CW, Carbowax® 20M, CP-Wax 52CB, DB™-WAX, Rtx™-WAX, HP-20M, HP™-Wax, Innowax™, Omegawax, Stabilwax®, SUPELCOWAX®-10, SUPEROX®II, BP-20, ZB-WAX, AT™-WAXms	
Polyethyleneglycol	**DN-WAX FAST**	007-CW, Carbowax® 20M, CP-Wax 52CB, DB™-WAX, Rtx™-WAX, HP-20M, HP™-Wax, Innowax™, Omegawax, Stabilwax®, SUPELCOWAX®-10, SUPEROX®II, BP-20, ZB-WAX, AT™-WAX	
Acid-Modified Polyethylene Glycol	**DN-FFAP**	DB™-FFAP, Stabilwax™-DA, SP™-1000, HP™-FFAP, BP™-21, CP-Wax™ 58 CB, 007™-FFAP, OV™-351, SUPEROX® FA, Nukol™, AT™-1000, EC™-1000	
Acid-Modified Polyethylene Glycol	**DN-FFAP FAST**	DB™-FFAP, Stabilwax™-DA, SP™-1000, HP™-FFAP, BP™-21, CP-Wax™ 58 CB, 007™-FFAP, OV™-351, SUPEROX® FA, Nukol™, AT™-1000	
Poly(biscyanopropyl siloxane)	**DN-10**	CP-Sil™ 88, OV™-275, Rtx™-2330, SP™-2340	
Poly(biscyanopropyl siloxane)	**DN-10 FAST**	CP-Sil™ 88, OV™-275, Rtx™-2330, SP™-2340	
(13% Phenyl) - 87% methylpolysiloxane	**DN-13**	CP-Sil™ 13 CB	
(13% Phenyl) - 87% methylpolysiloxane	**DN-13 FAST**	CP-Sil™ 13 CB	
	DN-PLUS	NO EQUIVALENT	
	DN-PLUS FAST	NO EQUIVALENT	
	DN-264	NO EQUIVALENT	
	DN-264 FAST	NO EQUIVALENT	
	DN-SAFE	ALL PHASES	
	DN-BioDiesel	NO EQUIVALENT	
	DN-PAH	NO EQUIVALENT	
	DN-PAH FAST	NO EQUIVALENT	
	DN-SOLVE	NO EQUIVALENT	
	DN-68	NO EQUIVALENT	
	DN-BASIC	NO EQUIVALENT	
	DN-LAP	NO EQUIVALENT	
Dimethyl Tert Butyl Silyl ß Cyclodextrine	**DN-Beta 1**		
Diacethyl Tert Butyl Silyl ß Cyclodextrine	**DN-Beta 2**		
Dimethyl Pentyl ß Cyclodextrine	**DN-Beta 3**		
Diethyl Tert Butyl Silyl ß Cyclodextrine	**DN-Beta 4**		
Diacethyl Tert Butyl Silyl Y Cyclodextrine	**DN-Gamma 1**		
Diethyl Tert Butyl Silyl Y Cyclodextrine	**DN-Gamma 2**		

Phase Polarity Reference

Polarity	DANI	Ideal for
Non-polar	**DN-1**	Alcohols, aromatic hydrocarbons, esters, flavours and aromas, free fatty acids, glycols, halogenated hydrocarbons, hydrocarbons, ketones, organic acids,
Non-polar	**DN-1 MS**	GC/MS applications
Non-polar	**DN-1 FAST**	Fast GC applications
Non-polar	**DN-5**	Alcohols, amines, hydrocarbons, bile acids, drugs, EPA methods, FAME, flavours and aromas, glycerides, halogenated compounds, PAHs, PCBs, pesticides, steroids, sterols, sugars, sulphur compounds.
Non-polar	**DN-5 MS**	GC/MS applications
Non-polar	**DN-5 FAST**	Fast GC applications
Intermediate Polarity	**DN-20**	Volatile compounds and Solvents
Intermediate Polarity	**DN-17**	Pesticides, Herbicides, Phthalate Esters, Free, Phenols, and Basic Drugs
Intermediate Polarity	**DN-17 FAST**	Fast GC applications
Intermediate Polarity	**DN-624**	Volatile Organics, Pharmaceuticals and EPA Method 612, 524, 601, 602, 624, 8240 and 8260
Intermediate Polarity	**DN-1701**	Pesticides, PCB's, Drugs, Herbicides and TMS Sugars
Intermediate Polarity	**DN-1701 FAST**	Fast GC applications
Polar	**DN-200**	Ketones, Aldehydes, Silanes, Glycols, Nitro Aromatics, Herbicides, and Method 8140 and 609
Polar	**DN-200 FAST**	Fast GC applications
Mid to High Polarity	**DN-225**	Carbohydrates, Solvents, FAME, halogenated compounds, phenols and pyridines
Mid to High Polarity	**DN-225 FAST**	Fast GC applications
High Polarity	**DN-50**	cis/trans Fatty Acids Methyl Esters
High Polarity	**DN-50 FAST**	Fast GC applications
Polar	**DN-WAX**	FAMEs, Polar Solvents, Flavour and Fragrances, Glycols, Alcohols, Aldehydes, anaesthetics, antidepressants, aromatic hydrocarbons, esters, halogenated
Polar	**DN-WAX MS**	GC/MS applications
Polar	**DN-WAX FAST**	Fast GC applications
High Polarity	**DN-FFAP**	FAME, flavours and aromas, free fatty acids, organic acids and phenols
High Polarity	**DN-FFAP FAST**	Fast GC applications
High Polarity	**DN-10**	Dioxins, FAME, PCBs, PCDFs, pyridines and sugars
High Polarity	**DN-10 FAST**	Fast GC applications
Intermediate Polarity	**DN-13**	Amines, aromatic hydrocarbons, fungicides, halogenated compounds, herbicides, pesticides, PCBs, phenols, phthalate esters, steroids, sugars and tranquilizers
Intermediate Polarity	**DN-13 FAST**	Fast GC applications
High Polarity	**DN-PLUS**	Alcohols, aromatic hydrocarbons, solvents, phenols, aldehydes
High Polarity	**DN-PLUS FAST**	Fast GC applications
Low Polarity	**DN-264**	Amines, anaesthetics
Low Polarity	**DN-264 FAST**	Fast GC applications
Dedicated	**DN-BioDiesel**	BioDiesel according to UNI EN ISO 14105 - ASTM 6584 BioDiesel according to UNI EN ISO 14103:2003
Dedicated	**DN-PAH**	Polyaromatic Hydrocarbons (PAHs)
Dedicated	**DN-PAH FAST**	Fast GC Polyaromatic Hydrocarbons (PAHs)
Dedicated	**DN-SOLVE**	Solvents
Dedicated	**DN-68**	Phosphorous Pesticides
Dedicated	**DN-BASIC**	Basic Compounds, Ammines
Dedicated	**DN-LAP**	Saturated and unsaturated Triglycerides
Chiral	**DN-Beta 1**	Linalool, camphor, methol
Chiral	**DN-Beta 2**	Delta-lactones
Chiral	**DN-Beta 3**	Isoborneol, isobornyl acetate
Chiral	**DN-Beta 4**	Gamma-lactones, nerolidol, linalyl acetate
Chiral	**DN-Gamma 1**	High boiling compound isomers, Pesticide isomers
Chiral	**DN-Gamma 2**	High boiling compound isomers, Pesticide isomers

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Column Equivalency

DANI	AGILENT	ALLTECH	VARIAN	RESTEK	SUPELCO	SGE	QUADREX	PHENOMENEX
DN-1	DB™-1 HP™-1 HP™-101 ULTRA™-1	AT™-1 EC™-1	CP-Sil™ 5 CB	Rtx™-1	SPB™-1 SPB™-Sulfur SP™-2100	BP™-1	007™-1	ZB-1
DN-1 MS	DB™-1ms HP™-1ms	AT™-1ms	CP-Sil™ 5 CB low bleed/ms	Rtx™-1ms				
DN-1 FAST	DB™-1 HP™-1 HP™-101 ULTRA™-1	AT™-1	CP-Sil™ 5 CB	Rtx™-1	SPB™-1 SPB™-Sulfur SP™-2100	BP™-1	007™-1	ZB-1
DN-5	DB™-5 DB™-5.625 HP™-5 ULTRA™-2	AT™-5 EC™-5	CP-Sil 8CB	Rtx™-5	SPB-5	BP-5	007-2	ZB-5
DN-5 MS	DB™-5ms HP™-5ms	AT™-5ms		Rtx™-5 sil ms		BPX-5	007-5ms	
DN-5 FAST	DB™-5 DB™-5.625 HP™-5 ULTRA™-2	AT™-5	CP-Sil 8CB	Rtx™-5	SPB-5	BP-5	007-2	ZB-5
DN-20		AT™-20 EC™-20		Rtx™-20	SPB™-20 VOCOL		007™-7	
DN-17	HP-50+ DB-17 HP™-17	AT™-50	CP-TAB-CB CP Sil 24CB	Rtx-50 Rtx-65TG	SP-2250 SPB-50 SPB-17	BPX-50	007-17	ZB-50
DN-17 FAST	HP-50+ DB-17 HP™-17	AT™-50	CP-TAB-CB CP Sil 24CB	Rtx-50 Rtx-65TG	SP-2250 SPB-50 SPB-17	BPX-50	007-17	ZB-50
DN-624	DB™-624 DB™-1301 HP™-1301 HP™-624	AT™-624 AT™-1301		Rtx™-1301 Rtx™-624	SPB-1301 SPB-624		007-1301 007-624	ZB-624
DN-1701	DB-1701 HP™-1701	AT™-1701	CP-Sil 19CB	Rtx™-1701	SPB-1701	BP-10	007-1701	ZB-1701
DN-1701 FAST	DB-1701 HP™-1701	AT™-1701	CP-Sil 19CB	Rtx™-1701	SPB-1701	BP-10	007-1701	ZB-1701
DN-200	DB™-210	AT™-210		Rtx™-200	SP-2401			
DN-200 FAST	DB™-210	AT™-210		Rtx™-200	SP-2401			
DN-225	DB™-225 HP™-225	AT™-225	CP-Sil43CB	Rtx™-225		BP-225	007-225	
DN-225 FAST	DB™-225 HP™-225	AT™-225	CP-Sil43CB	Rtx™-225		BP-225	007-225	
DN-50	DB™-23	AT™-SILAR		Rtx™-2330	SP 2330		007-23	
DN-50 FAST	DB™-23	AT™-SILAR		Rtx™-2330	SP 2330		007-23	
DN-WAX	DB™-WAX HP-20M HP™-Wax Innowax™	AT™-WAX EC™-WAX	CP-Wax 52CB	Rtx™-WAX Stabilwax®	OmegaWax™ SupelcoWax®-10	BP-20	007-CW	ZB-WAX
DN-WAX MS	DB™-WAX HP-20M HP™-Wax Innowax™	AT™-WAXms	CP-Wax 52CB	Rtx™-WAX Stabilwax®	OmegaWax™ SupelcoWax®-10	BP-20	007-CW	ZB-WAX
DN-WAX FAST	DB™-WAX HP-20M HP™-Wax Innowax™	AT™-WAX	CP-Wax 52CB	Rtx™-WAX Stabilwax®	OmegaWax™ SupelcoWax®-10	BP-20	007-CW	ZB-WAX
DN-FFAP	DB™-FFAP HP™-FFAP	AT™-1000 EC™-1000	CP-Wax™ 58 CB	Stabilwax™-DA	SP™-1000	BP™-21	007™-FFAP	
DN-FFAP FAST	DB™-FFAP HP™-FFAP	AT™-1000	CP-Wax™ 58 CB	Stabilwax™-DA	SP™-1000	BP™-21	007™-FFAP	
DN-10			CP-Sil™ 88	Rtx™-2330	SP™-2340			
DN-10 FAST			CP-Sil™ 88	Rtx™-2330	SP™-2340			
DN-13			CP-Sil™ 13 CB					
DN-13 FAST			CP-Sil™ 13 CB					
DN-SAFE	Dura Guard™		EZ-Guard™	Integra™				

DANI GC Capillary Columns Chromatograms

Chroma	Applications	DANI Column
001	**Hydrocarbons in Natural Gas**	DN-1 30m 0.32mm 5.00µm
002	**Phthalates - EPA Method 606**	DN-1 15m 0.53mm 1.50µm
003	**Pesticides**	DN-1 25m 0.25mm 0.25µm
004	**Butter Triglycerides C24-C56**	DN-1 30m 0.32mm 0.15µm
005	**Ketones**	DN-1 10m 0.53mm 1.00µm
006	**Cyclic Hydrocarbons**	DN-1 10m 0.53mm 1.00µm
007	**Drugs 1**	DN-1 15m 0.25mm 0.25µm
008	**Drugs 2**	DN-1 15m 0.25mm 0.25µm
009	**Phenols**	DN-1 10m 0.53mm 1.00µm
010	**Anaesthetics**	DN-5 25m 0.25mm 0.25µm
011	**Arochlor 1254/1260**	DN-5 25m 0.32mm 0.25µm
012	**Halogenated Hydrocarbons - EPA Method 612**	DN-5 15m 0.53mm 1.50µm
013	**Organochlorinated Pesticides EPA Method 608/8081**	DN-5 25m 0.32mm 0.25µm
014	**Pharmaceuticals**	DN-5 25m 0.25mm 0.25µm
015	**Sterols in Olive Oil**	DN-5 25m 0.25mm 0.25µm
016	**Phenols EPA Method 604**	DN-5 25m 0.32mm 1.00µm
017	**Nitrosamines EPA Method 607**	DN-5 15m 0.53mm 1.50µm
018	**PAH's EPA Method 610/8100**	DN-5 25m 0.32mm 0.25µm
019	**Haloethers EPA Method 611/8110**	DN-5 15m 0.53mm 1.50µm
020	**Hydrocarbon Oil Index ISO 9377-2**	DN-5 30m 0.32mm 0.25µm
021	**Alkyl Naphtalens**	DN-5 10m 0.53mm 1.00µm
022	**Allergens**	DN-5 FAST 5m 0.10mm 0.10µm
023	**Bergamot**	DN-5 FAST 5m 0.10mm 0.10µm
024	**Pesticides**	DN-5 FAST 5m 0.10mm 0.10µm
025	**Pesticides**	DN-1701 25m 0.25mm 0.25µm
026	**Allergens**	DN-1701 FAST 5m 0.10mm 0.10µm
027	**Bergamot**	DN-1701 FAST 5m 0.10mm 0.10µm
028	**Pesticides**	DN-1701 FAST 5m 0.10mm 0.10µm
029	**Fatty Acid Methyl Esters (FAME) C4-C18:3**	DN-WAX 25m 0.32mm 0.25µm
030	**Aromatics - EPA Method 602**	DN-WAX 25m 0.53mm 1.00µm
031	**Fatty Acid Methyl Esters (FAME)**	DN-WAX 25m 0.32mm 0.25µm
032	**N-Nitrosamines**	DN-WAX 25m 0.32mm 1.00µm
033	**Triazine - EPA Method 619**	DN-WAX 25m 0.32mm 0.25µm
034	**Dimethylaniline**	DN-WAX 30m 0.32mm 0.25µm
035	**Residual Solvents in radiopharmaceuticals**	DN-WAX 25m 0.25mm 0.25µm
063	**Menthol in cigarettes**	DN-WAX 30m 0.53mm 1.00µm
036	**Allergens**	DN-WAX FAST 5m 0.10mm 0.10µm
037	**Bergamot**	DN-WAX FAST 5m 0.10mm 0.10µm
063	**Fatty Acid Methyl Esters (FAME)**	DN-WAX FAST 15m 0.10mm 0.10µm
064	**Glycol Ethers**	DN-WAX FAST 15m 0.10mm 0.10µm
065	**Phenols**	DN-WAX FAST 15m 0.10mm 0.10µm
038	**Free Acids**	DN-FFAP 25m 0.32mm 0.25µm
039	**Organic Acids**	DN-FFAP 15m 0.53mm 1.00µm
040	**Chemicals**	DN-FFAP 15m 0.53mm 1.00µm
041	**Amides**	DN-FFAP 15m 0.53mm 1.00µm
042	**Flavours Test Mixture**	DN-FFAP 25m 0.25mm 0.25µm
043	**FAME cis trans in Olive Oil**	DN-10 50m 0.32mm 0.25µm
044	**Amines**	DN-264 30m 0.32mm 5.00µm
045	**Anaesthetics**	DN-264 30m 0.32mm 5.00µm
046	**Solvents**	DN-SOLVE 50m 0.32mm 0.25µm
047	**Phosphorous Pesticides**	DN-68 25m 0.32mm 0.25µm
062	**Phosphorous Pesticides in essential oil of tangerine**	DN-68 25m 0.32mm 0.25µm
048	**Amines**	DN-BASIC 25m 0.32mm 0.25µm
049	**Sterols TMS - Peanut Oil**	DN-LAP 25m 0.32mm 0.10µm
050	**Sterols TMS - Sunflower Oil**	DN-LAP 25m 0.32mm 0.10µm
051	**Sterols TMS - Mais Oil**	DN-LAP 25m 0.32mm 0.10µm
052	**Triglycerides - Hazelnut Oil**	DN-LAP 25m 0.32mm 0.10µm
053	**Triglycerides - Olive Oil**	DN-LAP 25m 0.32mm 0.10µm
054	**Sterols TMS - Soya Oil**	DN-LAP 25m 0.32mm 0.10µm
055	**Delta Lactones - C8-C12**	DN-Beta 2 25m 0.25mm 0.25µm
056	**Pharmaceutical Enantiomers**	DN-Beta 3 25m 0.25mm 0.25µm
057	**Linalool**	DN-Beta 4 25m 0.25mm 0.25µm
058	**Gamma Lactones - C6-C12**	DN-Beta 4 25m 0.25mm 0.25µm
059	**BIODIESEL according to UNI EN ISO 14105 - ASTM 6584**	DN-BioDiesel 15m 0.32mm 0.10µm
060	**BIODIESEL according to UNI EN ISO 14103:2003**	DN-BioDiesel 30m 0.32mm 0.25µm
061	**BIODIESEL according to UNI EN ISO 14110:2003**	DN-BioDiesel 30m 0.32mm 1.00µm
066	**FAST GC: Polyaromatic Hydrocarbons (PAHs)**	DN-PAH FAST 15m 0.10mm 0.10µm
067	**Polyaromatic Hydrocarbons (PAHs)**	DN-PAH 15m 0.25mm 0.25µm

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DN-1

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DN-1 15m

ID	Film	Max Temp	Code	Chroma
0.25mm	0.15µm	350°C	9414.116 001	
0.25mm	0.25µm	350°C	9414.116 002	007/008
0.25mm	0.45µm	330°C	9414.116 003	
0.25mm	1.00µm	330°C	9414.116 004	
0.25mm	1.50µm	330°C	9414.116 005	
0.32mm	0.15µm	350°C	9414.116 006	
0.32mm	0.25µm	350°C	9414.116 007	
0.32mm	0.45µm	330°C	9414.116 008	
0.32mm	1.00µm	330°C	9414.116 009	
0.32mm	1.50µm	330°C	9414.116 010	
0.32mm	3.00µm	320°C	9414.116 011	
0.32mm	5.00µm	320°C	9414.116 012	
0.53mm	0.15µm	350°C	9414.116 013	
0.53mm	0.25µm	350°C	9414.116 014	
0.53mm	0.45µm	330°C	9414.116 015	
0.53mm	1.00µm	330°C	9414.116 016	
0.53mm	1.50µm	330°C	9414.116 017	002
0.53mm	3.00µm	320°C	9414.116 018	
0.53mm	5.00µm	320°C	9414.116 019	

DN-1 25m

ID	Film	Max Temp	Code	Chroma
0.25mm	0.15µm	350°C	9414.116 020	
0.25mm	0.25µm	350°C	9414.116 021	003
0.25mm	0.45µm	330°C	9414.116 022	
0.25mm	1.00µm	330°C	9414.116 023	
0.25mm	1.50µm	330°C	9414.116 024	
0.32mm	0.15µm	350°C	9414.116 025	
0.32mm	0.25µm	350°C	9414.116 026	
0.32mm	0.45µm	330°C	9414.116 027	
0.32mm	1.00µm	330°C	9414.116 028	
0.32mm	1.50µm	330°C	9414.116 029	
0.32mm	3.00µm	320°C	9414.116 030	
0.32mm	5.00µm	320°C	9414.116 031	
0.53mm	0.15µm	350°C	9414.116 032	
0.53mm	0.25µm	350°C	9414.116 033	
0.53mm	0.45µm	330°C	9414.116 034	
0.53mm	1.00µm	330°C	9414.116 035	
0.53mm	1.50µm	330°C	9414.116 036	
0.53mm	3.00µm	320°C	9414.116 037	
0.53mm	5.00µm	320°C	9414.116 038	

DN-1 30m

ID	Film	Max Temp	Code	Chroma
0.25mm	0.15µm	350°C	9414.116 039	
0.25mm	0.25µm	350°C	9414.116 040	
0.25mm	0.45µm	330°C	9414.116 041	
0.25mm	1.00µm	330°C	9414.116 042	
0.25mm	1.50µm	330°C	9414.116 043	
0.32mm	0.15µm	350°C	9414.116 044	004
0.32mm	0.25µm	350°C	9414.116 045	
0.32mm	0.45µm	330°C	9414.116 046	
0.32mm	1.00µm	330°C	9414.116 047	
0.32mm	1.50µm	330°C	9414.116 048	
0.32mm	3.00µm	320°C	9414.116 049	
0.32mm	5.00µm	320°C	9414.116 050	001
0.53mm	0.15µm	350°C	9414.116 051	
0.53mm	0.25µm	350°C	9414.116 052	
0.53mm	0.45µm	330°C	9414.116 053	
0.53mm	1.00µm	330°C	9414.116 054	
0.53mm	1.50µm	330°C	9414.116 055	
0.53mm	3.00µm	320°C	9414.116 056	
0.53mm	5.00µm	320°C	9414.116 057	

DN-1 50m

ID	Film	Max Temp	Code	Chroma
0.25mm	0.15µm	350°C	9414.116 058	
0.25mm	0.25µm	350°C	9414.116 059	
0.25mm	0.45µm	330°C	9414.116 060	
0.25mm	1.00µm	330°C	9414.116 061	
0.25mm	1.50µm	330°C	9414.116 062	
0.32mm	0.15µm	350°C	9414.116 063	
0.32mm	0.25µm	350°C	9414.116 064	
0.32mm	0.45µm	330°C	9414.116 065	
0.32mm	1.00µm	330°C	9414.116 066	
0.32mm	1.50µm	330°C	9414.116 067	
0.32mm	3.00µm	320°C	9414.116 068	
0.32mm	5.00µm	320°C	9414.116 069	
0.53mm	0.15µm	350°C	9414.116 070	
0.53mm	0.25µm	350°C	9414.116 071	
0.53mm	0.45µm	330°C	9414.116 072	
0.53mm	1.00µm	330°C	9414.116 073	
0.53mm	1.50µm	330°C	9414.116 074	
0.53mm	3.00µm	320°C	9414.116 075	
0.53mm	5.00µm	320°C	9414.116 076	

DN-1 60m

ID	Film	Max Temp	Code	Chroma
0.25mm	0.15µm	350°C	9414.116 077	
0.25mm	0.25µm	350°C	9414.116 078	
0.25mm	0.45µm	330°C	9414.116 079	
0.25mm	1.00µm	330°C	9414.116 080	
0.25mm	1.50µm	330°C	9414.116 081	
0.32mm	0.15µm	350°C	9414.116 082	
0.32mm	0.25µm	350°C	9414.116 083	
0.32mm	0.45µm	330°C	9414.116 084	
0.32mm	1.00µm	330°C	9414.116 085	
0.32mm	1.50µm	330°C	9414.116 086	
0.32mm	3.00µm	320°C	9414.116 087	
0.32mm	5.00µm	320°C	9414.116 088	
0.53mm	0.15µm	350°C	9414.116 089	
0.53mm	0.25µm	350°C	9414.116 090	
0.53mm	0.45µm	330°C	9414.116 091	
0.53mm	1.00µm	330°C	9414.116 092	
0.53mm	1.50µm	330°C	9414.116 093	
0.53mm	3.00µm	320°C	9414.116 094	
0.53mm	5.00µm	320°C	9414.116 095	

DN-1 Technical Specifications

Every Column Individually Tested
Test Certified and Grob Mixture included in each Column
Instruction Manual included in each Column

DANI DN-1 Capillary Column
100% Dimethylpolysiloxane
Non-polar
Bonded and cross-linked
Inertness
Low bleeding
Good thermal stability

Similar to DB™-1, Rtx™-1, SPB™-1, SPB™-Sulfur, SP™-2100, HP™-1, HP™-101, ULTRA™-1, BP™-1, CP-Sil™ 5 CB, 007™-1, OV™-1, SE™-30, DC™-200, RSL™-150, RSL™-160, PE-1, ZB-1, AT™-1, EC™-1

Equivalent to USP G1, G2, G38

DN-1

Chromatograms

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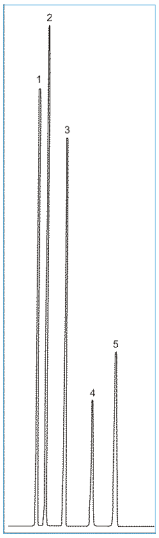


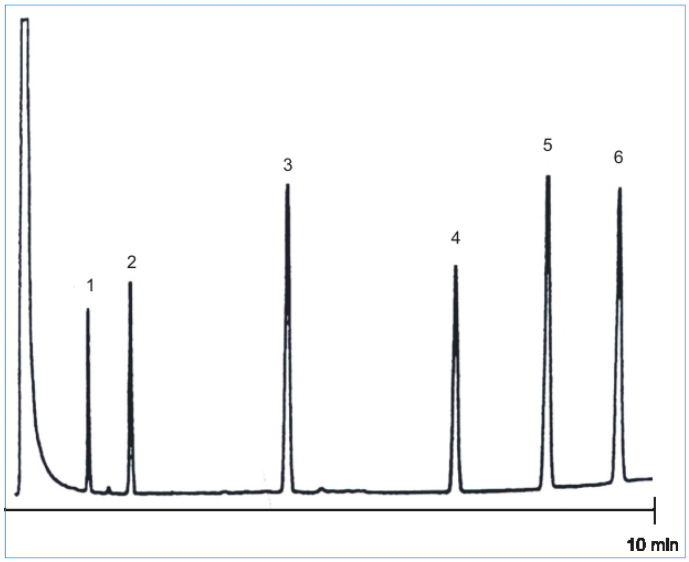
Hydrocarbons in Natural Gas

DN-1 30m 0.32mm 5.00µm

Chromatographic Conditions	
Oven	Isothermal 50°C
Injection	Splitless - 250°C
Carrier Gas	Hydrogen - 45 kPa
Injection volume	1 µL
Detector	FID - 250°C

Peak Identification	
1	Methane
2	Ethane
3	Propane
4	Iso-butane
5	Butane

001



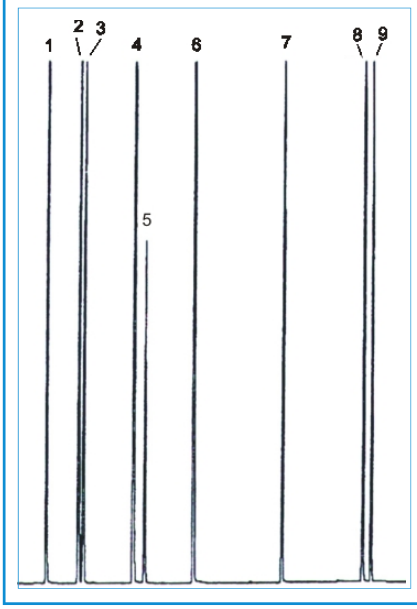
Phthalates - EPA Method 606

DN-1 15m 0.53mm 1.50µm

Chromatographic Conditions	
Oven	150°C - 15°C/min - 270°C
Injection	Splitless - 250°C
Carrier Gas	Helium - 20 ml/min
Injection volume	1 µL
Detector	FID - 300°C

Peak Identification	
1	Dimethyl-phthalate
2	Diethyl-phthalate
3	Di-n-butyl phthalate
4	Butyl benzyl phthalate
5	Bis (2-ethylhexyl) phthalate
6	Di-n-octiyl phthalate

002



Pesticides

DN-1 25m 0.25mm 0.25µm

Chromatographic Conditions	
Oven	165°C - 10min - 5°C/min - 250°C
Injection	Split - 250°C - 1:20
Carrier Gas	Hydrogen - 60 kPa
Injection volume	1 µL
Detector	FPD - 160°C

Peak Identification	
1	Diazinone
2	Parathion-methyl
3	Chlorpyrifos-methyl
4	Malathion
5	Chlorpyrifos
6	Methidathion
7	Ethion
8	Azinphos-methyl
9	Phosalone

003

DN-1

Chromatograms

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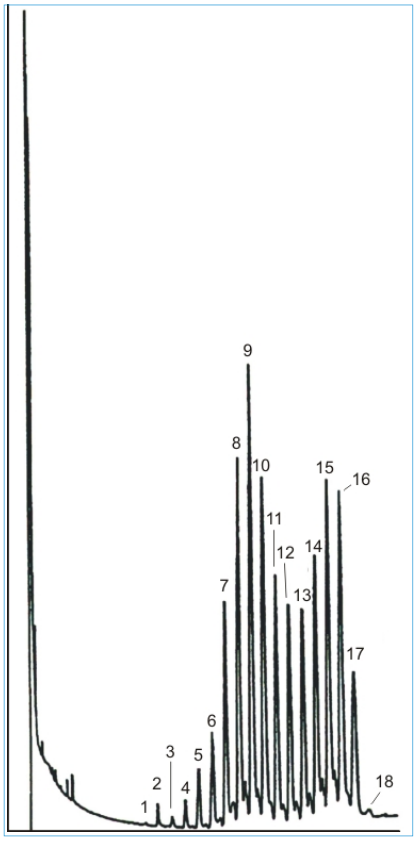


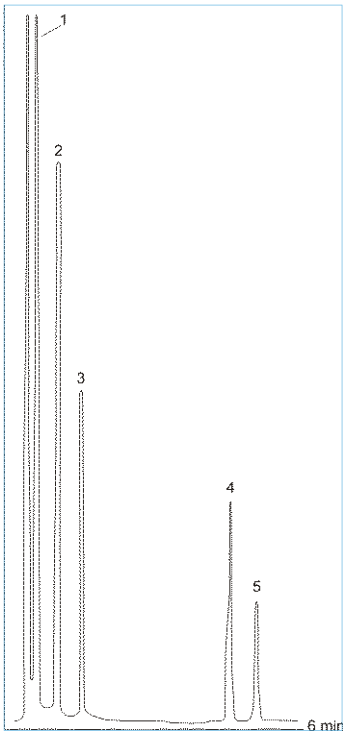
Butter Triglycerides C24-C56

DN-1 30m 0.32mm 0.15µm

Chromatographic Conditions	
Oven	60°C - 15°C/min - 340°C
Injection	On column
Carrier Gas	Hydrogen - 30 kPa
Injection volume	1 µL
Detector	FID - 350°C

Peak Identification	
1	C24
2	Cholesterol
3	C26
4	C28
5	C30
6	C32
7	C34
8	C36
9	C38
10	C40
11	C42
12	C44
13	C46
14	C48
15	C50
16	C52
17	C54
18	C56

004



Ketones

DN-1 10m 0.53mm 1.00µm

Chromatographic Conditions	
Oven	Isothermal - 40°C
Injection	Split
Carrier Gas	Helium - 9.1 ml/min
Injection volume	1 µL
Detector	FID

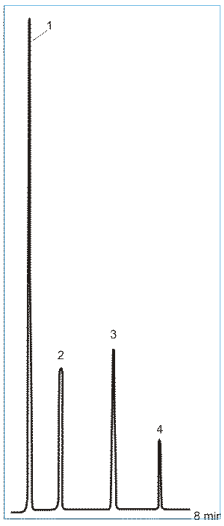
Peak Identification	
1	Acetone
2	Methyl Ethyl Ketone
3	2-Pentanone
4	Cyclohexanone
5	2-Heptanone

005

DN-1

Chromatograms

Cyclic Hydrocarbons



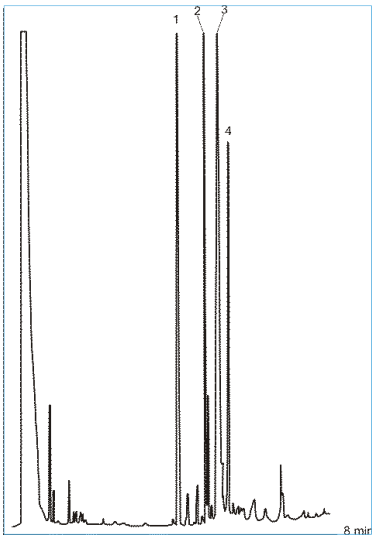
DN-1 10m 0.53mm 1.00µm

Chromatographic Conditions	
Oven	40°C - 5°C/min - 100°C
Injection	Split
Carrier Gas	Helium - 5 ml/min
Injection volume	1 µL
Detector	FID

Peak Identification	
1	Cyclohexane
2	n-Decane
3	Cycloheptane
4	Cyclooctane

006

Drugs 1



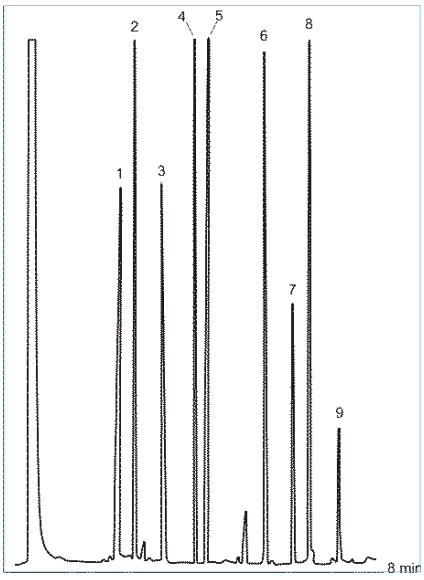
DN-1 15m 0.25mm 0.25µm

Chromatographic Conditions	
Oven	120°C - 25°C/min - 310°C
Injection	Split - 280°C - 1:50
Carrier Gas	Hydrogen - 30 kPa
Injection volume	1 µL
Detector	FID - 320°C

Peak Identification	
1	Docosane (internal standard)
2	CBD Cannabidiol
3	THC Tetrahydrocannabidiol
4	CBN Cannabinol

007

Drugs 2



DN-1 15m 0.25mm 0.25µm

Chromatographic Conditions	
Oven	120°C - 25°C/min - 310°C
Injection	Split - 280°C - 1:50
Carrier Gas	Hydrogen - 30 kPa
Injection volume	1 µL
Detector	FID - 320°C

Peak Identification	
1	Caffeine
2	Lidocaine
3	Procaine
4	Cocaine
5	Butylantrakinone (internal standard)
6	Heroin
7	Papaverine
8	Etaverine (internal standard)
9	Narcotine

008

DN-1

Chromatograms

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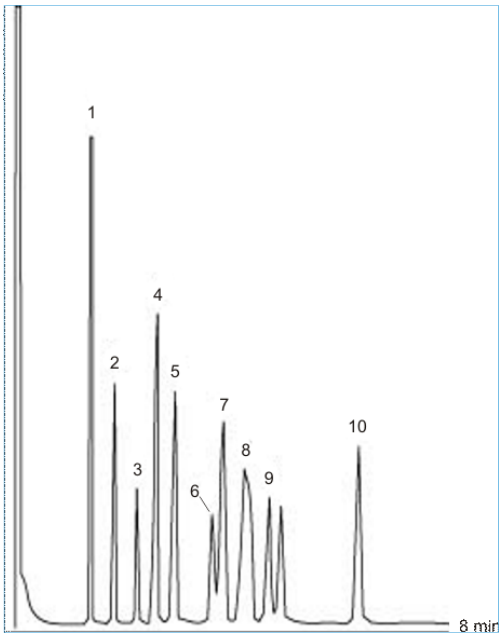

Phenols

DN-1 10m 0.53mm 1.00µm

Chromatographic Conditions	
Oven	60°C - 5°C/min - 160°C
Injection	Split
Carrier Gas	Helium - 20 ml/min
Injection volume	1 µL
Detector	FID

Peak Identification	
1	Phenol
2	n-Decane
3	o-Cresole
4	m + p-cresole
5	2,6-Dimethylphenol
6	o-Ethylphenol
7	2,4 + 2,5-Dimethylphenol
8	3,5-Dimethylphenol+ p-Ethylphenol
9	2,3-Dimethylphenol
10	3,4-Dimethylphenol

009

DN-1 HT

DN-1 HT 15m

ID	Film	Max Temp	Code	Chroma
0.25mm	0.10µm	380°C	9414.117 192	
0.32mm	0.10µm	380°C	9414.117 193	
0.53mm	0.10µm	380°C	9414.117 194	

DN-1 HT 25m

ID	Film	Max Temp	Code	Chroma
0.25mm	0.10µm	380°C	9414.117 195	
0.32mm	0.10µm	380°C	9414.117 196	
0.53mm	0.10µm	380°C	9414.117 197	

DN-1 HT 30m

ID	Film	Max Temp	Code	Chroma
0.25mm	0.10µm	380°C	9414.117 198	
0.32mm	0.10µm	380°C	9414.117 199	
0.53mm	0.10µm	380°C	9414.117 200	

DN-1 HT 50m

ID	Film	Max Temp	Code	Chroma
0.25mm	0.10µm	380°C	9414.117 201	
0.32mm	0.10µm	380°C	9414.117 202	
0.53mm	0.10µm	380°C	9414.117 203	

DN-1 HT 60m

ID	Film	Max Temp	Code	Chroma
0.25mm	0.10µm	380°C	9414.117 204	
0.32mm	0.10µm	380°C	9414.117 205	
0.53mm	0.10µm	380°C	9414.117 206	

DN-1 HT Technical Specifications

Every Column Individually Tested
Test Certified and Grob Mixture included in each Column
Instruction Manual included in each Column

DANI DN-1 HT Capillary Column
100% Dimethylpolysiloxane
Non-polar
Bonded and cross-linked
Inertness
Low bleeding
Good thermal stability

Similar to DB™-1, Rtx™-1, SPB™-1, SPB™-Sulfur, SP™-2100, HP™-1, HP™-101, ULTRA™-1, BP™-1, CP-Sil™ 5 CB, 007™-1, OV™-1, SE™-30, DC™-200, RSL™-150, RSL™-160, PE-1, ZB-1, AT™-1, EC™-1

Equivalent to USP G1, G2, G38

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DN-1 MS

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DN-1 MS 15m

ID	Film	Max Temp	Code	Chroma
0.25mm	0.15µm	350°C	9414.116 096	
0.25mm	0.25µm	350°C	9414.116 097	
0.32mm	0.15µm	350°C	9414.116 098	
0.32mm	0.25µm	350°C	9414.116 099	

DN-1 MS 50m

ID	Film	Max Temp	Code	Chroma
0.25mm	0.15µm	350°C	9414.116 108	
0.25mm	0.25µm	350°C	9414.116 109	
0.32mm	0.15µm	350°C	9414.116 110	
0.32mm	0.25µm	350°C	9414.116 111	

DN-1 MS 25m

ID	Film	Max Temp	Code	Chroma
0.25mm	0.15µm	350°C	9414.116 100	
0.25mm	0.25µm	350°C	9414.116 101	
0.32mm	0.15µm	350°C	9414.116 102	
0.32mm	0.25µm	350°C	9414.116 103	

DN-1 MS 60m

ID	Film	Max Temp	Code	Chroma
0.25mm	0.15µm	350°C	9414.116 112	
0.25mm	0.25µm	350°C	9414.116 113	
0.32mm	0.15µm	350°C	9414.116 114	
0.32mm	0.25µm	350°C	9414.116 115	

DN-1 MS 30m

ID	Film	Max Temp	Code	Chroma
0.25mm	0.15µm	350°C	9414.116 104	
0.25mm	0.25µm	350°C	9414.116 105	
0.32mm	0.15µm	350°C	9414.116 106	
0.32mm	0.25µm	350°C	9414.116 107	

DN-1 MS Technical Specifications

Every Column Individually Tested
Test Certified and Grob Mixture included in each Column
Instruction Manual included in each Column

DANI DN-1 MS Capillary Column
100% Dimethylpolysiloxane
Non-polar
Bonded and cross-linked
Inertness
Low bleeding
Good thermal stability

Similar to DB™-1ms, HP™-1ms, Rtx™-1ms, CP-Sil™ 5 CB low bleed/ms, AT™-1ms

Equivalent to USP G1, G2, G38

DN-1 FAST

DN-1 FAST 5m

ID	Film	Max Temp	Code	Chroma
0.05mm	0.05µm	350°C	9414.116 116	
0.05mm	0.10µm	350°C	9414.116 117	
0.10mm	0.10µm	350°C	9414.116 118	
0.10mm	0.20µm	350°C	9414.116 119	

DN-1 FAST 10m

ID	Film	Max Temp	Code	Chroma
0.05mm	0.05µm	350°C	9414.116 120	
0.05mm	0.10µm	350°C	9414.116 121	
0.10mm	0.10µm	350°C	9414.116 122	
0.10mm	0.20µm	350°C	9414.116 123	

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DN-1 FAST Technical Specifications

Every Column Individually Tested
Test Certified and Grob Mixture included in each Column
Instruction Manual included in each Column

DANI DN-1 FAST Capillary Column
100% Dimethylpolysiloxane
Non-polar
Bonded and cross-linked
Inertness
Low bleeding
Good thermal stability

Similar to DB™-1, Rtx™-1, SPB™-1, SPB™-Sulfur, SP™-2100, HP™-1, HP™-101, ULTRA™-1, BP™-1, CP-Sil™ 5 CB, 007™-1, OV™-1, SE™-30, DC™-200, RSL™-150, RSL™-160, PE-1, ZB-1, AT™-1

Equivalent to USP G1, G2, G38

DN-1 FAST HT

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DN-1 FAST HT 5m

ID	Film	Max Temp	Code	Chroma
0.05mm	0.05µm	380°C	9414.117 267	
0.05mm	0.10µm	380°C	9414.117 268	
0.10mm	0.10µm	380°C	9414.117 269	

DN-1 FAST HT 10m

ID	Film	Max Temp	Code	Chroma
0.05mm	0.05µm	380°C	9414.117 270	
0.05mm	0.10µm	380°C	9414.117 271	
0.10mm	0.10µm	380°C	9414.117 272	

DN-1 FAST HT Technical Specifications

Every Column Individually Tested
Test Certified and Grob Mixture included in each Column
Instruction Manual included in each Column

DANI DN-1 FAST HT Capillary Column
100% Dimethylpolysiloxane
Non-polar
Bonded and cross-linked
Inertness
Low bleeding
Good thermal stability

Similar to DB™-1, Rtx™-1, SPB™-1, SPB™-Sulfur, SP™-2100, HP™-1, HP™-101, ULTRA™-1, BP™-1, CP-Sil™ 5 CB, 007™-1, OV™-1, SE™-30, DC™-200, RSL™-150, RSL™-160, PE-1, ZB-1, AT™-1

Equivalent to USP G1, G2, G38

DN-5

DN-5 15m

ID	Film	Max Temp	Code	Chroma
0.25mm	0.15µm	350°C	9414.116 125	
0.25mm	0.25µm	350°C	9414.116 126	
0.25mm	0.45µm	330°C	9414.116 127	
0.25mm	1.00µm	330°C	9414.116 128	
0.25mm	1.50µm	330°C	9414.116 129	
0.32mm	0.15µm	350°C	9414.116 130	
0.32mm	0.25µm	350°C	9414.116 131	
0.32mm	0.45µm	330°C	9414.116 132	
0.32mm	1.00µm	330°C	9414.116 133	
0.32mm	1.50µm	330°C	9414.116 134	
0.32mm	3.00µm	320°C	9414.116 135	
0.32mm	5.00µm	320°C	9414.116 136	
0.53mm	0.15µm	350°C	9414.116 137	
0.53mm	0.25µm	350°C	9414.116 138	
0.53mm	0.45µm	330°C	9414.116 139	
0.53mm	1.00µm	330°C	9414.116 140	
0.53mm	1.50µm	330°C	9414.116 141	012/017/019
0.53mm	3.00µm	320°C	9414.116 142	
0.53mm	5.00µm	320°C	9414.116 143	

DN-5 25m

ID	Film	Max Temp	Code	Chroma
0.25mm	0.15µm	350°C	9414.116 144	
0.25mm	0.25µm	350°C	9414.116 145	010/014/015
0.25mm	0.45µm	330°C	9414.116 146	
0.25mm	1.00µm	330°C	9414.116 147	
0.25mm	1.50µm	330°C	9414.116 148	
0.32mm	0.15µm	350°C	9414.116 149	
0.32mm	0.25µm	350°C	9414.116 150	011/013/018
0.32mm	0.45µm	330°C	9414.116 151	
0.32mm	1.00µm	330°C	9414.116 152	016
0.32mm	1.50µm	330°C	9414.116 153	
0.32mm	3.00µm	320°C	9414.116 154	
0.32mm	5.00µm	320°C	9414.116 155	
0.53mm	0.15µm	350°C	9414.116 156	
0.53mm	0.25µm	350°C	9414.116 157	
0.53mm	0.45µm	330°C	9414.116 158	
0.53mm	1.00µm	330°C	9414.116 159	
0.53mm	1.50µm	330°C	9414.116 160	
0.53mm	3.00µm	320°C	9414.116 161	
0.53mm	5.00µm	320°C	9414.116 162	

DN-5 30m

ID	Film	Max Temp	Code	Chroma
0.25mm	0.15µm	350°C	9414.116 163	
0.25mm	0.25µm	350°C	9414.116 164	
0.25mm	0.45µm	330°C	9414.116 165	
0.25mm	1.00µm	330°C	9414.116 166	
0.25mm	1.50µm	330°C	9414.116 167	
0.32mm	0.15µm	350°C	9414.116 168	
0.32mm	0.25µm	350°C	9414.116 169	020
0.32mm	0.45µm	330°C	9414.116 170	
0.32mm	1.00µm	330°C	9414.116 171	
0.32mm	1.50µm	330°C	9414.116 172	
0.32mm	3.00µm	320°C	9414.116 173	
0.32mm	5.00µm	320°C	9414.116 174	
0.53mm	0.15µm	350°C	9414.116 175	
0.53mm	0.25µm	350°C	9414.116 176	
0.53mm	0.45µm	330°C	9414.116 177	
0.53mm	1.00µm	330°C	9414.116 178	
0.53mm	1.50µm	330°C	9414.116 179	
0.53mm	3.00µm	320°C	9414.116 180	
0.53mm	5.00µm	320°C	9414.116 181	

DN-5 50m

ID	Film	Max Temp	Code	Chroma
0.25mm	0.15µm	350°C	9414.116 182	
0.25mm	0.25µm	350°C	9414.116 183	
0.25mm	0.45µm	330°C	9414.116 184	
0.25mm	1.00µm	330°C	9414.116 185	
0.25mm	1.50µm	330°C	9414.116 186	
0.32mm	0.15µm	350°C	9414.116 187	
0.32mm	0.25µm	350°C	9414.116 188	
0.32mm	0.45µm	330°C	9414.116 189	
0.32mm	1.00µm	330°C	9414.116 190	
0.32mm	1.50µm	330°C	9414.116 191	
0.32mm	3.00µm	320°C	9414.116 192	
0.32mm	5.00µm	320°C	9414.116 193	
0.53mm	0.15µm	350°C	9414.116 194	
0.53mm	0.25µm	350°C	9414.116 195	
0.53mm	0.45µm	330°C	9414.116 196	
0.53mm	1.00µm	330°C	9414.116 197	
0.53mm	1.50µm	330°C	9414.116 198	
0.53mm	3.00µm	320°C	9414.116 199	
0.53mm	5.00µm	320°C	9414.116 200	

DN-5 60m

ID	Film	Max Temp	Code	Chroma
0.25mm	0.15µm	350°C	9414.116 201	
0.25mm	0.25µm	350°C	9414.116 202	
0.25mm	0.45µm	330°C	9414.116 203	
0.25mm	1.00µm	330°C	9414.116 204	
0.25mm	1.50µm	330°C	9414.116 205	
0.32mm	0.15µm	350°C	9414.116 206	
0.32mm	0.25µm	350°C	9414.116 207	
0.32mm	0.45µm	330°C	9414.116 208	
0.32mm	1.00µm	330°C	9414.116 209	
0.32mm	1.50µm	330°C	9414.116 210	
0.32mm	3.00µm	320°C	9414.116 211	
0.32mm	5.00µm	320°C	9414.116 212	
0.53mm	0.15µm	350°C	9414.116 213	
0.53mm	0.25µm	350°C	9414.116 214	
0.53mm	0.45µm	330°C	9414.116 215	
0.53mm	1.00µm	330°C	9414.116 216	
0.53mm	1.50µm	330°C	9414.116 217	
0.53mm	3.00µm	320°C	9414.116 218	
0.53mm	5.00µm	320°C	9414.116 219	

DN-5 Technical Specifications

Every Column Individually Tested
Test Certified and Grob Mixture included in each Column
Instruction Manual included in each Column

DANI DN-5 Capillary Column
(5% Phenyl) - 95% methylpolysiloxane
Non-polar
Bonded and cross-linked
Inertness
Low bleeding
Good thermal stability

Similar to 007-2, CP-Sil 8CB, DB™-5, DB™-5.625, HP™-5, SAC-5, OV™-5, PTE-5, PTE-5QTM, PAS-5, RSL-200, Rtx™-5, SE-54, SPB-5, ULTRA-2, XTI-5, SE-52, BP-5, PE-2, ZB-5, AT™-5, EC™-5

Equivalent to USP G27, G36

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DN-5

Chromatograms

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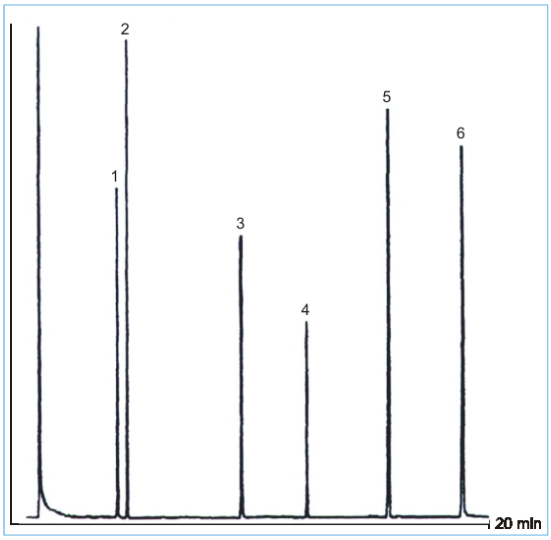


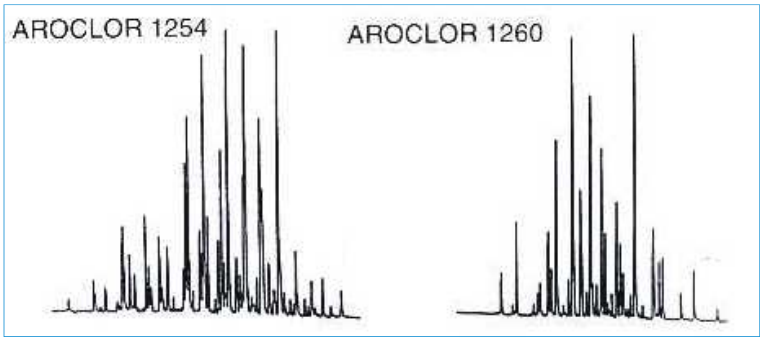
Anaesthetics

DN-5 25m 0.25mm 0.25µm

Chromatographic Conditions	
Oven	150°C - 5°C/min - 250°C
Injection	Split - 280°C - 1:70
Carrier Gas	Hydrogen - 60 kPa
Injection volume	0.5 µL
Detector	FID - 250°C

Peak Identification	
1	Benzocaine
2	Amilocaine
3	Lidocaine
4	Procaine
5	Cocaine
6	Codeine

010

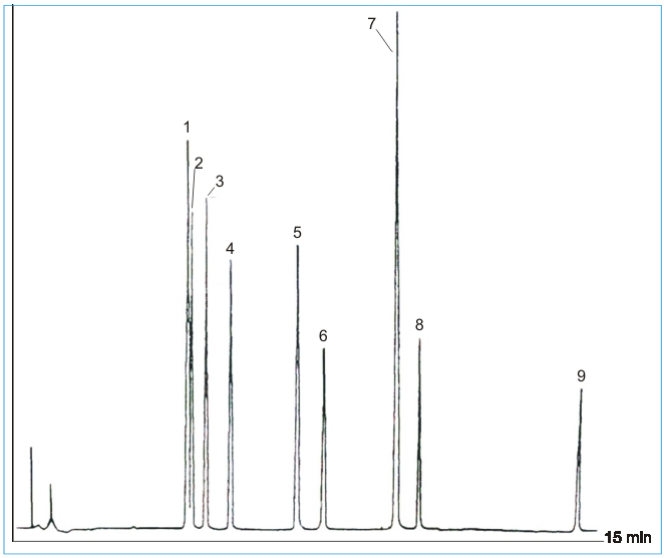


Arochlor 1254/1260

DN-5 25m 0.32mm 0.25µm

Chromatographic Conditions	
Oven	100°C - 3.5°C/min - 250°C
Injection	Split - 250°C - 1:30
Carrier Gas	Hydrogen - 70 kPa
Injection volume	1 µL
Detector	ECD - 300°C

011



Halogenated Hydrocarbons
EPA Method 612

DN-5 15m 0.53mm 1.50µm

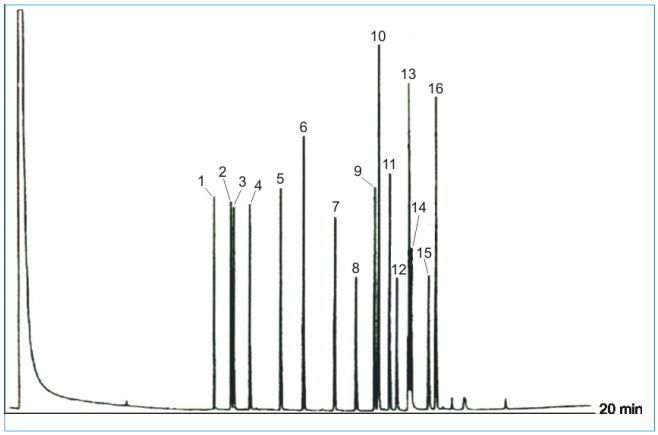
Chromatographic Conditions	
Oven	50°C - 8°C/min - 180°C
Injection	On column - 280°C
Carrier Gas	Helium - 20 ml/min
Injection volume	1 µL
Detector	ECD - 250°C

Peak Identification	
1	1,3-dichlorobenzene
2	1,4-dichlorobenzene
3	1,2-dichlorobenzene
4	Hexachloroethane
5	1,2,4-trichlorobenzene
6	Hexachlorobutadiene
7	Hexachlorocyclopentadiene
8	2-chloronaphthalene
9	Hexachlorobenzene

012

DN-5

Chromatograms



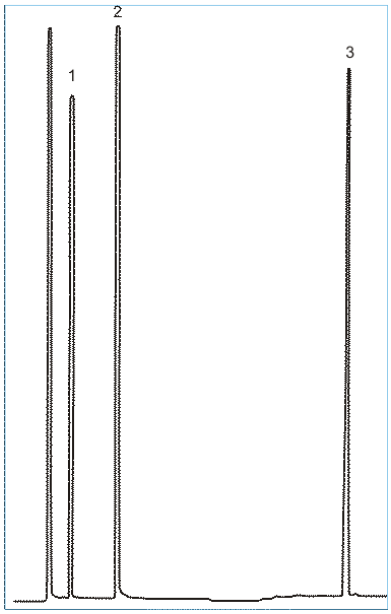
Organochlorinated Pesticides EPA Method 608/8081

DN-5 25m 0.32mm 0.25µm

Chromatographic Conditions	
Oven	65°C - 20°C/min - 150°C - 7°C/min - 260°C
Injection	On column
Carrier Gas	Hydrogen - 60 kPa
Injection volume	1 µL
Detector	FID - 280°C

Peak Identification	
1	Alpha - BHC
2	Beta - BHC
3	Gamma - BHC
4	Delta - BHC
5	Heptachlor
6	Aldrin
7	Heptachlor epoxide
8	Endosulfan I
9	4,4' DDE
10	Dieldrin
11	Endrin
12	4.4' DDD
13	Endosulfan II
14	Endrin aldehyde
15	4,4' DDT
16	Endosulfan sulfate

013



Pharmaceuticals

DN-5 25m 0.25mm 0.25µm

Chromatographic Conditions	
Oven	150°C - 5°C/min - 260°C
Injection	Splitless - 250°C
Carrier Gas	Hydrogen - 60 kPa
Injection volume	1 µL
Detector	FID - 280°C

Peak Identification	
1	Amphetamine
2	Ephedrine
3	Caffeine

014

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Chromatograms

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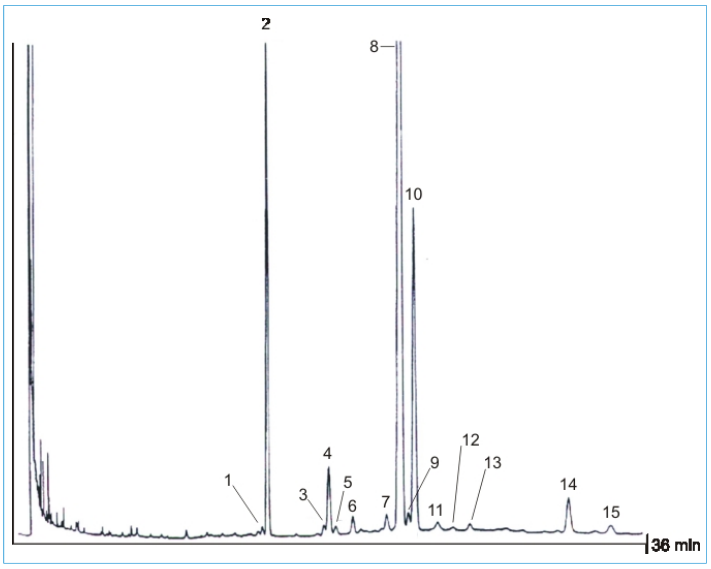


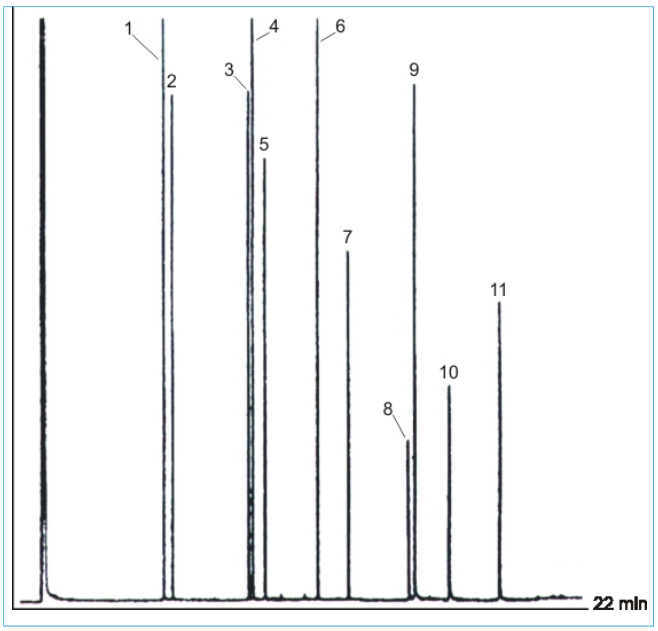
Sterols in Olive Oil

DN-5 25m 0.25mm 0.25µm

Chromatographic Conditions	
Oven	Isothermal - 260°C
Injection	Split - 250°C - 1:100
Carrier Gas	Hydrogen - 90 kPa
Injection volume	1 µL
Detector	FID - 280°C

Peak Identification	
1	Cholesterol
2	Alpha Cholesterol
3	24-Methyl Cholesterol
4	Campesterol
5	Campestanol
6	Stigmasterol
7	D5 25 stigmastadienol
8	Beta sitosterol
9	Sitostanol
10	D5 avanasterol
11	D5 24 stigmastadienol
12	D7 stigmastadienol
13	D7 avanasterol
14	Eritrodiol
15	Uvaol

015



Phenols EPA Method 604

DN-5 25m 0.32mm 1.00µm

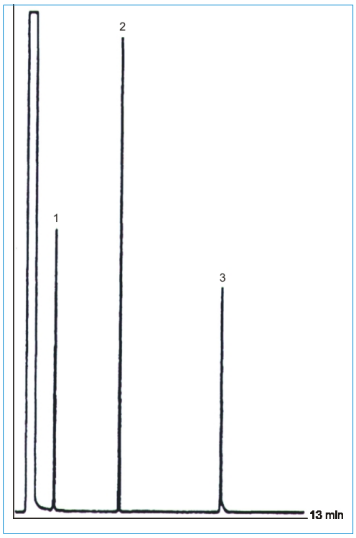
Chromatographic Conditions	
Oven	110°C - 8°C/min - 280°C
Injection	Split - 300°C - 1:100
Carrier Gas	Hydrogen - 60 kPa
Injection volume	1 µL
Detector	FID - 300°C

Peak Identification	
1	Phenol
2	2-chlorophenol
3	2-nitrophenol
4	2,4-dimethylphenol
5	2,4-dichlorophenol
6	4-chloro-3-methylphenol
7	2,4,6-trichlorophenol
8	2,4-dinitrophenol
9	4-nitrophenol
10	2-methyl-4,6-ditrophenol
11	Pentachlorophenol

016

DN-5

Chromatograms



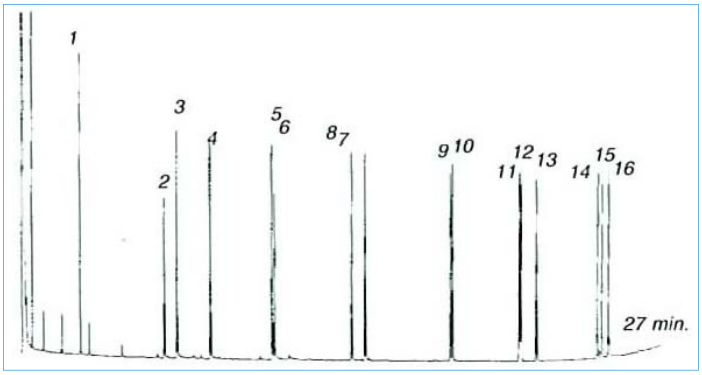
Nitrosamines EPA Mehod 607

DN-5 15m 0.53mm 1.50µm

Chromatographic Conditions	
Oven	40°C - 20°C/min - 240°C
Injection	On column - 240°C
Carrier Gas	Hydrogen - 10 mL/min
Injection volume	1 µL
Detector	FID - 280°C

Peak Identification	
1	N-Nitrosodimethylamine
2	N-Nitrosodi-n-propylamine
3	N-Nitrosodiphenylamine

017



PAH's EPA Method 610/8100

DN-5 25m 0.32mm 0.25µm

Chromatographic Conditions	
Oven	60°C - 4°C/min - 300°C
Injection	On column
Carrier Gas	Hydrogen - 70 kPa
Injection volume	1 µL
Detector	FID - 300°C

Peak Identification	
1	Naphthalene
2	Acenaphthylene
3	Acenaphthene
4	Fluorene
5	Phenanthrene
6	Anthracene
7	Fluoranthene
8	Pyrene
9	Benzo (a) Anthracene
10	Chrysene
11	Benzo (b) fluoranthene
12	Benzo (k) fluoranthene
13	Benzo (a) pyrene
14	Indeno (1,2,3-cd) pyrene
15	Dibenzo (a,h) Anthracene
16	Benzo (ghi) perylene

018

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DN-5

Chromatograms

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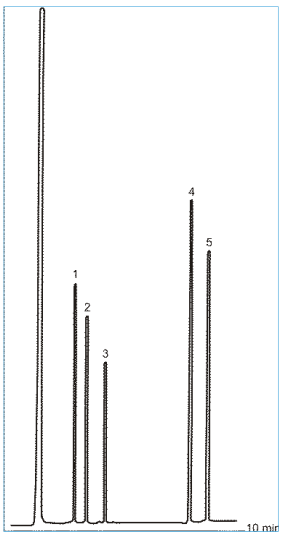


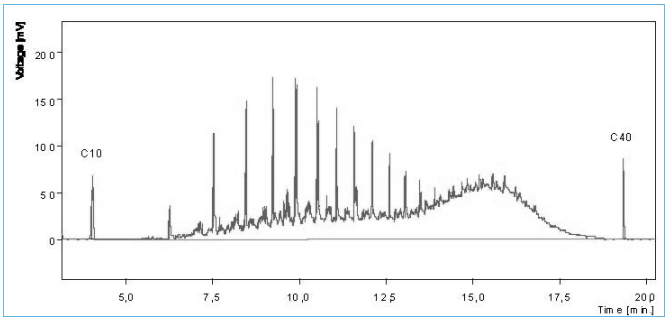
Haloethers EPA Method 611/8110

DN-5 15m 0.53mm 1.50µm

Chromatographic Conditions	
Oven	100°C - 15°C/min - 300°C
Injection	Split - 250°C - 1:50
Carrier Gas	Helium - 20 kPa
Injection volume	0.2 µL
Detector	FID - 300°C

Peak Identification	
1	bis(2-Chloroethyl) ether
2	bis(2-Chloroisopropyl) ether
3	bis(2-Chloroethoxy)methane
4	4-Chlorophenylphenyl ether
5	4-Bromophenyl phenyl ether

019

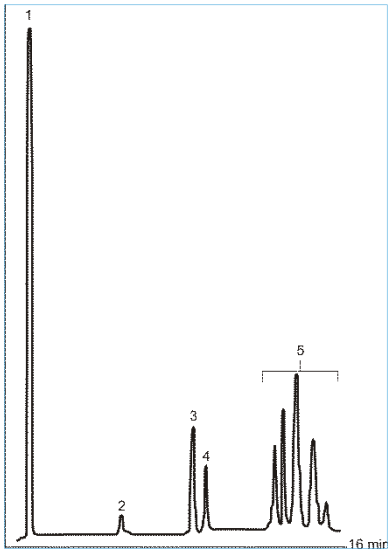


Hydrocarbon Oil Index ISO 9377-2

DN-5 30m 0.32mm 0.25µm

Chromatographic Conditions	
Oven	75°C - 5 min - 20°C/min - 350°C - 5 min
Injection	PTV - 50°C - 1000°C/min - 450°C - 5 min
Carrier Gas	Helium - 3 mL/min
Injection volume	1 µL
Detector	FID - 400°C

020



Alkyl Naphtalens

DN-5 10m 0.53mm 1.00µm

Chromatographic Conditions	
Oven	90°C - 20°C/min - 150°C
Injection	Split
Carrier Gas	Helium - 4.5 mL/min
Injection volume	1 µL
Detector	FID

Peak Identification	
1	m-Xylene
2	Naphtalene
3	2-Methylnaphtalene
4	1-Methylnaphtalene
5	others alkyl naphtalens

021

DN-5 HT

DN-5 HT 15m

ID	Film	Max Temp	Code	Chroma
0.25mm	0.10µm	380°C	9414.117 207	
0.32mm	0.10µm	380°C	9414.117 208	
0.53mm	0.10µm	380°C	9414.117 209	

DN-5 HT 25m

ID	Film	Max Temp	Code	Chroma
0.25mm	0.10µm	380°C	9414.117 210	
0.32mm	0.10µm	380°C	9414.117 211	
0.53mm	0.10µm	380°C	9414.117 212	

DN-5 HT 30m

ID	Film	Max Temp	Code	Chroma
0.25mm	0.10µm	380°C	9414.117 213	
0.32mm	0.10µm	380°C	9414.117 214	
0.53mm	0.10µm	380°C	9414.117 215	

DN-5 HT 50m

ID	Film	Max Temp	Code	Chroma
0.25mm	0.10µm	380°C	9414.117 216	
0.32mm	0.10µm	380°C	9414.117 217	
0.53mm	0.10µm	380°C	9414.117 218	

DN-5 HT 60m

ID	Film	Max Temp	Code	Chroma
0.25mm	0.10µm	380°C	9414.117 219	
0.32mm	0.10µm	380°C	9414.117 220	
0.53mm	0.10µm	380°C	9414.117 221	

DN-5 HT Technical Specifications

Every Column Individually Tested
Test Certified and Grob Mixture included in each Column
Instruction Manual included in each Column

DANI DN-5 HT Capillary Column
(5% Phenyl) - 95% methylpolysiloxane
Non-polar
Bonded and cross-linked
Inertness
Low bleeding
Good thermal stability

Similar to 007-2, CP-Sil 8CB, DB™-5, DB™-5.625, HP™-5, SAC-5, OV™-5, PTE-5, PTE-5QTM, PAS-5, RSL-200, Rtx™-5, SE-54, SPB-5, ULTRA-2, XTI-5, SE-52, BP-5, PE-2, ZB-5, AT™-5, EC™-5

Equivalent to USP G27, G36

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DN-5 MS

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DN-5 MS 15m

ID	Film	Max Temp	Code	Chroma
0.25mm	0.15µm	350°C	9414.116 220	
0.25mm	0.25µm	350°C	9414.116 221	
0.32mm	0.15µm	350°C	9414.116 222	
0.32mm	0.25µm	350°C	9414.116 223	

DN-5 MS 50m

ID	Film	Max Temp	Code	Chroma
0.25mm	0.15µm	350°C	9414.116 232	
0.25mm	0.25µm	350°C	9414.116 233	
0.32mm	0.15µm	350°C	9414.116 234	
0.32mm	0.25µm	350°C	9414.116 235	

DN-5 MS 25m

ID	Film	Max Temp	Code	Chroma
0.25mm	0.15µm	350°C	9414.116 224	
0.25mm	0.25µm	350°C	9414.116 225	
0.32mm	0.15µm	350°C	9414.116 226	
0.32mm	0.25µm	350°C	9414.116 227	

DN-5 MS 60m

ID	Film	Max Temp	Code	Chroma
0.25mm	0.15µm	350°C	9414.116 236	
0.25mm	0.25µm	350°C	9414.116 237	
0.32mm	0.15µm	350°C	9414.116 238	
0.32mm	0.25µm	350°C	9414.116 239	

DN-5 MS 30m

ID	Film	Max Temp	Code	Chroma
0.25mm	0.15µm	350°C	9414.116 228	
0.25mm	0.25µm	350°C	9414.116 229	
0.32mm	0.15µm	350°C	9414.116 230	
0.32mm	0.25µm	350°C	9414.116 231	

DN-5 MS Technical Specifications

Every Column Individually Tested
Test Certified and Grob Mixture included in each Column
Instruction Manual included in each Column

DANI DN-5 MS Capillary Column
(5% Phenyl) - 95% methylpolysiloxane
Non-polar
Bonded and cross-linked
Inertness
Low bleeding
Good thermal stability

Similar to DB™-5ms, Rtx™-5 sil ms, HP™-5ms, BPX-5, 007-5ms, AT™-5ms

Equivalent to USP G27, G36

DN-5 FAST

DN-5 FAST 5m

ID	Film	Max Temp	Code	Chroma
0.05mm	0.05µm	350°C	9414.116 240	
0.05mm	0.10µm	350°C	9414.116 241	
0.10mm	0.10µm	350°C	9414.116 242	022/023/024
0.10mm	0.20µm	350°C	9414.116 243	

DN-5 FAST 10m

ID	Film	Max Temp	Code	Chroma
0.05mm	0.05µm	350°C	9414.116 244	
0.05mm	0.10µm	350°C	9414.116 245	
0.10mm	0.10µm	350°C	9414.116 246	
0.10mm	0.20µm	350°C	9414.116 247	

DN-5 FAST 15m

ID	Film	Max Temp	Code	Chroma
0.10mm	0.10µm	350°C	9414.117 301	

DN-5 FAST Technical Specifications

Every Column Individually Tested
Test Certified and Grob Mixture included in each Column
Instruction Manual included in each Column

DANI DN-5 FAST Capillary Column
(5% Phenyl) - 95% methylpolysiloxane
Non-polar
Bonded and cross-linked
Inertness
Low bleeding
Good thermal stability

Similar to 007-2, CP-Sil 8CB, DB™-5, DB™-5.625, HP™-5, SAC-5, OV™-5, PTE-5, PTE-5QTM, PAS-5, RSL-200, Rtx™-5, SE-54, SPB-5, ULTRA-2, XTI-5, SE-52, BP-5, PE-2, ZB-5, AT™-5

Equivalent to USP G27, G36

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DN-5 FAST

Chromatograms

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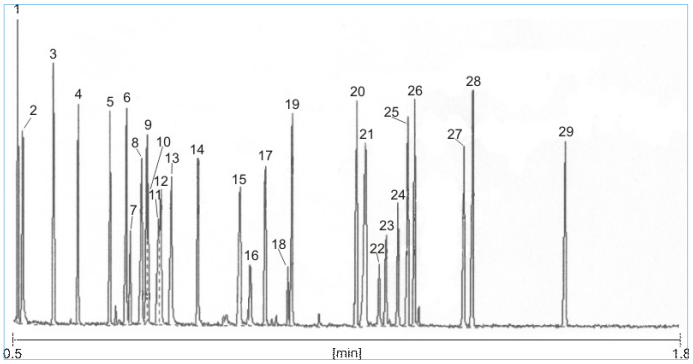
Peak Identification	
1	Benzyl Alcohol
2	Limonene
3	Linalol
4	Veratrol
5	Me-Octynoate
6	Citronellol
7	Citral 1
8	Geraniol
9	Cynnamic Ald.
10	Citral 2
11	Anysic Alcohol
12	OH-Citronellal
13	Cynnamic Alcohol
14	Eugenol
15	Coumarine
16	Isoeugenol
17	α iso Me-Ionone
18	α Me-Ionone
19	Lilial
20	Farnesol 1
21	Lyral 1 + Lyral 2
22	Farnesol 1
23	Farnesol 2
24	Farnesol 3
25	Amyl Cynnamal
26	Hexyl Cynnamal
27	Bz. Salycilate
28	1-Ph-Decanone
29	Bz. Cynnamate

Allergens

DN-5 FAST 5m 0.10mm 0.10µm

Chromatographic Conditions	
Oven	50°C - 0.1 min - 15°C/min 250°C - 5 min
Injection	Split - 230°C - 1:200
Carrier Gas	Hydrogen - 0.5 ml/min
Injection volume	1 µL
Detector	FID - 250°C



Courtesy of Prof. C. Bicchi, C. Brunelli
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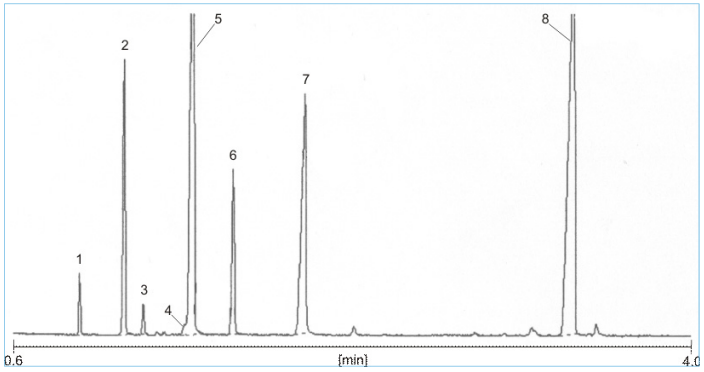
022

Bergamot

DN-5 FAST 5m 0.10mm 0.10µm

Chromatographic Conditions	
Oven	50°C - 0.1 min - 15°C/min - 250°C - 5 min
Injection	Split - 230°C - 1:200
Carrier Gas	Hydrogen - 0.5 ml/min
Injection volume	1 µL
Detector	FID - 250°C



Peak Identification	
1	α-Pinene
2	β-Pinene
3	Myrcene
4	p-Cimene
5	Limonene
6	γ-Terpinene
7	Linalol
8	Linalyl Acetate

Courtesy of Prof. C. Bicchi, C. Brunelli
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023

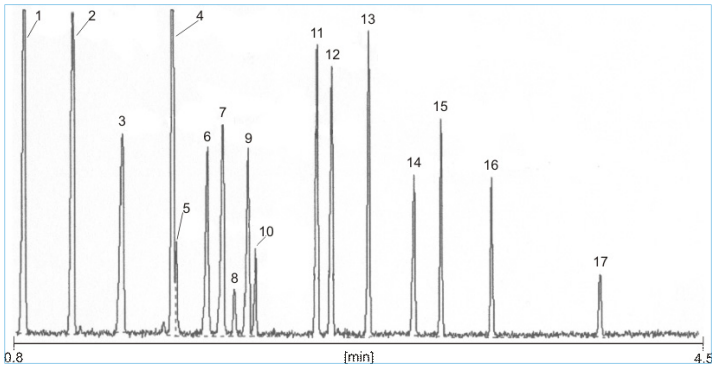
DN-5 FAST

Chromatograms

Pesticides

DN-5 FAST 5m 0.10mm 0.10µm

Chromatographic Conditions	
Oven	50°C - 0.1 min - 15°C/min - 250°C - 5 min
Injection	Split - 230°C - 1:200
Carrier Gas	Hydrogen - 0.5 ml/min
Injection volume	1 µL
Detector	FID - 250°C



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Peak	Identification
1	α-HCH
2	γ-HCH
3	Chlorotalonil
4	Heptachlor
5	Parathion-Me
6	Paraoxon-E
7	Malathion
8	Fenitrothion
9	Parathion-Et
10	/
11	Chlordane-Trans
12	Chlordane-Cis + α-End.
13	Dieldrin
14	β-Endosulfan
15	o,p'-DDT
16	p,p'-DDT
17	Tetradifon

024

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DN-5 FAST HT

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DN-5 FAST HT 5m

ID	Film	Max Temp	Code	Chroma
0.05mm	0.05µm	380°C	9414.117 273	
0.05mm	0.10µm	380°C	9414.117 274	
0.10mm	0.10µm	380°C	9414.117 275	

DN-5 FAST HT 10m

ID	Film	Max Temp	Code	Chroma
0.05mm	0.05µm	380°C	9414.117 276	
0.05mm	0.10µm	380°C	9414.117 277	
0.10mm	0.10µm	380°C	9414.117 278	

DN-5 FAST HT Technical Specifications

Every Column Individually Tested
Test Certified and Grob Mixture included in each Column
Instruction Manual included in each Column

DANI DN-5 FAST HT Capillary Column
(5% Phenyl) - 95% methylpolysiloxane
Non-polar
Bonded and cross-linked
Inertness
Low bleeding
Good thermal stability

Similar to 007-2, CP-Sil 8CB, DB™-5, DB™-5.625, HP™-5, SAC-5, OV™-5, PTE-5, PTE-5QTM, PAS-5, RSL-200, Rtx™-5, SE-54, SPB-5, ULTRA-2, XTI-5, SE-52, BP-5, PE-2, ZB-5, AT™-5

Equivalent to USP G27, G36

DN-20

DN-20 15m

ID	Film	Max Temp	Code	Chroma
0.25mm	0.15µm	350°C	9414.116 248	
0.25mm	0.25µm	320°C	9414.116 249	
0.25mm	0.45µm	300°C	9414.116 250	
0.25mm	1.00µm	280°C	9414.116 251	
0.32mm	0.15µm	350°C	9414.116 252	
0.32mm	0.25µm	320°C	9414.116 253	
0.32mm	0.45µm	300°C	9414.116 254	
0.32mm	1.00µm	280°C	9414.116 255	
0.32mm	1.50µm	280°C	9414.116 256	
0.32mm	3.00µm	280°C	9414.116 257	
0.53mm	0.15µm	350°C	9414.116 258	
0.53mm	0.25µm	320°C	9414.116 259	
0.53mm	0.45µm	300°C	9414.116 260	
0.53mm	1.00µm	280°C	9414.116 261	
0.53mm	1.50µm	280°C	9414.116 262	
0.53mm	3.00µm	280°C	9414.116 263	

DN-20 25m

ID	Film	Max Temp	Code	Chroma
0.25mm	0.15µm	350°C	9414.116 264	
0.25mm	0.25µm	320°C	9414.116 265	
0.25mm	0.45µm	300°C	9414.116 266	
0.25mm	1.00µm	280°C	9414.116 267	
0.32mm	0.15µm	350°C	9414.116 268	
0.32mm	0.25µm	320°C	9414.116 269	
0.32mm	0.45µm	300°C	9414.116 270	
0.32mm	1.00µm	280°C	9414.116 271	
0.32mm	1.50µm	280°C	9414.116 272	
0.32mm	3.00µm	280°C	9414.116 273	
0.53mm	0.15µm	350°C	9414.116 274	
0.53mm	0.25µm	320°C	9414.116 275	
0.53mm	0.45µm	300°C	9414.116 276	
0.53mm	1.00µm	280°C	9414.116 277	
0.53mm	1.50µm	280°C	9414.116 278	
0.53mm	3.00µm	280°C	9414.116 279	

DN-20 30m

ID	Film	Max Temp	Code	Chroma
0.25mm	0.15µm	350°C	9414.116 280	
0.25mm	0.25µm	320°C	9414.116 281	
0.25mm	0.45µm	300°C	9414.116 282	
0.25mm	1.00µm	280°C	9414.116 283	
0.32mm	0.15µm	350°C	9414.116 284	
0.32mm	0.25µm	320°C	9414.116 285	
0.32mm	0.45µm	300°C	9414.116 286	
0.32mm	1.00µm	280°C	9414.116 287	
0.32mm	1.50µm	280°C	9414.116 288	
0.32mm	3.00µm	280°C	9414.116 289	
0.53mm	0.15µm	350°C	9414.116 290	
0.53mm	0.25µm	320°C	9414.116 291	
0.53mm	0.45µm	300°C	9414.116 292	
0.53mm	1.00µm	280°C	9414.116 293	
0.53mm	1.50µm	280°C	9414.116 294	
0.53mm	3.00µm	280°C	9414.116 295	

DN-20 50m

ID	Film	Max Temp	Code	Chroma
0.25mm	0.15µm	350°C	9414.116 296	
0.25mm	0.25µm	320°C	9414.116 297	
0.25mm	0.45µm	300°C	9414.116 298	
0.25mm	1.00µm	280°C	9414.116 299	
0.32mm	0.15µm	350°C	9414.116 300	
0.32mm	0.25µm	320°C	9414.116 301	
0.32mm	0.45µm	300°C	9414.116 302	
0.32mm	1.00µm	280°C	9414.116 303	
0.32mm	1.50µm	280°C	9414.116 304	
0.32mm	3.00µm	280°C	9414.116 305	
0.53mm	0.15µm	350°C	9414.116 306	
0.53mm	0.25µm	320°C	9414.116 307	
0.53mm	0.45µm	300°C	9414.116 308	
0.53mm	1.00µm	280°C	9414.116 309	
0.53mm	1.50µm	280°C	9414.116 310	
0.53mm	3.00µm	280°C	9414.116 311	

DN-20 60m

ID	Film	Max Temp	Code	Chroma
0.25mm	0.15µm	350°C	9414.116 312	
0.25mm	0.25µm	320°C	9414.116 313	
0.25mm	0.45µm	300°C	9414.116 314	
0.25mm	1.00µm	280°C	9414.116 315	
0.32mm	0.15µm	350°C	9414.116 316	
0.32mm	0.25µm	320°C	9414.116 317	
0.32mm	0.45µm	300°C	9414.116 318	
0.32mm	1.00µm	280°C	9414.116 319	
0.32mm	1.50µm	280°C	9414.116 320	
0.32mm	3.00µm	280°C	9414.116 321	
0.53mm	0.15µm	350°C	9414.116 322	
0.53mm	0.25µm	320°C	9414.116 323	
0.53mm	0.45µm	300°C	9414.116 324	
0.53mm	1.00µm	280°C	9414.116 325	
0.53mm	1.50µm	280°C	9414.116 326	
0.53mm	3.00µm	280°C	9414.116 327	

DN-20 Technical Specifications

Every Column Individually Tested
Test Certified and Grob Mixture included in each Column
Instruction Manual included in each Column

DANI DN-20 Capillary Column
(20% Phenyl) - 80% methylpolysiloxane
Intermediate Polarity
Bonded and cross-linked
Inertness
Low bleeding
Good thermal stability

Similar to Rtx™-20, SPB™-20, 007™-7, VOCOL, PE-7, AT™-20, EC™-20

Equivalent to USP G28, G32

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DN-20 HT

DANI Instruments S.p.A. www.danispa.it dani.instruments@danispa.it

DN-20 HT 15m

ID	Film	Max Temp	Code	Chroma
0.25mm	0.10µm	380°C	9414.117 252	
0.32mm	0.10µm	380°C	9414.117 253	
0.53mm	0.10µm	380°C	9414.117 254	

DN-20 HT 50m

ID	Film	Max Temp	Code	Chroma
0.25mm	0.10µm	380°C	9414.117 261	
0.32mm	0.10µm	380°C	9414.117 262	
0.53mm	0.10µm	380°C	9414.117 263	

DN-20 HT 25m

ID	Film	Max Temp	Code	Chroma
0.25mm	0.10µm	380°C	9414.117 255	
0.32mm	0.10µm	380°C	9414.117 256	
0.53mm	0.10µm	380°C	9414.117 257	

DN-20 HT 60m

ID	Film	Max Temp	Code	Chroma
0.25mm	0.10µm	380°C	9414.117 264	
0.32mm	0.10µm	380°C	9414.117 265	
0.53mm	0.10µm	380°C	9414.117 266	

DN-20 HT 30m

ID	Film	Max Temp	Code	Chroma
0.25mm	0.10µm	380°C	9414.117 258	
0.32mm	0.10µm	380°C	9414.117 259	
0.53mm	0.10µm	380°C	9414.117 260	

DN-20 HT Technical Specifications

Every Column Individually Tested
Test Certified and Grob Mixture included in each Column
Instruction Manual included in each Column

DANI DN-20 HT Capillary Column
(20% Phenyl) - 80% methylpolysiloxane
Intermediate Polarity
Bonded and cross-linked
Inertness
Low bleeding
Good thermal stability

Similar to Rtx™-20, SPB™-20, 007™-7, VOCOL, PE-7, AT™-20, EC™-20

Equivalent to USP G28, G32

DN-20 FAST HT

DN-20 FAST HT 5m

ID	Film	Max Temp	Code	Chroma
0.05mm	0.05µm	380°C	9414.117 291	
0.05mm	0.10µm	380°C	9414.117 292	
0.10mm	0.10µm	380°C	9414.117 293	

DN-20 FAST HT 10m

ID	Film	Max Temp	Code	Chroma
0.05mm	0.05µm	380°C	9414.117 294	
0.05mm	0.10µm	380°C	9414.117 295	
0.10mm	0.10µm	380°C	9414.117 296	

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DN-20 FAST HT Technical Specifications

Every Column Individually Tested
Test Certified and Grob Mixture included in each Column
Instruction Manual included in each Column

DANI DN-20 FAST HT Capillary Column
(20% Phenyl) - 80% methylpolysiloxane
Intermediate Polarity
Bonded and cross-linked
Inertness
Low bleeding
Good thermal stability

Similar to Rtx™-20, SPB™-20, 007™-7, VOCOL, PE-7, AT™-20, EC™-20

Equivalent to USP G28, G32

DN-17

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DN-17 15m

ID	Film	Max Temp	Code	Chroma
0.25mm	0.15µm	320°C	9414.116 328	
0.25mm	0.25µm	320°C	9414.116 329	
0.25mm	0.45µm	310°C	9414.116 330	
0.25mm	1.00µm	300°C	9414.116 331	
0.32mm	0.15µm	320°C	9414.116 332	
0.32mm	0.25µm	320°C	9414.116 333	
0.32mm	0.45µm	310°C	9414.116 334	
0.32mm	1.00µm	300°C	9414.116 335	
0.53mm	0.15µm	320°C	9414.116 336	
0.53mm	0.25µm	320°C	9414.116 337	
0.53mm	0.45µm	310°C	9414.116 338	
0.53mm	1.00µm	300°C	9414.116 339	

DN-17 50m

ID	Film	Max Temp	Code	Chroma
0.25mm	0.15µm	320°C	9414.116 364	
0.25mm	0.25µm	320°C	9414.116 365	
0.25mm	0.45µm	310°C	9414.116 366	
0.25mm	1.00µm	300°C	9414.116 367	
0.32mm	0.15µm	320°C	9414.116 368	
0.32mm	0.25µm	320°C	9414.116 369	
0.32mm	0.45µm	310°C	9414.116 370	
0.32mm	1.00µm	300°C	9414.116 371	
0.53mm	0.15µm	320°C	9414.116 372	
0.53mm	0.25µm	320°C	9414.116 373	
0.53mm	0.45µm	310°C	9414.116 374	
0.53mm	1.00µm	300°C	9414.116 375	

DN-17 25m

ID	Film	Max Temp	Code	Chroma
0.25mm	0.15µm	320°C	9414.116 340	
0.25mm	0.25µm	320°C	9414.116 341	
0.25mm	0.45µm	310°C	9414.116 342	
0.25mm	1.00µm	300°C	9414.116 343	
0.32mm	0.15µm	320°C	9414.116 344	
0.32mm	0.25µm	320°C	9414.116 345	
0.32mm	0.45µm	310°C	9414.116 346	
0.32mm	1.00µm	300°C	9414.116 347	
0.53mm	0.15µm	320°C	9414.116 348	
0.53mm	0.25µm	320°C	9414.116 349	
0.53mm	0.45µm	310°C	9414.116 350	
0.53mm	1.00µm	300°C	9414.116 351	

DN-17 60m

ID	Film	Max Temp	Code	Chroma
0.25mm	0.15µm	320°C	9414.116 376	
0.25mm	0.25µm	320°C	9414.116 377	
0.25mm	0.45µm	310°C	9414.116 378	
0.25mm	1.00µm	300°C	9414.116 379	
0.32mm	0.15µm	320°C	9414.116 380	
0.32mm	0.25µm	320°C	9414.116 381	
0.32mm	0.45µm	310°C	9414.116 382	
0.32mm	1.00µm	300°C	9414.116 383	
0.53mm	0.15µm	320°C	9414.116 384	
0.53mm	0.25µm	320°C	9414.116 385	
0.53mm	0.45µm	310°C	9414.116 386	
0.53mm	1.00µm	300°C	9414.116 387	

DN-17 30m

ID	Film	Max Temp	Code	Chroma
0.25mm	0.15µm	320°C	9414.116 352	
0.25mm	0.25µm	320°C	9414.116 353	
0.25mm	0.45µm	310°C	9414.116 354	
0.25mm	1.00µm	300°C	9414.116 355	
0.32mm	0.15µm	320°C	9414.116 356	
0.32mm	0.25µm	320°C	9414.116 357	
0.32mm	0.45µm	310°C	9414.116 358	
0.32mm	1.00µm	300°C	9414.116 359	
0.53mm	0.15µm	320°C	9414.116 360	
0.53mm	0.25µm	320°C	9414.116 361	
0.53mm	0.45µm	310°C	9414.116 362	
0.53mm	1.00µm	300°C	9414.116 363	

DN-17 Technical Specifications

Every Column Individually Tested
Test Certified and Grob Mixture included in each Column
Instruction Manual included in each Column

DANI DN-17 Capillary Column
(50% Phenyl) - 50% methylpolysiloxane
Intermediate Polarity
Bonded and cross-linked
Inertness
Low bleeding
Good thermal stability

Similar to HP™-50+, Rtx™-50, SP-2250, SPB-50, SPB-17, BPX-50, Rtx-65TG, BPX-50, CP-TAB-CB, 007-17, DB-17, HP™-17, SP-50, CP Sil 24CB, PE-17, ZB-50, AT™-50

Equivalent to USP G3

DN-17 HT

DN-17 HT 15m

ID	Film	Max Temp	Code	Chroma
0.25mm	0.10µm	380°C	9414.117 237	
0.32mm	0.10µm	380°C	9414.117 238	
0.53mm	0.10µm	380°C	9414.117 239	

DN-17 HT 25m

ID	Film	Max Temp	Code	Chroma
0.25mm	0.10µm	380°C	9414.117 240	
0.32mm	0.10µm	380°C	9414.117 241	
0.53mm	0.10µm	380°C	9414.117 242	

DN-17 HT 30m

ID	Film	Max Temp	Code	Chroma
0.25mm	0.10µm	380°C	9414.117 243	
0.32mm	0.10µm	380°C	9414.117 244	
0.53mm	0.10µm	380°C	9414.117 245	

DN-17 HT 50m

ID	Film	Max Temp	Code	Chroma
0.25mm	0.10µm	380°C	9414.117 246	
0.32mm	0.10µm	380°C	9414.117 247	
0.53mm	0.10µm	380°C	9414.117 248	

DN-17 HT 60m

ID	Film	Max Temp	Code	Chroma
0.25mm	0.10µm	380°C	9414.117 249	
0.32mm	0.10µm	380°C	9414.117 250	
0.53mm	0.10µm	380°C	9414.117 251	

DN-17 HT Technical Specifications

Every Column Individually Tested
Test Certified and Grob Mixture included in each Column
Instruction Manual included in each Column

DANI DN-17 HT Capillary Column
(50% Phenyl) - 50% methylpolysiloxane
Intermediate Polarity
Bonded and cross-linked
Inertness
Low bleeding
Good thermal stability

Similar to HP™-50+, Rtx™-50, SP-2250, SPB-50, SPB-17, BPX-50, Rtx-65TG, BPX-50, CP-TAB-CB, 007-17, DB-17, HP™-17, SP-50, CP Sil 24CB, PE-17, ZB-50, AT™-50

Equivalent to USP G3

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DN-17 FAST

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DN-17 FAST 5m

ID	Film	Max Temp	Code	Chroma
0.05mm	0.05µm	350°C	9414.116 388	
0.05mm	0.10µm	350°C	9414.116 389	
0.10mm	0.10µm	350°C	9414.116 390	
0.10mm	0.20µm	350°C	9414.116 391	

DN-17 FAST 10m

ID	Film	Max Temp	Code	Chroma
0.05mm	0.05µm	350°C	9414.116 392	
0.05mm	0.10µm	350°C	9414.116 393	
0.10mm	0.10µm	350°C	9414.116 394	
0.10mm	0.20µm	350°C	9414.116 395	

DN-17 FAST Technical Specifications

Every Column Individually Tested
Test Certified and Grob Mixture included in each Column
Instruction Manual included in each Column

DANI DN-17 FAST Capillary Column
(50% Phenyl) - 50% methylpolysiloxane
Intermediate Polarity
Bonded and cross-linked
Inertness
Low bleeding
Good thermal stability

Similar to HP™-50+, Rtx™-50, SP-2250, SPB-50, SPB-17, BPX-50, Rtx-65TG, BPX-50, CP-TAB-CB, 007-17, DB-17, HP™-17, SP-50, CP Sil 24CB, PE-17, ZB-50, AT™-50

Equivalent to USP G3

DN-17 FAST HT

DN-17 FAST HT 5m

ID	Film	Max Temp	Code	Chroma
0.05mm	0.05µm	380°C	9414.117 285	
0.05mm	0.10µm	380°C	9414.117 286	
0.10mm	0.10µm	380°C	9414.117 287	

DN-17 FAST HT 10m

ID	Film	Max Temp	Code	Chroma
0.05mm	0.05µm	380°C	9414.117 288	
0.05mm	0.10µm	380°C	9414.117 289	
0.10mm	0.10µm	380°C	9414.117 290	

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DN-17 FAST HT Technical Specifications

Every Column Individually Tested
Test Certified and Grob Mixture included in each Column
Instruction Manual included in each Column

DANI DN-17 FAST HT Capillary Column
(50% Phenyl) - 50% methylpolysiloxane
Intermediate Polarity
Bonded and cross-linked
Inertness
Low bleeding
Good thermal stability

Similar to HP™-50+, Rtx™-50, SP-2250, SPB-50, SPB-17, BPX-50, Rtx-65TG, BPX-50, CP-TAB-CB, 007-17, DB-17, HP™-17, SP-50, CP Sil 24CB, PE-17, ZB-50, AT™-50

Equivalent to USP G3

DN-624

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DN-624 15m

ID	Film	Max Temp	Code	Chroma
0.25mm	0.15µm	280°C	9414.116 396	
0.25mm	0.25µm	280°C	9414.116 397	
0.25mm	0.45µm	270°C	9414.116 398	
0.25mm	1.00µm	260°C	9414.116 399	
0.25mm	1.50µm	250°C	9414.116 400	
0.32mm	0.15µm	280°C	9414.116 401	
0.32mm	0.25µm	280°C	9414.116 402	
0.32mm	0.45µm	270°C	9414.116 403	
0.32mm	1.00µm	260°C	9414.116 404	
0.32mm	1.50µm	250°C	9414.116 405	
0.32mm	3.00µm	240°C	9414.116 406	
0.53mm	0.15µm	280°C	9414.116 407	
0.53mm	0.25µm	280°C	9414.116 408	
0.53mm	0.45µm	270°C	9414.116 409	
0.53mm	1.00µm	260°C	9414.116 410	
0.53mm	1.50µm	250°C	9414.116 411	
0.53mm	3.00µm	240°C	9414.116 412	

DN-624 50m

ID	Film	Max Temp	Code	Chroma
0.25mm	0.15µm	280°C	9414.116 447	
0.25mm	0.25µm	280°C	9414.116 448	
0.25mm	0.45µm	270°C	9414.116 449	
0.25mm	1.00µm	260°C	9414.116 450	
0.25mm	1.50µm	250°C	9414.116 451	
0.32mm	0.15µm	280°C	9414.116 452	
0.32mm	0.25µm	280°C	9414.116 453	
0.32mm	0.45µm	270°C	9414.116 454	
0.32mm	1.00µm	260°C	9414.116 455	
0.32mm	1.50µm	250°C	9414.116 456	
0.32mm	3.00µm	240°C	9414.116 457	
0.53mm	0.15µm	280°C	9414.116 458	
0.53mm	0.25µm	280°C	9414.116 459	
0.53mm	0.45µm	270°C	9414.116 460	
0.53mm	1.00µm	260°C	9414.116 461	
0.53mm	1.50µm	250°C	9414.116 462	
0.53mm	3.00µm	240°C	9414.116 463	

DN-624 25m

ID	Film	Max Temp	Code	Chroma
0.25mm	0.15µm	280°C	9414.116 413	
0.25mm	0.25µm	280°C	9414.116 414	
0.25mm	0.45µm	270°C	9414.116 415	
0.25mm	1.00µm	260°C	9414.116 416	
0.25mm	1.50µm	250°C	9414.116 417	
0.32mm	0.15µm	280°C	9414.116 418	
0.32mm	0.25µm	280°C	9414.116 419	
0.32mm	0.45µm	270°C	9414.116 420	
0.32mm	1.00µm	260°C	9414.116 421	
0.32mm	1.50µm	250°C	9414.116 422	
0.32mm	3.00µm	240°C	9414.116 423	
0.53mm	0.15µm	280°C	9414.116 424	
0.53mm	0.25µm	280°C	9414.116 425	
0.53mm	0.45µm	270°C	9414.116 426	
0.53mm	1.00µm	260°C	9414.116 427	
0.53mm	1.50µm	250°C	9414.116 428	
0.53mm	3.00µm	240°C	9414.116 429	

DN-624 60m

ID	Film	Max Temp	Code	Chroma
0.25mm	0.15µm	280°C	9414.116 464	
0.25mm	0.25µm	280°C	9414.116 465	
0.25mm	0.45µm	270°C	9414.116 466	
0.25mm	1.00µm	260°C	9414.116 467	
0.25mm	1.50µm	250°C	9414.116 468	
0.32mm	0.15µm	280°C	9414.116 469	
0.32mm	0.25µm	280°C	9414.116 470	
0.32mm	0.45µm	270°C	9414.116 471	
0.32mm	1.00µm	260°C	9414.116 472	
0.32mm	1.50µm	250°C	9414.116 473	
0.32mm	3.00µm	240°C	9414.116 474	
0.53mm	0.15µm	280°C	9414.116 475	
0.53mm	0.25µm	280°C	9414.116 476	
0.53mm	0.45µm	270°C	9414.116 477	
0.53mm	1.00µm	260°C	9414.116 478	
0.53mm	1.50µm	250°C	9414.116 479	
0.53mm	3.00µm	240°C	9414.116 480	

DN-624 30m

ID	Film	Max Temp	Code	Chroma
0.25mm	0.15µm	280°C	9414.116 430	
0.25mm	0.25µm	280°C	9414.116 431	
0.25mm	0.45µm	270°C	9414.116 432	
0.25mm	1.00µm	260°C	9414.116 433	
0.25mm	1.50µm	250°C	9414.116 434	
0.32mm	0.15µm	280°C	9414.116 435	
0.32mm	0.25µm	280°C	9414.116 436	
0.32mm	0.45µm	270°C	9414.116 437	
0.32mm	1.00µm	260°C	9414.116 438	
0.32mm	1.50µm	250°C	9414.116 439	
0.32mm	3.00µm	240°C	9414.116 440	
0.53mm	0.15µm	280°C	9414.116 441	
0.53mm	0.25µm	280°C	9414.116 442	
0.53mm	0.45µm	270°C	9414.116 443	
0.53mm	1.00µm	260°C	9414.116 444	
0.53mm	1.50µm	250°C	9414.116 445	
0.53mm	3.00µm	240°C	9414.116 446	

DN-624 Technical Specifications

Every Column Individually Tested
Test Certified and Grob Mixture included in each Column
Instruction Manual included in each Column

DANI DN-624 Capillary Column
(3.5% Cyanopropyl, 3.5% Phenyl) - 93% methylpolysiloxane
Intermediate Polarity
Bonded and cross-linked
Inertness
Low bleeding
Good thermal stability

Similar to 007-1301, DB™-624, DB™-1301, HP™-1301, HP™-624, Rtx™-1301, Rtx™-624, SPB-1301, SPB-624, 007-624, ZB-624, AT™-624, AT™-1301

Equivalent to USP G43

DN-1701

DN-1701 15m

ID	Film	Max Temp	Code	Chroma
0.25mm	0.15µm	280°C	9414.116 481	
0.25mm	0.25µm	280°C	9414.116 482	
0.25mm	0.45µm	280°C	9414.116 483	
0.25mm	1.00µm	280°C	9414.116 484	
0.25mm	1.50µm	280°C	9414.116 485	
0.32mm	0.15µm	280°C	9414.116 486	
0.32mm	0.25µm	280°C	9414.116 487	
0.32mm	0.45µm	280°C	9414.116 488	
0.32mm	1.00µm	280°C	9414.116 489	
0.32mm	1.50µm	280°C	9414.116 490	
0.53mm	0.15µm	280°C	9414.116 491	
0.53mm	0.25µm	280°C	9414.116 492	
0.53mm	0.45µm	280°C	9414.116 493	
0.53mm	1.00µm	280°C	9414.116 494	
0.53mm	1.50µm	280°C	9414.116 495	

DN-1701 25m

ID	Film	Max Temp	Code	Chroma
0.25mm	0.15µm	280°C	9414.116 496	
0.25mm	0.25µm	280°C	9414.116 497	025
0.25mm	0.45µm	280°C	9414.116 498	
0.25mm	1.00µm	280°C	9414.116 499	
0.25mm	1.50µm	280°C	9414.116 500	
0.32mm	0.15µm	280°C	9414.116 501	
0.32mm	0.25µm	280°C	9414.116 502	
0.32mm	0.45µm	280°C	9414.116 503	
0.32mm	1.00µm	280°C	9414.116 504	
0.32mm	1.50µm	280°C	9414.116 505	
0.53mm	0.15µm	280°C	9414.116 506	
0.53mm	0.25µm	280°C	9414.116 507	
0.53mm	0.45µm	280°C	9414.116 508	
0.53mm	1.00µm	280°C	9414.116 509	
0.53mm	1.50µm	280°C	9414.116 510	

DN-1701 30m

ID	Film	Max Temp	Code	Chroma
0.25mm	0.15µm	280°C	9414.116 511	
0.25mm	0.25µm	280°C	9414.116 512	
0.25mm	0.45µm	280°C	9414.116 513	
0.25mm	1.00µm	280°C	9414.116 514	
0.25mm	1.50µm	280°C	9414.116 515	
0.32mm	0.15µm	280°C	9414.116 516	
0.32mm	0.25µm	280°C	9414.116 517	
0.32mm	0.45µm	280°C	9414.116 518	
0.32mm	1.00µm	280°C	9414.116 519	
0.32mm	1.50µm	280°C	9414.116 520	
0.53mm	0.15µm	280°C	9414.116 521	
0.53mm	0.25µm	280°C	9414.116 522	
0.53mm	0.45µm	280°C	9414.116 523	
0.53mm	1.00µm	280°C	9414.116 524	
0.53mm	1.50µm	280°C	9414.116 525	

DN-1701 50m

ID	Film	Max Temp	Code	Chroma
0.25mm	0.15µm	280°C	9414.116 526	
0.25mm	0.25µm	280°C	9414.116 527	
0.25mm	0.45µm	280°C	9414.116 528	
0.25mm	1.00µm	280°C	9414.116 529	
0.25mm	1.50µm	280°C	9414.116 530	
0.32mm	0.15µm	280°C	9414.116 531	
0.32mm	0.25µm	280°C	9414.116 532	
0.32mm	0.45µm	280°C	9414.116 533	
0.32mm	1.00µm	280°C	9414.116 534	
0.32mm	1.50µm	280°C	9414.116 535	
0.53mm	0.15µm	280°C	9414.116 536	
0.53mm	0.25µm	280°C	9414.116 537	
0.53mm	0.45µm	280°C	9414.116 538	
0.53mm	1.00µm	280°C	9414.116 539	
0.53mm	1.50µm	280°C	9414.116 540	

DN-1701 60m

ID	Film	Max Temp	Code	Chroma
0.25mm	0.15µm	280°C	9414.116 541	
0.25mm	0.25µm	280°C	9414.116 542	
0.25mm	0.45µm	280°C	9414.116 543	
0.25mm	1.00µm	280°C	9414.116 544	
0.25mm	1.50µm	280°C	9414.116 545	
0.32mm	0.15µm	280°C	9414.116 546	
0.32mm	0.25µm	280°C	9414.116 547	
0.32mm	0.45µm	280°C	9414.116 548	
0.32mm	1.00µm	280°C	9414.116 549	
0.32mm	1.50µm	280°C	9414.116 550	
0.53mm	0.15µm	280°C	9414.116 551	
0.53mm	0.25µm	280°C	9414.116 552	
0.53mm	0.45µm	280°C	9414.116 553	
0.53mm	1.00µm	280°C	9414.116 554	
0.53mm	1.50µm	280°C	9414.116 555	

DN-1701 Technical Specifications

Every Column Individually Tested
Test Certified and Grob Mixture included in each Column
Instruction Manual included in each Column

DANI DN-1701 Capillary Column
(7% Cyanopropyl 7% Phenyl) - 86% methylpolysiloxane
Intermediate Polarity
Bonded and cross-linked
Inertness
Low bleeding
Good thermal stability

Similar to 007-1701, CP-Sil 19CB, DB-1701, HP™-1701, OV™-1701, PAS-1701, Rtx™-1701, SPB-1701, BP-10, ZB-1701, AT™-1701

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DN-1701

Chromatograms

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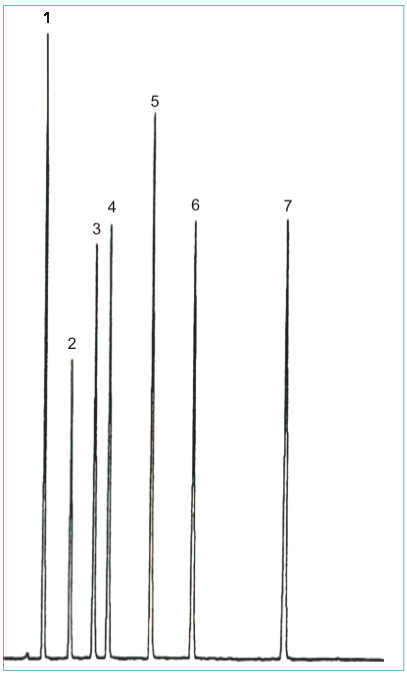

Pesticides

DN-1701 25m 0.25mm 0.25µm

Chromatographic Conditions	
Oven	160°C - 1 min - 5°C/min - 260°C
Injection	Split - 280°C - 1:20
Carrier Gas	Hydrogen - 60 kPa
Injection volume	1 µL
Detector	FPD - 160°C

Peak Identification	
1	Diazinone
2	Chlorpyriphos methyl
3	Parathion methyl
4	Chlorpyriphos
5	Malathion
6	Methidathion
7	Ethion
8	Azinphos methyl
9	Phosalone

025

DN-1701 FAST

DN-1701 FAST 5m

ID	Film	Max Temp	Code	Chroma
0.05mm	0.05µm	350°C	9414.116 556	
0.05mm	0.10µm	350°C	9414.116 557	
0.10mm	0.10µm	350°C	9414.116 558	026/027/028
0.10mm	0.20µm	350°C	9414.116 559	

DN-1701 FAST 10m

ID	Film	Max Temp	Code	Chroma
0.05mm	0.05µm	350°C	9414.116 560	
0.05mm	0.10µm	350°C	9414.116 561	
0.10mm	0.10µm	350°C	9414.116 562	
0.10mm	0.20µm	350°C	9414.116 563	

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DN-1701 FAST Technical Specifications

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Instruction Manual included in each Column

DANI DN-1701 FAST Capillary Column
(7% Cyanopropyl 7% Phenyl) - 86% methylpolysiloxane
Intermediate Polarity
Bonded and cross-linked
Inertness
Low bleeding
Good thermal stability

Similar to 007-1701, CP-Sil 19CB, DB-1701, HP™-1701, OV™-1701, PAS-1701, Rtx™-1701, SPB-1701, BP-10, ZB-1701, AT™-1701

DN-1701 FAST

Chromatograms

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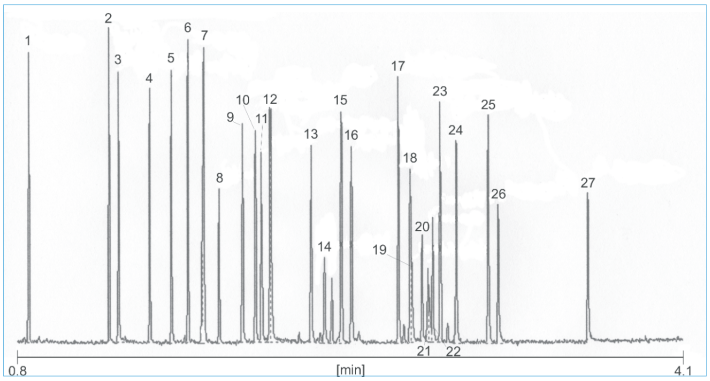
Allergens

Peak Identification	
1	Limonene
2	Linalol
3	Benzyl Alcohol
4	Veratrol
5	Me-Octynoate
6	Citronellol
7	/
8	Neral
9	Geranial
10	OH-Citronellal
11	Eugenol
12	Anisol + Cinnamol
13	α iso Me-Ionone
14	Isoeugenol
15	Lilial
16	Coumarine
17	Amyl Cynnamal
18	Lyral 1
19	Lyral 2
20	Farnesol 1
21	Farnesol 2
22	Farnesol 3
23	Amyl Cynnamol
24	Hexyl Cynnamal
25	Cynnamal
26	Bz. Salycilate
27	Bz. Cynnamate

DN-1701 FAST 5m 0.10mm 0.10µm

Chromatographic Conditions	
Oven	50°C - 0.1 min - 50°C/min - 250°C - 5 min
Injection	Split - 230°C - 1:200
Carrier Gas	Hydrogen - 0.5 ml/min
Injection volume	1 µL
Detector	FID - 250°C



Courtesy of Prof. C. Bicchi, C. Brunelli
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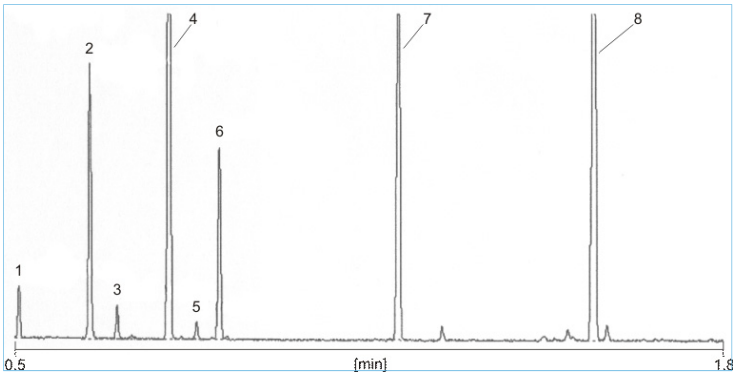
026

Bergamot

DN-1701 FAST 5m 0.10mm 0.10µm

Chromatographic Conditions	
Oven	50°C - 0.1 min - 50°C/min - 250°C - 5 min
Injection	Split - 230°C - 1:200
Carrier Gas	Hydrogen - 0.5 ml/min
Injection volume	1 µL
Detector	FID - 250°C



Peak Identification	
1	α-Pinene
2	β-Pinene
3	Myrcene
4	Limonene
5	p-Cimene
6	γ-Terpinene
7	Linalool
8	Linalyl Acetate

Courtesy of Prof. C. Bicchi, C. Brunelli
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027

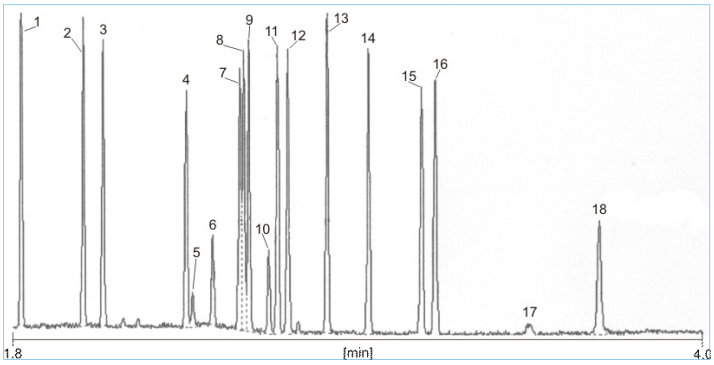
DN-1701 FAST

Chromatograms

Pesticides

DN-1701 FAST 5m 0.10mm 0.10µm

Chromatographic Conditions	
Oven	50°C - 0.1 min - 50°C/min - 250°C - 5 min
Injection	Split - 230°C - 1:200
Carrier Gas	Hydrogen - 0.5 ml/min
Injection volume	1 µL
Detector	FID - 250°C



Courtesy of Prof. C. Bicchi, C. Brunelli
Università di Torino - Dipartimento Scienza e Tecnologia del Farmaco
Via P. Giuria, 9 - Torino - ITALY

Peak Identification	
1	α-HCH
2	γ-HCH
3	/
4	/
5	o,p'-DDT
6	p,p'-DDT
7	/
8	Heptachlor
9	Chlorotalonil
10	Parathion-Me
11	Malathion
12	Fenotrothion
13	Parathion-Et
14	Fenitrothion
15	Chlordane-Cis + Trans
16	Dieldrin
17	β-Endosulfan
18	Tetradifon

028

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DN-200

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DN-200 15m

ID	Film	Max Temp	Code	Chroma
0.25mm	0.15µm	350°C	9414.116 564	
0.25mm	0.25µm	320°C	9414.116 565	
0.25mm	0.45µm	300°C	9414.116 566	
0.25mm	1.00µm	280°C	9414.116 567	
0.32mm	0.15µm	350°C	9414.116 568	
0.32mm	0.25µm	320°C	9414.116 569	
0.32mm	0.45µm	300°C	9414.116 570	
0.32mm	1.00µm	280°C	9414.116 571	
0.32mm	1.50µm	280°C	9414.116 572	
0.53mm	0.15µm	350°C	9414.116 573	
0.53mm	0.25µm	320°C	9414.116 574	
0.53mm	0.45µm	300°C	9414.116 575	
0.53mm	1.00µm	280°C	9414.116 576	
0.53mm	1.50µm	280°C	9414.116 577	
0.53mm	3.00µm	280°C	9414.116 578	

DN-200 50m

ID	Film	Max Temp	Code	Chroma
0.25mm	0.15µm	350°C	9414.116 609	
0.25mm	0.25µm	320°C	9414.116 610	
0.25mm	0.45µm	300°C	9414.116 611	
0.25mm	1.00µm	280°C	9414.116 612	
0.32mm	0.15µm	350°C	9414.116 613	
0.32mm	0.25µm	320°C	9414.116 614	
0.32mm	0.45µm	300°C	9414.116 615	
0.32mm	1.00µm	280°C	9414.116 616	
0.32mm	1.50µm	280°C	9414.116 617	
0.53mm	0.15µm	350°C	9414.116 618	
0.53mm	0.25µm	320°C	9414.116 619	
0.53mm	0.45µm	300°C	9414.116 620	
0.53mm	1.00µm	280°C	9414.116 621	
0.53mm	1.50µm	280°C	9414.116 622	
0.53mm	3.00µm	280°C	9414.116 623	

DN-200 25m

ID	Film	Max Temp	Code	Chroma
0.25mm	0.15µm	350°C	9414.116 579	
0.25mm	0.25µm	320°C	9414.116 580	
0.25mm	0.45µm	300°C	9414.116 581	
0.25mm	1.00µm	280°C	9414.116 582	
0.32mm	0.15µm	350°C	9414.116 583	
0.32mm	0.25µm	320°C	9414.116 584	
0.32mm	0.45µm	300°C	9414.116 585	
0.32mm	1.00µm	280°C	9414.116 586	
0.32mm	1.50µm	280°C	9414.116 587	
0.53mm	0.15µm	350°C	9414.116 588	
0.53mm	0.25µm	320°C	9414.116 589	
0.53mm	0.45µm	300°C	9414.116 590	
0.53mm	1.00µm	280°C	9414.116 591	
0.53mm	1.50µm	280°C	9414.116 592	
0.53mm	3.00µm	280°C	9414.116 593	

DN-200 60m

ID	Film	Max Temp	Code	Chroma
0.25mm	0.15µm	350°C	9414.116 624	
0.25mm	0.25µm	320°C	9414.116 625	
0.25mm	0.45µm	300°C	9414.116 626	
0.25mm	1.00µm	280°C	9414.116 627	
0.32mm	0.15µm	350°C	9414.116 628	
0.32mm	0.25µm	320°C	9414.116 629	
0.32mm	0.45µm	300°C	9414.116 630	
0.32mm	1.00µm	280°C	9414.116 631	
0.32mm	1.50µm	280°C	9414.116 632	
0.53mm	0.15µm	350°C	9414.116 633	
0.53mm	0.25µm	320°C	9414.116 634	
0.53mm	0.45µm	300°C	9414.116 635	
0.53mm	1.00µm	280°C	9414.116 636	
0.53mm	1.50µm	280°C	9414.116 637	
0.53mm	3.00µm	280°C	9414.116 638	

DN-200 30m

ID	Film	Max Temp	Code	Chroma
0.25mm	0.15µm	350°C	9414.116 594	
0.25mm	0.25µm	320°C	9414.116 595	
0.25mm	0.45µm	300°C	9414.116 596	
0.25mm	1.00µm	280°C	9414.116 597	
0.32mm	0.15µm	350°C	9414.116 598	
0.32mm	0.25µm	320°C	9414.116 599	
0.32mm	0.45µm	300°C	9414.116 600	
0.32mm	1.00µm	280°C	9414.116 601	
0.32mm	1.50µm	280°C	9414.116 602	
0.53mm	0.15µm	350°C	9414.116 603	
0.53mm	0.25µm	320°C	9414.116 604	
0.53mm	0.45µm	300°C	9414.116 605	
0.53mm	1.00µm	280°C	9414.116 606	
0.53mm	1.50µm	280°C	9414.116 607	
0.53mm	3.00µm	280°C	9414.116 608	

DN-200 Technical Specifications

Every Column Individually Tested
Test Certified and Grob Mixture included in each Column
Instruction Manual included in each Column

DANI DN-200 Capillary Column
Trifluoropropyl-methylpolysiloxane
Polar
Bonded and cross-linked
Inertness
Low bleeding
Good thermal stability

Similar to DB™-210, RSL-400, Rtx™-200, OV™-202, OV™-210, OV™-215, QF-1, SP-2401, AT™-210

Equivalent to USP G6

DN-200 FAST

DN-200 FAST 5m

ID	Film	Max Temp	Code	Chroma
0.05mm	0.05µm	350°C	9414.116 639	
0.05mm	0.10µm	350°C	9414.116 640	
0.10mm	0.10µm	350°C	9414.116 641	
0.10mm	0.20µm	350°C	9414.116 642	

DN-200 FAST 10m

ID	Film	Max Temp	Code	Chroma
0.05mm	0.05µm	350°C	9414.116 643	
0.05mm	0.10µm	350°C	9414.116 644	
0.10mm	0.10µm	350°C	9414.116 645	
0.10mm	0.20µm	350°C	9414.116 646	

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DN-200 FAST Technical Specifications

Every Column Individually Tested
Test Certified and Grob Mixture included in each Column
Instruction Manual included in each Column

DANI DN-200 FAST Capillary Column
Trifluoropropyl-methylpolysiloxane
Polar
Bonded and cross-linked
Inertness
Low bleeding
Good thermal stability

Similar to DB™-210, RSL-400, Rtx™-200, OV™-202, OV™-210, OV™-215, QF-1, SP-2401, AT™-210

Equivalent to USP G6

DN-225

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DN-225 15m

ID	Film	Max Temp	Code	Chroma
0.25mm	0.15µm	280°C	9414.116 647	
0.25mm	0.25µm	280°C	9414.116 648	
0.25mm	0.45µm	280°C	9414.116 649	
0.25mm	1.00µm	280°C	9414.116 650	
0.25mm	1.50µm	280°C	9414.116 651	
0.32mm	0.15µm	280°C	9414.116 652	
0.32mm	0.25µm	280°C	9414.116 653	
0.32mm	0.45µm	280°C	9414.116 654	
0.32mm	1.00µm	280°C	9414.116 655	
0.32mm	1.50µm	280°C	9414.116 656	
0.53mm	0.15µm	280°C	9414.116 657	
0.53mm	0.25µm	280°C	9414.116 658	
0.53mm	0.45µm	280°C	9414.116 659	
0.53mm	1.00µm	280°C	9414.116 660	
0.53mm	1.50µm	280°C	9414.116 661	

DN-225 50m

ID	Film	Max Temp	Code	Chroma
0.25mm	0.15µm	280°C	9414.116 692	
0.25mm	0.25µm	280°C	9414.116 693	
0.25mm	0.45µm	280°C	9414.116 694	
0.25mm	1.00µm	280°C	9414.116 695	
0.25mm	1.50µm	280°C	9414.116 696	
0.32mm	0.15µm	280°C	9414.116 697	
0.32mm	0.25µm	280°C	9414.116 698	
0.32mm	0.45µm	280°C	9414.116 699	
0.32mm	1.00µm	280°C	9414.116 700	
0.32mm	1.50µm	280°C	9414.116 701	
0.53mm	0.15µm	280°C	9414.116 702	
0.53mm	0.25µm	280°C	9414.116 703	
0.53mm	0.45µm	280°C	9414.116 704	
0.53mm	1.00µm	280°C	9414.116 705	
0.53mm	1.50µm	280°C	9414.116 706	

DN-225 25m

ID	Film	Max Temp	Code	Chroma
0.25mm	0.15µm	280°C	9414.116 662	
0.25mm	0.25µm	280°C	9414.116 663	
0.25mm	0.45µm	280°C	9414.116 664	
0.25mm	1.00µm	280°C	9414.116 665	
0.25mm	1.50µm	280°C	9414.116 666	
0.32mm	0.15µm	280°C	9414.116 667	
0.32mm	0.25µm	280°C	9414.116 668	
0.32mm	0.45µm	280°C	9414.116 669	
0.32mm	1.00µm	280°C	9414.116 670	
0.32mm	1.50µm	280°C	9414.116 671	
0.53mm	0.15µm	280°C	9414.116 672	
0.53mm	0.25µm	280°C	9414.116 673	
0.53mm	0.45µm	280°C	9414.116 674	
0.53mm	1.00µm	280°C	9414.116 675	
0.53mm	1.50µm	280°C	9414.116 676	

DN-225 60m

ID	Film	Max Temp	Code	Chroma
0.25mm	0.15µm	280°C	9414.116 707	
0.25mm	0.25µm	280°C	9414.116 708	
0.25mm	0.45µm	280°C	9414.116 709	
0.25mm	1.00µm	280°C	9414.116 710	
0.25mm	1.50µm	280°C	9414.116 711	
0.32mm	0.15µm	280°C	9414.116 712	
0.32mm	0.25µm	280°C	9414.116 713	
0.32mm	0.45µm	280°C	9414.116 714	
0.32mm	1.00µm	280°C	9414.116 715	
0.32mm	1.50µm	280°C	9414.116 716	
0.53mm	0.15µm	280°C	9414.116 717	
0.53mm	0.25µm	280°C	9414.116 718	
0.53mm	0.45µm	280°C	9414.116 719	
0.53mm	1.00µm	280°C	9414.116 720	
0.53mm	1.50µm	280°C	9414.116 721	

DN-225 30m

ID	Film	Max Temp	Code	Chroma
0.25mm	0.15µm	280°C	9414.116 677	
0.25mm	0.25µm	280°C	9414.116 678	
0.25mm	0.45µm	280°C	9414.116 679	
0.25mm	1.00µm	280°C	9414.116 680	
0.25mm	1.50µm	280°C	9414.116 681	
0.32mm	0.15µm	280°C	9414.116 682	
0.32mm	0.25µm	280°C	9414.116 683	
0.32mm	0.45µm	280°C	9414.116 684	
0.32mm	1.00µm	280°C	9414.116 685	
0.32mm	1.50µm	280°C	9414.116 686	
0.53mm	0.15µm	280°C	9414.116 687	
0.53mm	0.25µm	280°C	9414.116 688	
0.53mm	0.45µm	280°C	9414.116 689	
0.53mm	1.00µm	280°C	9414.116 690	
0.53mm	1.50µm	280°C	9414.116 691	

DN-225 Technical Specifications

Every Column Individually Tested
Test Certified and Grob Mixture included in each Column
Instruction Manual included in each Column

DANI DN-225 Capillary Column
(50% Cyanopropylphenyl) - 50% methylpolysiloxane
Mid to High polarity
Bonded
Inertness
Low bleeding
Good thermal stability

Similar to 007-225, CP-Sil43CB, DB™-225, HP™-225, OV™-225, RSL-500,Rtx™-225, BP-225, PE-225, AT™-225

Equivalent to USP G7

DN-225 FAST

DN-225 FAST 5m

ID	Film	Max Temp	Code	Chroma
0.05mm	0.05µm	280°C	9414.116 722	
0.05mm	0.10µm	280°C	9414.116 723	
0.10mm	0.10µm	280°C	9414.116 724	
0.10mm	0.20µm	280°C	9414.116 725	

DN-225 FAST 10m

ID	Film	Max Temp	Code	Chroma
0.05mm	0.05µm	280°C	9414.116 726	
0.05mm	0.10µm	280°C	9414.116 727	
0.10mm	0.10µm	280°C	9414.116 728	
0.10mm	0.20µm	280°C	9414.116 729	

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DN-225 FAST Technical Specifications

Every Column Individually Tested
Test Certified and Grob Mixture included in each Column
Instruction Manual included in each Column

DANI DN-225 FAST Capillary Column
(50% Cyanopropylphenyl) - 50% methylpolysiloxane
Mid to High polarity
Bonded
Inertness
Low bleeding
Good thermal stability

Similar to 007-225, CP-Sil43CB, DB™-225, HP™-225, OV™-225, RSL-500,Rtx™-225, BP-225, PE-225, AT™-225

Equivalent to USP G7

DN-50

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DN-50 15m

ID	Film	Max Temp	Code	Chroma
0.25mm	0.25µm	260°C	9414.116 730	
0.32mm	0.25µm	260°C	9414.116 731	
0.53mm	0.25µm	260°C	9414.116 732	

DN-50 25m

ID	Film	Max Temp	Code	Chroma
0.25mm	0.25µm	260°C	9414.116 733	
0.32mm	0.25µm	260°C	9414.116 734	
0.53mm	0.25µm	260°C	9414.116 735	

DN-50 30m

ID	Film	Max Temp	Code	Chroma
0.25mm	0.25µm	260°C	9414.116 736	
0.32mm	0.25µm	260°C	9414.116 737	
0.53mm	0.25µm	260°C	9414.116 738	

DN-50 50m

ID	Film	Max Temp	Code	Chroma
0.25mm	0.25µm	260°C	9414.116 739	
0.32mm	0.25µm	260°C	9414.116 740	
0.53mm	0.25µm	260°C	9414.116 741	

DN-50 60m

ID	Film	Max Temp	Code	Chroma
0.25mm	0.25µm	260°C	9414.116 742	
0.32mm	0.25µm	260°C	9414.116 743	
0.53mm	0.25µm	260°C	9414.116 744	

DN-50 Technical Specifications

Every Column Individually Tested
Test Certified and Grob Mixture included in each Column
Instruction Manual included in each Column

DANI DN-50 Capillary Column
(50% Cyanopropyl) - 50% methylpolysiloxane
High polarity
Bonded
Inertness
Low bleeding
Good thermal stability

Similar to DB™-23, 007-23, PE-23, Rtx™-2330, SP 2330, AT™-SILAR

Equivalent to USP G5

DN-50 FAST

DN-50 FAST 5m

ID	Film	Max Temp	Code	Chroma
0.05mm	0.05µm	260°C	9414.116 745	
0.05mm	0.10µm	260°C	9414.116 746	
0.10mm	0.10µm	260°C	9414.116 747	
0.10mm	0.20µm	260°C	9414.116 748	

DN-50 FAST 10m

ID	Film	Max Temp	Code	Chroma
0.05mm	0.05µm	260°C	9414.116 749	
0.05mm	0.10µm	260°C	9414.116 750	
0.10mm	0.10µm	260°C	9414.116 751	
0.10mm	0.20µm	260°C	9414.116 752	

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DN-50 FAST Technical Specifications

Every Column Individually Tested
Test Certified and Grob Mixture included in each Column
Instruction Manual included in each Column

DANI DN-50 FAST Capillary Column
(50% Cyanopropyl) - 50% methylpolysiloxane
High polarity
Bonded
Inertness
Low bleeding
Good thermal stability

Similar to DB™-23, 007-23, PE-23, Rtx™-2330, SP 2330, AT™-SILAR

Equivalent to USP G5

DN-WAX

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DN-WAX 15m

ID	Film	Max Temp	Code	Chroma
0.25mm	0.15µm	250°C	9414.116 753	
0.25mm	0.25µm	250°C	9414.116 754	
0.25mm	0.45µm	250°C	9414.116 755	
0.25mm	1.00µm	250°C	9414.116 756	
0.32mm	0.15µm	250°C	9414.116 757	
0.32mm	0.25µm	250°C	9414.116 758	
0.32mm	0.45µm	250°C	9414.116 759	
0.32mm	1.00µm	250°C	9414.116 760	
0.53mm	0.15µm	250°C	9414.116 761	
0.53mm	0.25µm	250°C	9414.116 762	
0.53mm	0.45µm	250°C	9414.116 763	
0.53mm	1.00µm	250°C	9414.116 764	

DN-WAX 50m

ID	Film	Max Temp	Code	Chroma
0.25mm	0.15µm	250°C	9414.116 789	
0.25mm	0.25µm	250°C	9414.116 790	
0.25mm	0.45µm	250°C	9414.116 791	
0.25mm	1.00µm	250°C	9414.116 792	
0.32mm	0.15µm	250°C	9414.116 793	
0.32mm	0.25µm	250°C	9414.116 794	
0.32mm	0.45µm	250°C	9414.116 795	
0.32mm	1.00µm	250°C	9414.116 796	
0.53mm	0.15µm	250°C	9414.116 797	
0.53mm	0.25µm	250°C	9414.116 798	
0.53mm	0.45µm	250°C	9414.116 799	
0.53mm	1.00µm	250°C	9414.116 800	

DN-WAX 25m

ID	Film	Max Temp	Code	Chroma
0.25mm	0.15µm	250°C	9414.116 765	
0.25mm	0.25µm	250°C	9414.116 766	035
0.25mm	0.45µm	250°C	9414.116 767	
0.25mm	1.00µm	250°C	9414.116 768	
0.32mm	0.15µm	250°C	9414.116 769	
0.32mm	0.25µm	250°C	9414.116 770	029/031/033
0.32mm	0.45µm	250°C	9414.116 771	
0.32mm	1.00µm	250°C	9414.116 772	032
0.53mm	0.15µm	250°C	9414.116 773	
0.53mm	0.25µm	250°C	9414.116 774	
0.53mm	0.45µm	250°C	9414.116 775	
0.53mm	1.00µm	250°C	9414.116 776	030

DN-WAX 60m

ID	Film	Max Temp	Code	Chroma
0.25mm	0.15µm	250°C	9414.116 801	
0.25mm	0.25µm	250°C	9414.116 802	
0.25mm	0.45µm	250°C	9414.116 803	
0.25mm	1.00µm	250°C	9414.116 804	
0.32mm	0.15µm	250°C	9414.116 805	
0.32mm	0.25µm	250°C	9414.116 806	
0.32mm	0.45µm	250°C	9414.116 807	
0.32mm	1.00µm	250°C	9414.116 808	
0.53mm	0.15µm	250°C	9414.116 809	
0.53mm	0.25µm	250°C	9414.116 810	
0.53mm	0.45µm	250°C	9414.116 811	
0.53mm	1.00µm	250°C	9414.116 812	

DN-WAX 30m

ID	Film	Max Temp	Code	Chroma
0.25mm	0.15µm	250°C	9414.116 777	
0.25mm	0.25µm	250°C	9414.116 778	
0.25mm	0.45µm	250°C	9414.116 779	
0.25mm	1.00µm	250°C	9414.116 780	
0.32mm	0.15µm	250°C	9414.116 781	
0.32mm	0.25µm	250°C	9414.116 782	034
0.32mm	0.45µm	250°C	9414.116 783	
0.32mm	1.00µm	250°C	9414.116 784	
0.53mm	0.15µm	250°C	9414.116 785	
0.53mm	0.25µm	250°C	9414.116 786	
0.53mm	0.45µm	250°C	9414.116 787	
0.53mm	1.00µm	250°C	9414.116 788	062

DN-WAX Technical Specifications

Every Column Individually Tested
Test Certified and Grob Mixture included in each Column
Instruction Manual included in each Column

DANI DN-WAX Capillary Column
Polyethyleneglycol
Polar
Bonded and cross-linked
Inertness
Low bleeding
Good thermal stability

Similar to 007-CW, Carbowax® 20M, CP-Wax 52CB, DB™-WAX, Rtx™-WAX, HP-20M, HP™-Wax, Innowax™, Omegawax, Stabilwax®, SUPELCOWAX®-10, SUPEROX®II, BP-20, ZB-WAX, AT™-WAX, EC™-WAX

Equivalent to USP G14, G15, G16, G20, G39

DN-WAX
Chromatograms

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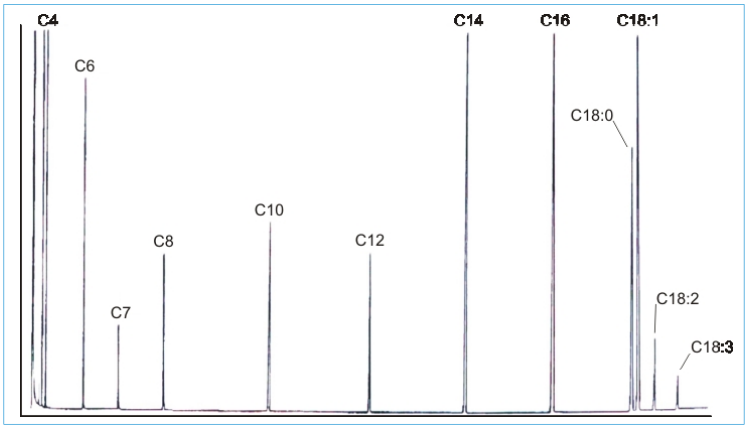


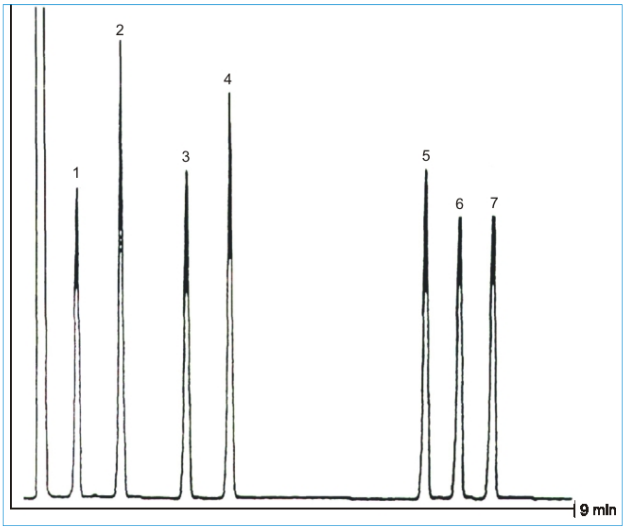
Fatty Acid Methyl Esters (FAME) C4-C18:3

DN-WAX 25m 0.32mm 0.25µm

Chromatographic Conditions	
Oven	50°C - 4°C/min - 210°C
Injection	Split - 250°C - 1:50
Carrier Gas	Hydrogen - 60 kPa
Injection volume	1 µL
Detector	FID - 250°C

Peak Identification	
1	Butyric Acid ME
2	Caproic Acid ME
3	Heptanoic Acid ME
4	Caprylic Acid ME
5	Decanoic Acid ME
6	Lauric Acid ME
7	Myristic Acid ME
8	Palmitic Acid ME
9	Stearic Acid ME
10	Oleic Acid ME
11	Linoleic Acid ME
12	Linolenic Acid ME

029



Aromatics - EPA Method 602

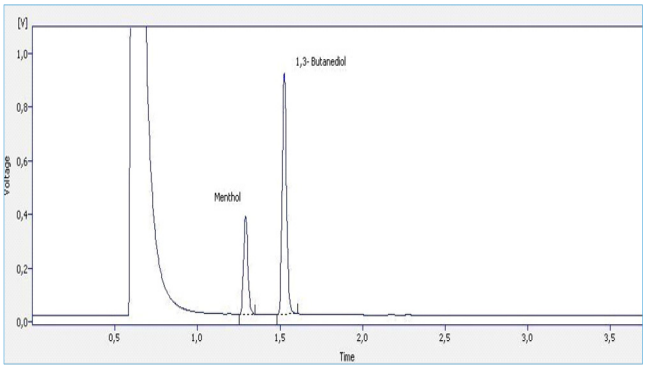
DN-WAX 25m 0.53mm 1.00µm

Chromatographic Conditions	
Oven	50°C - 8°C/min - 120°C
Injection	Splitless - 250°C
Carrier Gas	Helium - 20 kPa
Injection volume	1 µL
Detector	FID - 250°C

Peak Identification	
1	Benzene
2	Toluene
3	Ethylbenzene
4	Chlorobenzene
5	1,3-Dichlorobenzene
6	1,4-Dichlorobenzene
7	1,2-Dichlorobenzene

030

Determination of Menthol in cigarette according to tobacco companies methods



DN-WAX 30m 0.53mm 1.00µm

Chromatographic Conditions	
Oven	180°C Isothermal
Injection	Splitless - 230°C
Carrier Gas	Helium - 12.5 ml/min
Injection volume	0.2 µL
Detector	FID - 230°C

062

DN-WAX

Chromatograms

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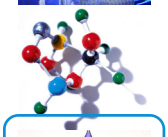
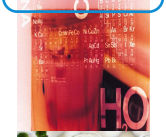


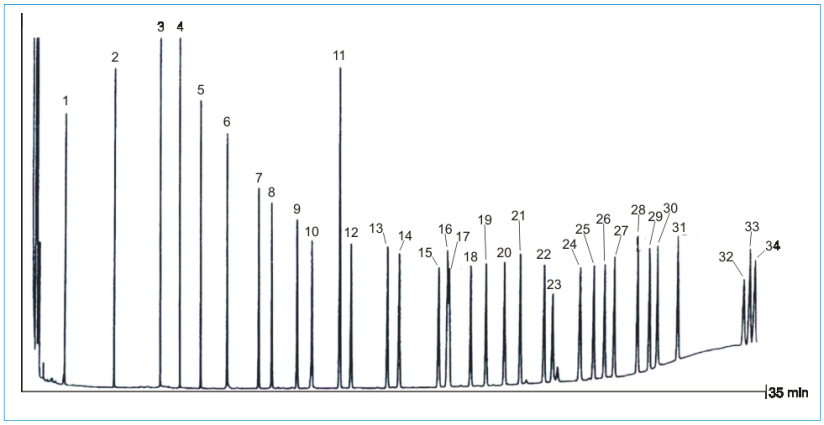



Peak Identification	
1	C6:0
2	C8:0
3	C10:0
4	C11:0
5	C12:0
6	C13:0
7	C14:0
8	C14:1 n-5
9	C15:0
10	C15:1 n-5
11	C16:0
12	C16:1 n-7
13	C17:0
14	C17:1 n-7
15	C18:0
16	C18:1 cis n-9
17	C18:1 trans n-9
18	C18:2 n-6
19	C18:3 n-6
20	C18:3 n-3
21	C18:4 n-3
22	C20:0
23	C20:1 n-9
24	C20:2 n-6
25	C20:3 n-6
26	C20:4 n-6
27	C20:3 n-3
28	C20:5
29	C22:0
30	C22:1 n-9
31	C22:2 n-6
32	C24:0
33	C22:6 n-3
34	C24:1 n-9

Fatty Acid Methyl Esters (FAME)

DN-WAX 25m 0.32mm 0.25µm

Chromatographic Conditions	
Oven	60°C - 2 min - 15°C/min - 105°C - 1 min - 3°C/min - 195°C - 1 min - 5°C/min - 220°C
Injection	On column
Carrier Gas	Hydrogen - 30 kPa
Injection volume	1 µL
Detector	FID

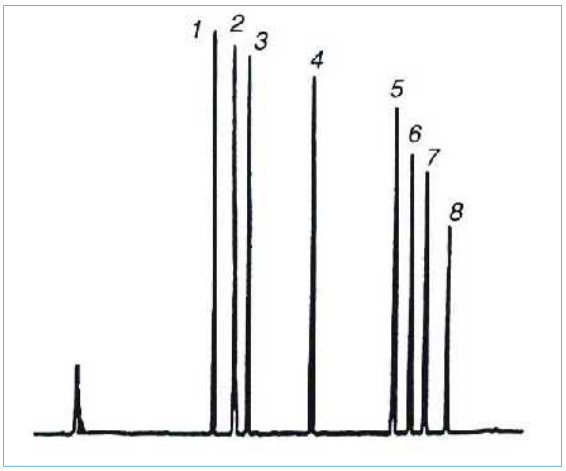


031

N-Nitrosamines

DN-WAX 25m 0.32mm 1.00µm

Chromatographic Conditions	
Oven	60°C - 0.5 min - 25°C/min - 130° - 2 min - 25°C/min - 160°C
Injection	Splitless
Carrier Gas	Helium - 60 kPa
Injection volume	1 µL
Detector	NPD

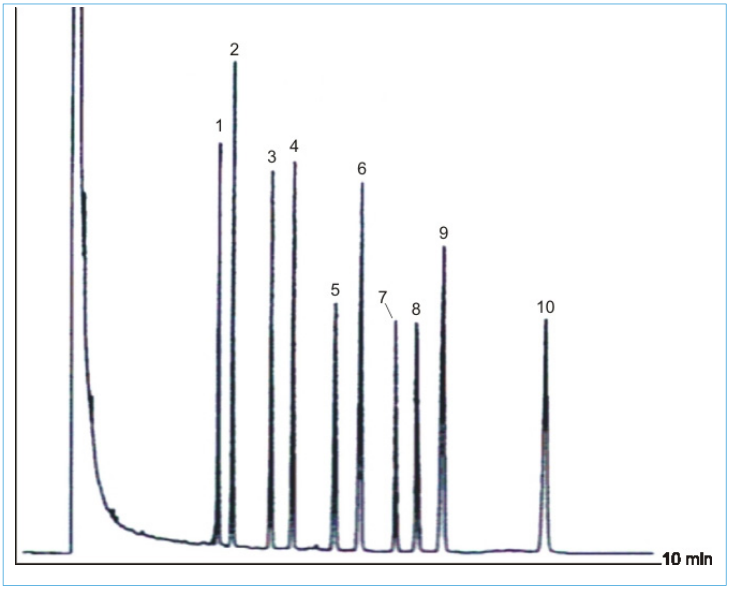


Peak Identification	
1	N-nitrosodimethylamine
2	N-nitrosomethylamine
3	N-nitrosodiethilamine
4	N-nitrosodi-n-propylamine
5	N-nitrosodi-n-butylamine
6	N-nitrosopiperidine
7	N-nitrosopyrrolidine
8	N-nitrosomorpholine

032

DN-WAX

Chromatograms



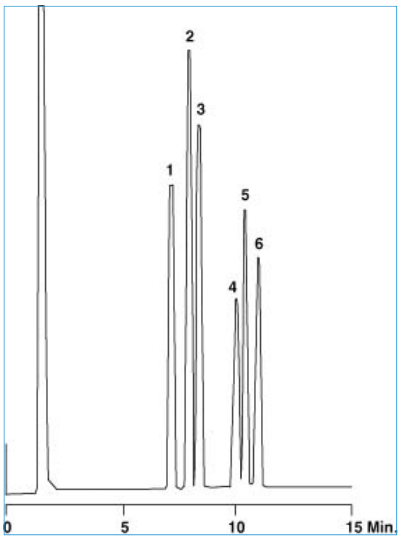
Triazine - EPA Method 619

DN-WAX 25m 0.32mm 0.25µm

Chromatographic Conditions	
Oven	Isothermal - 230°C
Injection	Split - 280°C - 1:70
Carrier Gas	Hydrogen - 70 kPa
Injection volume	1 µL
Detector	FID - 250°C

Peak Identification	
1	Trietazine
2	Prometon
3	Propazine
4	Terbuthylazine
5	Atrazine
6	Prometryn
7	Terburtryn
8	Simazine
9	Ametryn
10	Simetryn

033



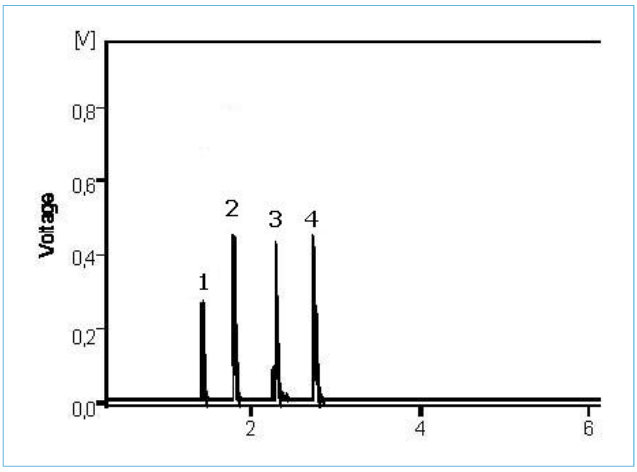
Dimethylaniline

DN-WAX 30m 0.32mm 0.25µm

Chromatographic Conditions	
Oven	Isothermal - 130°C
Injection	Split
Carrier Gas	Nitrogen - 1.8 mL/min
Injection volume	1 µL
Detector	FID

Peak Identification	
1	2,6 - Dimethylaniline
2	2,4 - Dimethylaniline
3	2,5 - Dimethylaniline
4	3,5 - Dimethylaniline
5	2,3 - Dimethylaniline
6	3,4 - Dimethylaniline

034



Residual Solvents in radiopharmaceuticals

DN-WAX 25m 0.25mm 0.25µm

Chromatographic Conditions	
Oven	50°C - 1 min - 20°C/min - 85°C - 5 min 20°C/min - 200°C
Injection	Split - 250°C - 1:40
Carrier Gas	Helium 2 ml/min
Injection volume	1 µL
Detector	FID - 300°C

Peak Identification	
1	Diethylether
2	Ethanol
3	Acetone
4	Acetonitrile

035

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DN-WAX MS

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DN-WAX MS 15m

ID	Film	Max Temp	Code	Chroma
0.25mm	0.15µm	250°C	9414.116 813	
0.25mm	0.25µm	250°C	9414.116 814	
0.32mm	0.15µm	250°C	9414.116 815	
0.32mm	0.25µm	250°C	9414.116 816	

DN-WAX MS 50m

ID	Film	Max Temp	Code	Chroma
0.25mm	0.15µm	250°C	9414.116 825	
0.25mm	0.25µm	250°C	9414.116 826	
0.32mm	0.15µm	250°C	9414.116 827	
0.32mm	0.25µm	250°C	9414.116 828	

DN-WAX MS 25m

ID	Film	Max Temp	Code	Chroma
0.25mm	0.15µm	250°C	9414.116 817	
0.25mm	0.25µm	250°C	9414.116 818	
0.32mm	0.15µm	250°C	9414.116 819	
0.32mm	0.25µm	250°C	9414.116 820	

DN-WAX MS 60m

ID	Film	Max Temp	Code	Chroma
0.25mm	0.15µm	250°C	9414.116 829	
0.25mm	0.25µm	250°C	9414.116 830	
0.32mm	0.15µm	250°C	9414.116 831	
0.32mm	0.25µm	250°C	9414.116 832	

DN-WAX MS 30m

ID	Film	Max Temp	Code	Chroma
0.25mm	0.15µm	250°C	9414.116 821	
0.25mm	0.25µm	250°C	9414.116 822	
0.32mm	0.15µm	250°C	9414.116 823	
0.32mm	0.25µm	250°C	9414.116 824	

DN-WAX MS Technical Specifications

Every Column Individually Tested
Test Certified and Grob Mixture included in each Column
Instruction Manual included in each Column

DANI DN-WAX MS Capillary Column
Polyethyleneglycol
Polar
Bonded and cross-linked
Inertness
Low bleeding
Good thermal stability

Similar to 007-CW, Carbowax® 20M, CP-Wax 52CB, DB™-WAX, Rtx™-WAX, HP-20M, HP™-Wax, Innowax™, Omegawax, Stabilwax®, SUPELCOWAX®-10, SUPEROX®II, BP-20, ZB-WAX, AT™-WAX

Equivalent to USP G14, G15, G16, G20, G39

DN-WAX FAST

DN-WAX FAST 5m

ID	Film	Max Temp	Code	Chroma
0.05mm	0.05µm	250°C	9414.116 833	
0.05mm	0.10µm	250°C	9414.116 834	
0.10mm	0.10µm	250°C	9414.116 835	036/037
0.10mm	0.20µm	250°C	9414.116 836	

DN-WAX FAST 10m

ID	Film	Max Temp	Code	Chroma
0.05mm	0.05µm	250°C	9414.116 837	
0.05mm	0.10µm	250°C	9414.116 838	
0.10mm	0.10µm	250°C	9414.116 839	
0.10mm	0.20µm	250°C	9414.116 840	

DN-WAX FAST 15m

ID	Film	Max Temp	Code	Chroma
0.10mm	0.10µm	250°C	9414.117 300	063/064/065

DN-WAX FAST Technical Specifications

Every Column Individually Tested
Test Certified and Grob Mixture included in each Column
Instruction Manual included in each Column

DANI DN-WAX FAST Capillary Column
Polyethyleneglycol
Polar
Bonded and cross-linked
Inertness
Low bleeding
Good thermal stability

Similar to 007-CW, Carbowax® 20M, CP-Wax 52CB, DB™-WAX, Rtx™-WAX, HP-20M, HP™-Wax, Innowax™, Omegawax, Stabilwax®, SUPELCOWAX®-10, SUPEROX®II, BP-20, ZB-WAX, AT™-WAX

Equivalent to USP G14, G15, G16, G20, G39

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DN-WAX FAST

Chromatograms

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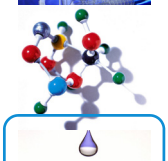
dani.instruments@danispa.it

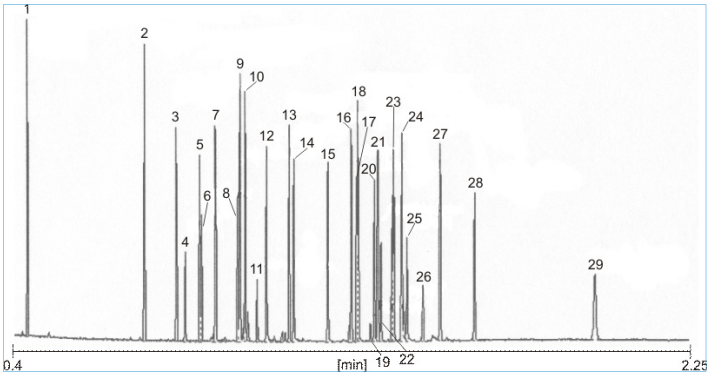




Peak Identification	
1	/
2	α Me-Ionone
3	/
4	Limonene
5	Linalol
6	Me-Octynoate
7	Neral
8	Veratrol
9	Geranial
10	α iso Me-Ionone
11	Geraniol
12	Alc. Benzyl
13	OH-Citronellal
14	Cynnamal
15	Citronellal
16	Eugenol
17	Amyl Cynnamal
18	Anysol
19	Cynnamol
20	Farnesol 1
21	Isoeugenol
22	Hexyl Cynnamal
23	Amyl Cynnamol
24	1-Ph-10
25	Coumarine
26	Lyral 2
27	Bz. Benzoate
28	Bz. Salycilate
29	Bz. Cynnamate

Allergens

DN-WAX FAST 5m 0.10mm 0.10µm

Chromatographic Conditions	
Oven	50°C - 0.1 min - 50°C/min - 230°C - 2 min
Injection	Split - 230°C - 1:200
Carrier Gas	Hydrogen - 0.5 ml/min
Injection volume	1 µL
Detector	FID - 250°C



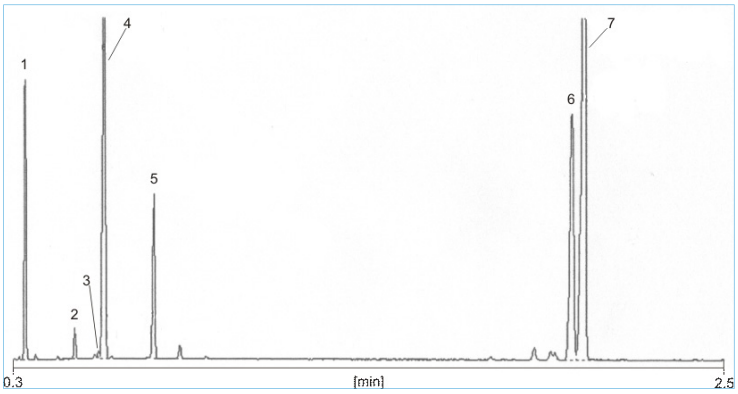
Courtesy of Prof. C. Bicchi, C. Brunelli
Università di Torino - Dipartimento Scienza e Tecnologia del Farmaco
Via P. Giuria, 9 - Torino - ITALY

036

Bergamot

DN-WAX FAST 5m 0.10mm 0.10µm

Chromatographic Conditions	
Oven	50°C - 0.1 min - 30°C/min - 250°C - 5 min
Injection	Split - 230°C - 1:200
Carrier Gas	Hydrogen - 0.5 ml/min
Injection volume	1 µL
Detector	FID - 250°C



Peak Identification	
1	β-Pinene
2	Myrcene
3	p-Cimene
4	Limonene
5	γ-Terpinene
6	Linalool
7	Linalyl Acetate

Courtesy of Prof. C. Bicchi, C. Brunelli
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037

DN-WAX FAST

Chromatograms

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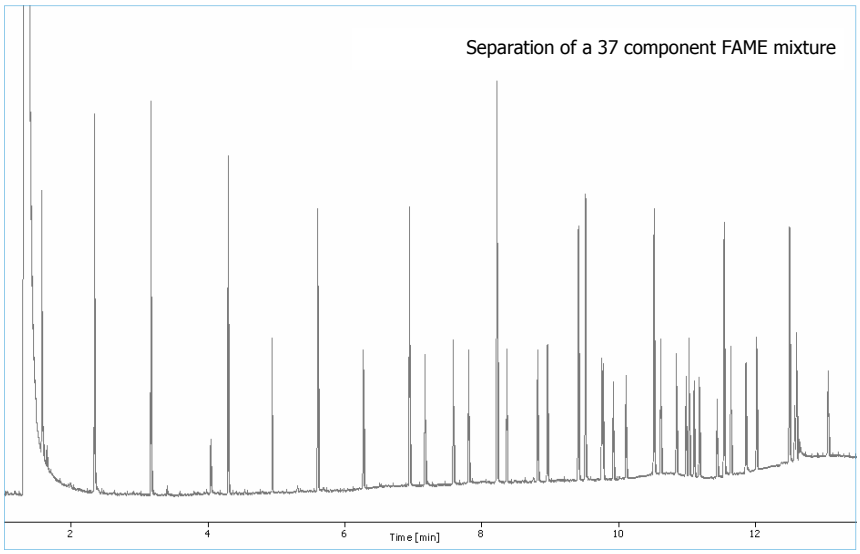
Fast GC application: fatty acid methyl esters (FAME)

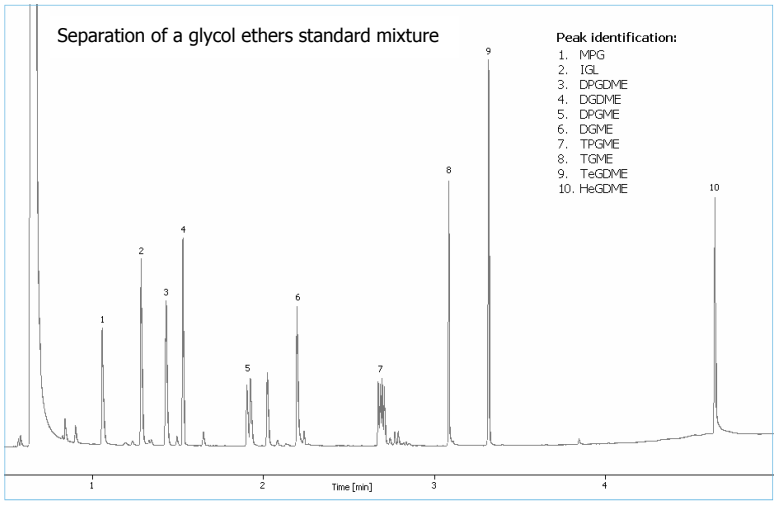


DN-WAX FAST 15m 0.10mm 0.10µm

Chromatographic Conditions	
Oven	40°C - 1.0 min - 50°C/min - 105°C 15°C/min - 260°C
Injection	PTV - 60°C - 999°C/min - 400°C - 5 min
Carrier Gas	Hydrogen - 0.5 ml/min
Injection volume	0.5 µL
Detector	FID - 400°C

063

Fast GC application: Glycol Ethers



DN-WAX FAST 15m 0.10mm 0.10µm

Chromatographic Conditions	
Oven	80°C - 0.5 min - 50°C/min - 280°C - 0.5 min
Injection	PTV - 60°C - 999°C/min - 400°C
Carrier Gas	Hydrogen - 0.5 ml/min
Injection volume	0.5 µL
Detector	FID - 400°C

064

DN-WAX FAST

Chromatograms

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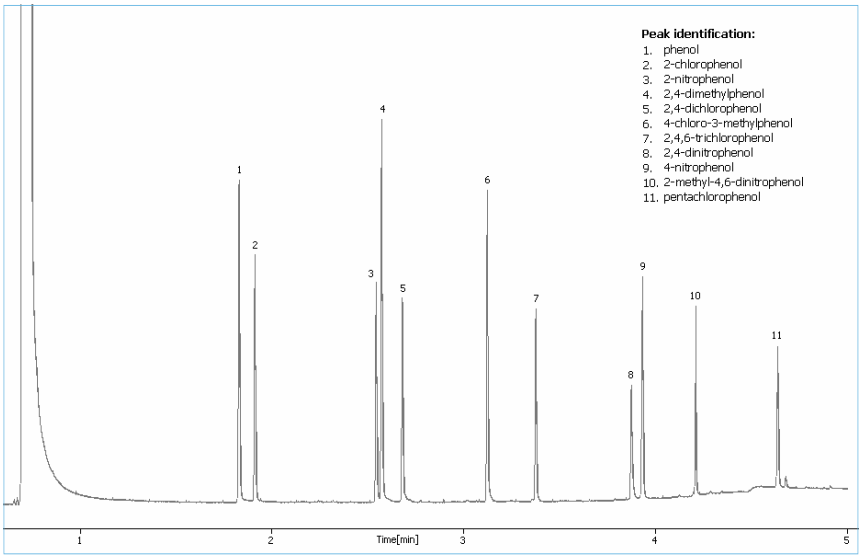
Fast GC application: phenols



DN-WAX FAST 15m 0.10mm 0.10µm

Chromatographic Conditions	
Oven	80°C - 1.0 min - 40°C/min - 220°C - 0.5 min 15°C/min - 260°C
Injection	PTV - 80°C - 999°C/min - 400°C
Carrier Gas	Hydrogen - 0.5 ml/min
Injection volume	0.5 µL
Detector	FID - 400°C

065

DN-FFAP

DN-FFAP 15m

ID	Film	Max Temp	Code	Chroma
0.25mm	0.15µm	250°C	9414.116 841	
0.25mm	0.25µm	250°C	9414.116 842	
0.25mm	0.45µm	250°C	9414.116 843	
0.25mm	1.00µm	250°C	9414.116 844	
0.32mm	0.15µm	250°C	9414.116 845	
0.32mm	0.25µm	250°C	9414.116 846	
0.32mm	0.45µm	250°C	9414.116 847	
0.32mm	1.00µm	250°C	9414.116 848	
0.53mm	0.15µm	250°C	9414.116 849	
0.53mm	0.25µm	250°C	9414.116 850	
0.53mm	0.45µm	250°C	9414.116 851	
0.53mm	1.00µm	250°C	9414.116 852	039/040/041

DN-FFAP 50m

ID	Film	Max Temp	Code	Chroma
0.25mm	0.15µm	250°C	9414.116 877	
0.25mm	0.25µm	250°C	9414.116 878	
0.25mm	0.45µm	250°C	9414.116 879	
0.25mm	1.00µm	250°C	9414.116 880	
0.32mm	0.15µm	250°C	9414.116 881	
0.32mm	0.25µm	250°C	9414.116 882	
0.32mm	0.45µm	250°C	9414.116 883	
0.32mm	1.00µm	250°C	9414.116 884	
0.53mm	0.15µm	250°C	9414.116 885	
0.53mm	0.25µm	250°C	9414.116 886	
0.53mm	0.45µm	250°C	9414.116 887	
0.53mm	1.00µm	250°C	9414.116 888	

DN-FFAP 25m

ID	Film	Max Temp	Code	Chroma
0.25mm	0.15µm	250°C	9414.116 853	
0.25mm	0.25µm	250°C	9414.116 854	042
0.25mm	0.45µm	250°C	9414.116 855	
0.25mm	1.00µm	250°C	9414.116 856	
0.32mm	0.15µm	250°C	9414.116 857	
0.32mm	0.25µm	250°C	9414.116 858	038
0.32mm	0.45µm	250°C	9414.116 859	
0.32mm	1.00µm	250°C	9414.116 860	
0.53mm	0.15µm	250°C	9414.116 861	
0.53mm	0.25µm	250°C	9414.116 862	
0.53mm	0.45µm	250°C	9414.116 863	
0.53mm	1.00µm	250°C	9414.116 864	

DN-FFAP 60m

ID	Film	Max Temp	Code	Chroma
0.25mm	0.15µm	250°C	9414.116 889	
0.25mm	0.25µm	250°C	9414.116 890	
0.25mm	0.45µm	250°C	9414.116 891	
0.25mm	1.00µm	250°C	9414.116 892	
0.32mm	0.15µm	250°C	9414.116 893	
0.32mm	0.25µm	250°C	9414.116 894	
0.32mm	0.45µm	250°C	9414.116 895	
0.32mm	1.00µm	250°C	9414.116 896	
0.53mm	0.15µm	250°C	9414.116 897	
0.53mm	0.25µm	250°C	9414.116 898	
0.53mm	0.45µm	250°C	9414.116 899	
0.53mm	1.00µm	250°C	9414.116 900	

DN-FFAP 30m

ID	Film	Max Temp	Code	Chroma
0.25mm	0.15µm	250°C	9414.116 865	
0.25mm	0.25µm	250°C	9414.116 866	
0.25mm	0.45µm	250°C	9414.116 867	
0.25mm	1.00µm	250°C	9414.116 868	
0.32mm	0.15µm	250°C	9414.116 869	
0.32mm	0.25µm	250°C	9414.116 870	
0.32mm	0.45µm	250°C	9414.116 871	
0.32mm	1.00µm	250°C	9414.116 872	
0.53mm	0.15µm	250°C	9414.116 873	
0.53mm	0.25µm	250°C	9414.116 874	
0.53mm	0.45µm	250°C	9414.116 875	
0.53mm	1.00µm	250°C	9414.116 876	

DN-FFAP Technical Specifications

Every Column Individually Tested
Test Certified and Grob Mixture included in each Column
Instruction Manual included in each Column

DANI DN-FFAP Capillary Column
Acid-Modified Polyethylene Glycol
High polarity
Bonded
Inertness
Low bleeding
Good thermal stability

Similar to DB™-FFAP, Stabilwax™-DA, SP™-1000, HP™-FFAP, BP™-21, CP-Wax™ 58 CB, 007™-FFAP, OV™-351, SUPEROX® FA, Nukol™, AT™-1000, EC™-1000

Equivalent to USP G25, G35

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DN-FFAP

Chromatograms

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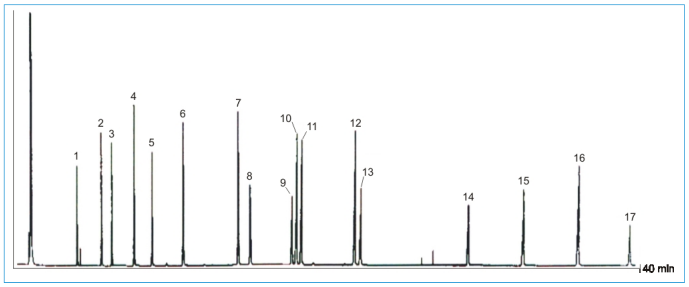
dani.instruments@danispa.it

Free Acids

DN-FFAP 25m 0.32mm 0.25µm

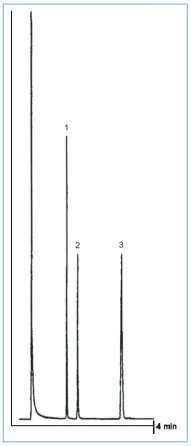
Chromatographic Conditions	
Oven	80°C - 2.5°C/min - 210°C
Injection	Split - 250°C - 1:50
Carrier Gas	Hydrogen - 40 kPa
Injection volume	1 µL
Detector	FID - 250°C

Peak Identification	
1	Ethanoic Acid
2	Propanoic Acid
3	Isobutanoic Acid
4	Butanoic Acid
5	Isopentanoic Acid
6	Pentanoic Acid
7	Hexanoic Acid
8	2 Pentanoic Acid
9	3 Hexanoic Acid
10	Heptanoic Acid
11	Trans 2 Hexanoic Acid
12	Octanoic Acid
13	2 Heptanoic Acid
14	Decanoic Acid
15	Undecanoic Acid
16	Dodecanoic Acid
17	Tridecanoic Acido



038

Organic Acids



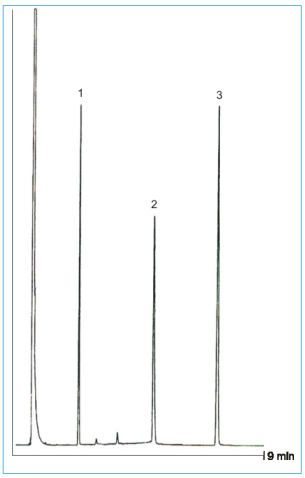
DN-FFAP 15m 0.53mm 1.00µm

Chromatographic Conditions	
Oven	Isothermal - 200°C
Injection	Split - 250°C - 1:140
Carrier Gas	Helium - 20 kPa
Injection volume	0.2 µL
Detector	FID - 250°C

Peak Identification	
1	Sorbic Acid
2	Dehydroacetic Acid
3	Benzoic Acid

039

Chemicals



DN-FFAP 15m 0.53mm 1.00µm

Chromatographic Conditions	
Oven	80°C - 2°C/min - 120°C
Injection	Split - 250°C - 1:50
Carrier Gas	Helium - 20 kPa
Injection volume	1 µL
Detector	FID - 250°C

Peak Identification	
1	Acetic anhydride
2	Scetic Acid
3	Isobutyric Acid

040

DN-FFAP

Chromatograms

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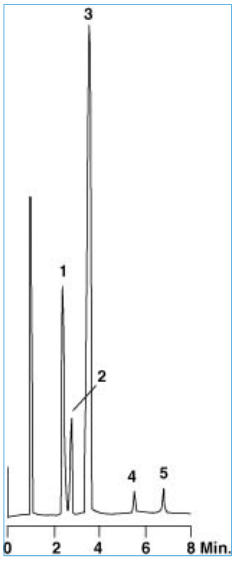


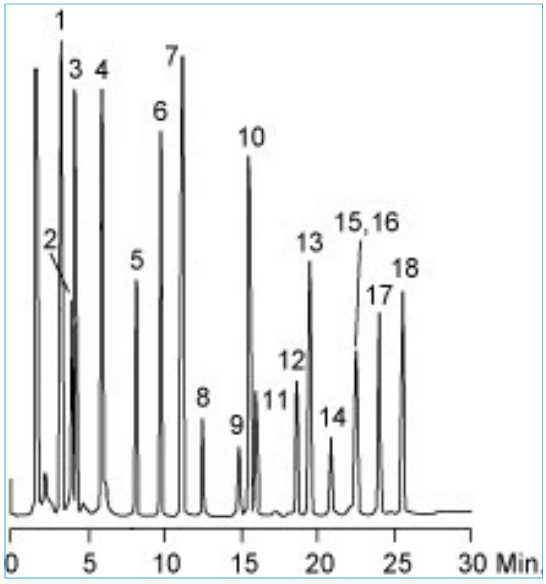
Amides

DN-FFAP 15m 0.53mm 1.00µm

Chromatographic Conditions	
Oven	70°C - 10°C/min - 200°C
Injection	Split
Carrier Gas	Helium - 4 mL/min
Injection volume	1 µL
Detector	FID

Peak Identification	
1	3-Picoline
2	N,N-Dimethylformamide
3	N,N-Dimethylacetamide
4	N-Methylacetamide
5	Acetamide

041



Flavours Test Mixture

DN-FFAP 25m 0.25mm 0.25µm

Chromatographic Conditions	
Oven	75°C - 2°C/min - 140°C
Injection	Split
Carrier Gas	Helium - 1.7 mL/min
Injection volume	1 µL
Detector	FID

Peak Identification	
1	Isoamyl acetate
2	alfa - Phellandrene
3	Cumene
4	1 - Pentanol
5	6 - Methyl - 5 - hepten - 2 - one
6	2 - Nonanone
7	Ethyl octanoate
8	Furfural
9	Benzaldehyde
10	Linalool
11	Isobutyric acid
12	n - Butyric acid
13	Ethyl decanoate
14	Furfuryl alcohol
15	alfa - terpineol
16	beta - terpineol
17	Carvone
18	Methyl salicylate

042

DN-FFAP FAST

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DN-FFAP FAST 5m

ID	Film	Max Temp	Code	Chroma
0.05mm	0.05µm	260°C	9414.116 901	
0.05mm	0.10µm	260°C	9414.116 902	
0.10mm	0.10µm	260°C	9414.116 903	
0.10mm	0.20µm	260°C	9414.116 904	

DN-FFAP FAST 10m

ID	Film	Max Temp	Code	Chroma
0.05mm	0.05µm	260°C	9414.116 905	
0.05mm	0.10µm	260°C	9414.116 906	
0.10mm	0.10µm	260°C	9414.116 907	
0.10mm	0.20µm	260°C	9414.116 908	

DN-FFAP FAST Technical Specifications

Every Column Individually Tested
Test Certified and Grob Mixture included in each Column
Instruction Manual included in each Column

DANI DN-FFAP FAST Capillary Column
Acid-Modified Polyethylene Glycol
High polarity
Bonded
Inertness
Low bleeding
Good thermal stability

Similar to DB™-FFAP, Stabilwax™-DA, SP™-1000, HP™-FFAP, BP™-21, CP-Wax™ 58 CB, 007™-FFAP, OV™-351, SUPEROX® FA, Nukol™, AT™-1000

Equivalent to USP G25, G35

DN-10

DN-10 15m

ID	Film	Max Temp	Code	Chroma
0.25mm	0.25µm	260°C	9414.116 909	
0.32mm	0.25µm	260°C	9414.116 910	
0.53mm	0.25µm	260°C	9414.116 911	

DN-10 50m

ID	Film	Max Temp	Code	Chroma
0.25mm	0.25µm	260°C	9414.116 918	
0.32mm	0.25µm	260°C	9414.116 919	043
0.53mm	0.25µm	260°C	9414.116 920	

DN-10 25m

ID	Film	Max Temp	Code	Chroma
0.25mm	0.25µm	260°C	9414.116 912	
0.32mm	0.25µm	260°C	9414.116 913	
0.53mm	0.25µm	260°C	9414.116 914	

DN-10 60m

ID	Film	Max Temp	Code	Chroma
0.25mm	0.25µm	260°C	9414.116 921	
0.32mm	0.25µm	260°C	9414.116 922	
0.53mm	0.25µm	260°C	9414.116 923	

DN-10 30m

ID	Film	Max Temp	Code	Chroma
0.25mm	0.25µm	260°C	9414.116 915	
0.32mm	0.25µm	260°C	9414.116 916	
0.53mm	0.25µm	260°C	9414.116 917	

DN-10 Technical Specifications

Every Column Individually Tested
Test Certified and Grob Mixture included in each Column
Instruction Manual included in each Column

DANI DN-10 Capillary Column
Poly(biscyanopropyl siloxane)
High polarity
Bonded
Inertness
Low bleeding
Good thermal stability

Similar to CP-Sil™ 88, OV™-275, Rtx™-2330, SP™-2340

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DN-10

Chromatograms

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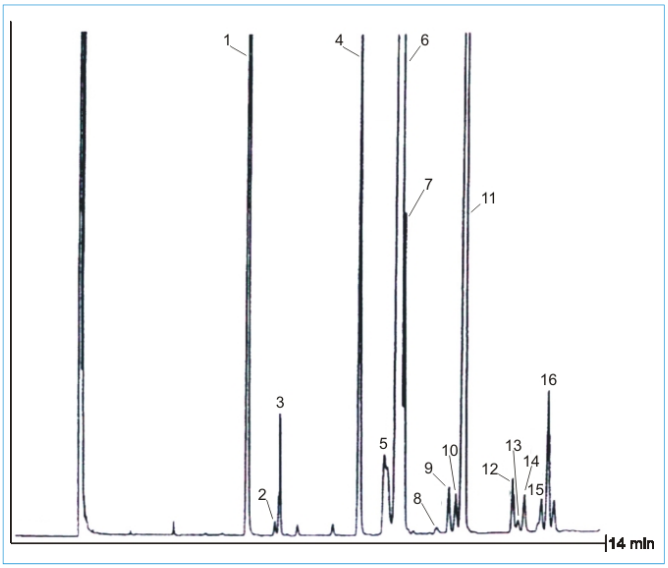

FAME cis trans in Olive Oil

DN-10 50m 0.32mm 0.25µm

Chromatographic Conditions	
Oven	150°C - 1°C/min - 190°C
Injection	Split - 250°C - 1:100
Carrier Gas	Hydrogen - 60 kPa
Injection volume	1 µL
Detector	FID - 250°C

Peak	Identification
1	Palmitic Acid
2	trans Palmitoleic Acid
3	Palmitoleic Acid
4	Stearic Acid
5	trans Petroselinic Acid trans Elaidinic Acid trans Vaccenic Acid
6	Oleic Acid
7	cis Vaccenic Acid
8	trans trans Linoleic Acid
9	cis trans Linoleic Acid
10	trans cis Linoleic Acid
11	Linoleic Acid
12	Arachidic Acid
13	trans cis trans Linolenic Acid
14	cis cis Linolenic Acid
15	trans cis cis Linolenic Acid
16	cis cis cis Linolenic Acid

043

DN-10 FAST

DN-10 FAST 5m

ID	Film	Max Temp	Code	Chroma
0.05mm	0.05µm	260°C	9414.116 924	
0.05mm	0.10µm	260°C	9414.116 925	
0.10mm	0.10µm	260°C	9414.116 926	
0.10mm	0.20µm	260°C	9414.116 927	

DN-10 FAST 10m

ID	Film	Max Temp	Code	Chroma
0.05mm	0.05µm	260°C	9414.116 928	
0.05mm	0.10µm	260°C	9414.116 929	
0.10mm	0.10µm	260°C	9414.116 930	
0.10mm	0.20µm	260°C	9414.116 931	

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DN-10 FAST Technical Specifications

Every Column Individually Tested
Test Certified and Grob Mixture included in each Column
Instruction Manual included in each Column

DANI DN-10 FAST Capillary Column
Poly(biscyanopropyl siloxane)
High polarity
Bonded
Inertness
Low bleeding
Good thermal stability

Similar to CP-Sil™ 88, OV™-275, Rtx™-2330, SP™-2340

DN-13

DANI Instruments S.p.A. www.danispa.it dani.instruments@danispa.it

DN-13 15m

ID	Film	Max Temp	Code	Chroma
0.25mm	0.15µm	320°C	9414.116 932	
0.25mm	0.25µm	320°C	9414.116 933	
0.25mm	0.45µm	310°C	9414.116 934	
0.25mm	1.00µm	300°C	9414.116 935	
0.32mm	0.15µm	320°C	9414.116 936	
0.32mm	0.25µm	320°C	9414.116 937	
0.32mm	0.45µm	310°C	9414.116 938	
0.32mm	1.00µm	300°C	9414.116 939	
0.53mm	0.15µm	320°C	9414.116 940	
0.53mm	0.25µm	320°C	9414.116 941	
0.53mm	0.45µm	310°C	9414.116 942	
0.53mm	1.00µm	300°C	9414.116 943	

DN-13 50m

ID	Film	Max Temp	Code	Chroma
0.25mm	0.15µm	320°C	9414.116 968	
0.25mm	0.25µm	320°C	9414.116 969	
0.25mm	0.45µm	310°C	9414.116 970	
0.25mm	1.00µm	300°C	9414.116 971	
0.32mm	0.15µm	320°C	9414.116 972	
0.32mm	0.25µm	320°C	9414.116 973	
0.32mm	0.45µm	310°C	9414.116 974	
0.32mm	1.00µm	300°C	9414.116 975	
0.53mm	0.15µm	320°C	9414.116 976	
0.53mm	0.25µm	320°C	9414.116 977	
0.53mm	0.45µm	310°C	9414.116 978	
0.53mm	1.00µm	300°C	9414.116 979	

DN-13 25m

ID	Film	Max Temp	Code	Chroma
0.25mm	0.15µm	320°C	9414.116 944	
0.25mm	0.25µm	320°C	9414.116 945	
0.25mm	0.45µm	310°C	9414.116 946	
0.25mm	1.00µm	300°C	9414.116 947	
0.32mm	0.15µm	320°C	9414.116 948	
0.32mm	0.25µm	320°C	9414.116 949	
0.32mm	0.45µm	310°C	9414.116 950	
0.32mm	1.00µm	300°C	9414.116 951	
0.53mm	0.15µm	320°C	9414.116 952	
0.53mm	0.25µm	320°C	9414.116 953	
0.53mm	0.45µm	310°C	9414.116 954	
0.53mm	1.00µm	300°C	9414.116 955	

DN-13 60m

ID	Film	Max Temp	Code	Chroma
0.25mm	0.15µm	320°C	9414.116 980	
0.25mm	0.25µm	320°C	9414.116 981	
0.25mm	0.45µm	310°C	9414.116 982	
0.25mm	1.00µm	300°C	9414.116 983	
0.32mm	0.15µm	320°C	9414.116 984	
0.32mm	0.25µm	320°C	9414.116 985	
0.32mm	0.45µm	310°C	9414.116 986	
0.32mm	1.00µm	300°C	9414.116 987	
0.53mm	0.15µm	320°C	9414.116 988	
0.53mm	0.25µm	320°C	9414.116 989	
0.53mm	0.45µm	310°C	9414.116 990	
0.53mm	1.00µm	300°C	9414.116 991	

DN-13 30m

ID	Film	Max Temp	Code	Chroma
0.25mm	0.15µm	320°C	9414.116 956	
0.25mm	0.25µm	320°C	9414.116 957	
0.25mm	0.45µm	310°C	9414.116 958	
0.25mm	1.00µm	300°C	9414.116 959	
0.32mm	0.15µm	320°C	9414.116 960	
0.32mm	0.25µm	320°C	9414.116 961	
0.32mm	0.45µm	310°C	9414.116 962	
0.32mm	1.00µm	300°C	9414.116 963	
0.53mm	0.15µm	320°C	9414.116 964	
0.53mm	0.25µm	320°C	9414.116 965	
0.53mm	0.45µm	310°C	9414.116 966	
0.53mm	1.00µm	300°C	9414.116 967	

DN-13 Technical Specifications

Every Column Individually Tested
Test Certified and Grob Mixture included in each Column
Instruction Manual included in each Column

DANI DN-13 Capillary Column
(13% Phenyl) - 87% methylpolysiloxane
Intermediate polarity
Bonded and cross-linked
Inertness
Low bleeding
Good thermal stability

Similar to CP-Sil™ 13 CB

DN-13 HT

DN-13 HT 15m

ID	Film	Max Temp	Code	Chroma
0.25mm	0.10µm	380°C	9414.117 222	
0.32mm	0.10µm	380°C	9414.117 223	
0.53mm	0.10µm	380°C	9414.117 224	

DN-13 HT 25m

ID	Film	Max Temp	Code	Chroma
0.25mm	0.10µm	380°C	9414.117 225	
0.32mm	0.10µm	380°C	9414.117 226	
0.53mm	0.10µm	380°C	9414.117 227	

DN-13 HT 30m

ID	Film	Max Temp	Code	Chroma
0.25mm	0.10µm	380°C	9414.117 228	
0.32mm	0.10µm	380°C	9414.117 229	
0.53mm	0.10µm	380°C	9414.117 230	

DN-13 HT 50m

ID	Film	Max Temp	Code	Chroma
0.25mm	0.10µm	380°C	9414.117 231	
0.32mm	0.10µm	380°C	9414.117 232	
0.53mm	0.10µm	380°C	9414.117 233	

DN-13 HT 60m

ID	Film	Max Temp	Code	Chroma
0.25mm	0.10µm	380°C	9414.117 234	
0.32mm	0.10µm	380°C	9414.117 235	
0.53mm	0.10µm	380°C	9414.117 236	

DN-13 HT Technical Specifications

Every Column Individually Tested
Test Certified and Grob Mixture included in each Column
Instruction Manual included in each Column

DANI DN-13 HT Capillary Column
(13% Phenyl) - 87% methylpolysiloxane
Intermediate polarity
Bonded and cross-linked
Inertness
Low bleeding
Good thermal stability

Similar to CP-Sil™ 13 CB

DANI Instruments S.p.A.
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DN-13 FAST

DANI Instruments S.p.A.
www.danispa.it
dani.instruments@danispa.it

DN-13 FAST 5m

ID	Film	Max Temp	Code	Chroma
0.05mm	0.05µm	350°C	9414.116 992	
0.05mm	0.10µm	350°C	9414.116 993	
0.10mm	0.10µm	350°C	9414.116 994	
0.10mm	0.20µm	350°C	9414.116 995	

DN-13 FAST 10m

ID	Film	Max Temp	Code	Chroma
0.05mm	0.05µm	350°C	9414.116 996	
0.05mm	0.10µm	350°C	9414.116 997	
0.10mm	0.10µm	350°C	9414.116 998	
0.10mm	0.20µm	350°C	9414.116 999	

DN-13 FAST Technical Specifications

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Instruction Manual included in each Column

DANI DN-13 FAST Capillary Column
(13% Phenyl) - 87% methylpolysiloxane
Intermediate polarity
Bonded and cross-linked
Inertness
Low bleeding
Good thermal stability

Similar to CP-Sil™ 13 CB

DN-13 FAST HT

DN-13 FAST HT 5m

ID	Film	Max Temp	Code	Chroma
0.05mm	0.05µm	380°C	9414.117 279	
0.05mm	0.10µm	380°C	9414.117 280	
0.10mm	0.10µm	380°C	9414.117 281	

DN-13 FAST HT 10m

ID	Film	Max Temp	Code	Chroma
0.05mm	0.05µm	380°C	9414.117 282	
0.05mm	0.10µm	380°C	9414.117 283	
0.10mm	0.10µm	380°C	9414.117 284	

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DN-13 FAST HT Technical Specifications

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Instruction Manual included in each Column

DANI DN-13 FAST HT Capillary Column
(13% Phenyl) - 87% methylpolysiloxane
Intermediate polarity
Bonded and cross-linked
Inertness
Low bleeding
Good thermal stability

Similar to CP-Sil™ 13 CB

DN-PLUS

DANI Instruments S.p.A. www.danispa.it dani.instruments@danispa.it

DN-PLUS 15m

ID	Film	Max Temp	Code	Chroma
0.25mm	0.15µm	280°C	9414.117 000	
0.25mm	0.25µm	280°C	9414.117 001	
0.25mm	0.45µm	280°C	9414.117 002	
0.25mm	1.00µm	280°C	9414.117 003	
0.32mm	0.15µm	280°C	9414.117 004	
0.32mm	0.25µm	280°C	9414.117 005	
0.32mm	0.45µm	280°C	9414.117 006	
0.32mm	1.00µm	280°C	9414.117 007	
0.53mm	0.15µm	280°C	9414.117 008	
0.53mm	0.25µm	280°C	9414.117 009	
0.53mm	0.45µm	280°C	9414.117 010	
0.53mm	1.00µm	280°C	9414.117 011	

DN-PLUS 50m

ID	Film	Max Temp	Code	Chroma
0.25mm	0.15µm	280°C	9414.117 036	
0.25mm	0.25µm	280°C	9414.117 037	
0.25mm	0.45µm	280°C	9414.117 038	
0.25mm	1.00µm	280°C	9414.117 039	
0.32mm	0.15µm	280°C	9414.117 040	
0.32mm	0.25µm	280°C	9414.117 041	
0.32mm	0.45µm	280°C	9414.117 042	
0.32mm	1.00µm	280°C	9414.117 043	
0.53mm	0.15µm	280°C	9414.117 044	
0.53mm	0.25µm	280°C	9414.117 045	
0.53mm	0.45µm	280°C	9414.117 046	
0.53mm	1.00µm	280°C	9414.117 047	

DN-PLUS 25m

ID	Film	Max Temp	Code	Chroma
0.25mm	0.15µm	280°C	9414.117 012	
0.25mm	0.25µm	280°C	9414.117 013	
0.25mm	0.45µm	280°C	9414.117 014	
0.25mm	1.00µm	280°C	9414.117 015	
0.32mm	0.15µm	280°C	9414.117 016	
0.32mm	0.25µm	280°C	9414.117 017	
0.32mm	0.45µm	280°C	9414.117 018	
0.32mm	1.00µm	280°C	9414.117 019	
0.53mm	0.15µm	280°C	9414.117 020	
0.53mm	0.25µm	280°C	9414.117 021	
0.53mm	0.45µm	280°C	9414.117 022	
0.53mm	1.00µm	280°C	9414.117 023	

DN-PLUS 60m

ID	Film	Max Temp	Code	Chroma
0.25mm	0.15µm	280°C	9414.117 048	
0.25mm	0.25µm	280°C	9414.117 049	
0.25mm	0.45µm	280°C	9414.117 050	
0.25mm	1.00µm	280°C	9414.117 051	
0.32mm	0.15µm	280°C	9414.117 052	
0.32mm	0.25µm	280°C	9414.117 053	
0.32mm	0.45µm	280°C	9414.117 054	
0.32mm	1.00µm	280°C	9414.117 055	
0.53mm	0.15µm	280°C	9414.117 056	
0.53mm	0.25µm	280°C	9414.117 057	
0.53mm	0.45µm	280°C	9414.117 058	
0.53mm	1.00µm	280°C	9414.117 059	

DN-PLUS 30m

ID	Film	Max Temp	Code	Chroma
0.25mm	0.15µm	280°C	9414.117 024	
0.25mm	0.25µm	280°C	9414.117 025	
0.25mm	0.45µm	280°C	9414.117 026	
0.25mm	1.00µm	280°C	9414.117 027	
0.32mm	0.15µm	280°C	9414.117 028	
0.32mm	0.25µm	280°C	9414.117 029	
0.32mm	0.45µm	280°C	9414.117 030	
0.32mm	1.00µm	280°C	9414.117 031	
0.53mm	0.15µm	280°C	9414.117 032	
0.53mm	0.25µm	280°C	9414.117 033	
0.53mm	0.45µm	280°C	9414.117 034	
0.53mm	1.00µm	280°C	9414.117 035	

DN-PLUS Technical Specifications

Every Column Individually Tested
Test Certified and Grob Mixture included in each Column
Instruction Manual included in each Column

DANI DN-PLUS Capillary Column

High polarity
Bonded and cross-linked
Inertness
Low bleeding
Good thermal stability

Similar to NO EQUIVALENT

DN-PLUS FAST

DN-PLUS FAST 5m

ID	Film	Max Temp	Code	Chroma
0.05mm	0.05µm	280°C	9414.117 060	
0.05mm	0.10µm	280°C	9414.117 061	
0.10mm	0.10µm	280°C	9414.117 062	
0.10mm	0.20µm	280°C	9414.117 063	

DN-PLUS FAST 10m

ID	Film	Max Temp	Code	Chroma
0.05mm	0.05µm	280°C	9414.117 064	
0.05mm	0.10µm	280°C	9414.117 065	
0.10mm	0.10µm	280°C	9414.117 066	
0.10mm	0.20µm	280°C	9414.117 067	

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Instruction Manual included in each Column

DANI DN-PLUS FAST Capillary Column

High polarity
Bonded and cross-linked
Inertness
Low bleeding
Good thermal stability

Similar to NO EQUIVALENT

DN-264

DANI Instruments S.p.A. www.danispa.it dani.instruments@danispa.it

DN-264 15m

ID	Film	Max Temp	Code	Chroma
0.25mm	0.15µm	350°C	9414.117 068	
0.25mm	0.25µm	350°C	9414.117 069	
0.25mm	0.45µm	330°C	9414.117 070	
0.25mm	1.00µm	330°C	9414.117 071	
0.25mm	1.50µm	330°C	9414.117 072	
0.32mm	0.15µm	350°C	9414.117 073	
0.32mm	0.25µm	350°C	9414.117 074	
0.32mm	0.45µm	330°C	9414.117 075	
0.32mm	1.00µm	330°C	9414.117 076	
0.32mm	1.50µm	330°C	9414.117 077	
0.32mm	3.00µm	320°C	9414.117 078	
0.32mm	5.00µm	320°C	9414.117 079	
0.53mm	0.15µm	350°C	9414.117 080	
0.53mm	0.25µm	350°C	9414.117 081	
0.53mm	0.45µm	330°C	9414.117 082	
0.53mm	1.00µm	330°C	9414.117 083	
0.53mm	1.50µm	330°C	9414.117 084	
0.53mm	3.00µm	320°C	9414.117 085	
0.53mm	5.00µm	320°C	9414.117 086	

DN-264 25m

ID	Film	Max Temp	Code	Chroma
0.25mm	0.15µm	350°C	9414.117 087	
0.25mm	0.25µm	350°C	9414.117 088	
0.25mm	0.45µm	330°C	9414.117 089	
0.25mm	1.00µm	330°C	9414.117 090	
0.25mm	1.50µm	330°C	9414.117 091	
0.32mm	0.15µm	350°C	9414.117 092	
0.32mm	0.25µm	350°C	9414.117 093	
0.32mm	0.45µm	330°C	9414.117 094	
0.32mm	1.00µm	330°C	9414.117 095	
0.32mm	1.50µm	330°C	9414.117 096	
0.32mm	3.00µm	320°C	9414.117 097	
0.32mm	5.00µm	320°C	9414.117 098	
0.53mm	0.15µm	350°C	9414.117 099	
0.53mm	0.25µm	350°C	9414.117 100	
0.53mm	0.45µm	330°C	9414.117 101	
0.53mm	1.00µm	330°C	9414.117 102	
0.53mm	1.50µm	330°C	9414.117 103	
0.53mm	3.00µm	320°C	9414.117 104	
0.53mm	5.00µm	320°C	9414.117 105	

DN-264 30m

ID	Film	Max Temp	Code	Chroma
0.25mm	0.15µm	350°C	9414.117 106	
0.25mm	0.25µm	350°C	9414.117 107	
0.25mm	0.45µm	330°C	9414.117 108	
0.25mm	1.00µm	330°C	9414.117 109	
0.25mm	1.50µm	330°C	9414.117 110	
0.32mm	0.15µm	350°C	9414.117 111	
0.32mm	0.25µm	350°C	9414.117 112	
0.32mm	0.45µm	330°C	9414.117 113	
0.32mm	1.00µm	330°C	9414.117 114	
0.32mm	1.50µm	330°C	9414.117 115	
0.32mm	3.00µm	320°C	9414.117 116	
0.32mm	5.00µm	320°C	9414.117 117	044/045
0.53mm	0.15µm	350°C	9414.117 118	
0.53mm	0.25µm	350°C	9414.117 119	
0.53mm	0.45µm	330°C	9414.117 120	
0.53mm	1.00µm	330°C	9414.117 121	
0.53mm	1.50µm	330°C	9414.117 122	
0.53mm	3.00µm	320°C	9414.117 123	
0.53mm	5.00µm	320°C	9414.117 124	

DN-264 50m

ID	Film	Max Temp	Code	Chroma
0.25mm	0.15µm	350°C	9414.117 125	
0.25mm	0.25µm	350°C	9414.117 126	
0.25mm	0.45µm	330°C	9414.117 127	
0.25mm	1.00µm	330°C	9414.117 128	
0.25mm	1.50µm	330°C	9414.117 129	
0.32mm	0.15µm	350°C	9414.117 130	
0.32mm	0.25µm	350°C	9414.117 131	
0.32mm	0.45µm	330°C	9414.117 132	
0.32mm	1.00µm	330°C	9414.117 133	
0.32mm	1.50µm	330°C	9414.117 134	
0.32mm	3.00µm	320°C	9414.117 135	
0.32mm	5.00µm	320°C	9414.117 136	
0.53mm	0.15µm	350°C	9414.117 137	
0.53mm	0.25µm	350°C	9414.117 138	
0.53mm	0.45µm	330°C	9414.117 139	
0.53mm	1.00µm	330°C	9414.117 140	
0.53mm	1.50µm	330°C	9414.117 141	
0.53mm	3.00µm	320°C	9414.117 142	
0.53mm	5.00µm	320°C	9414.117 143	

DN-264 60m

ID	Film	Max Temp	Code	Chroma
0.25mm	0.15µm	350°C	9414.117 144	
0.25mm	0.25µm	350°C	9414.117 145	
0.25mm	0.45µm	330°C	9414.117 146	
0.25mm	1.00µm	330°C	9414.117 147	
0.25mm	1.50µm	330°C	9414.117 148	
0.32mm	0.15µm	350°C	9414.117 149	
0.32mm	0.25µm	350°C	9414.117 150	
0.32mm	0.45µm	330°C	9414.117 151	
0.32mm	1.00µm	330°C	9414.117 152	
0.32mm	1.50µm	330°C	9414.117 153	
0.32mm	3.00µm	320°C	9414.117 154	
0.32mm	5.00µm	320°C	9414.117 155	
0.53mm	0.15µm	350°C	9414.117 156	
0.53mm	0.25µm	350°C	9414.117 157	
0.53mm	0.45µm	330°C	9414.117 158	
0.53mm	1.00µm	330°C	9414.117 159	
0.53mm	1.50µm	330°C	9414.117 160	
0.53mm	3.00µm	320°C	9414.117 161	
0.53mm	5.00µm	320°C	9414.117 162	

DN-264 Technical Specifications

Every Column Individually Tested
Test Certified and Grob Mixture included in each Column
Instruction Manual included in each Column

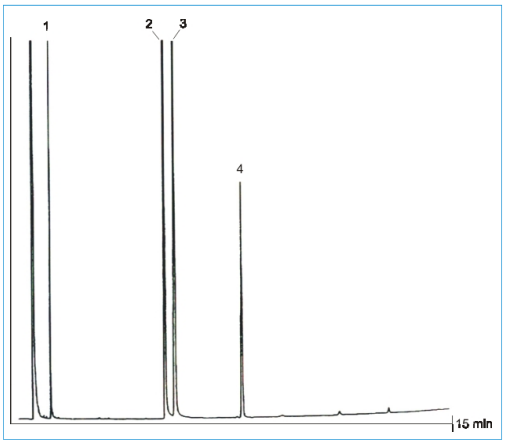
DANI DN-264 Capillary Column

Low polarity
Bonded and cross-linked
Inertness
Low bleeding
Good thermal stability

Similar to NO EQUIVALENT

DN-264

Chromatograms



Amines

DN-264 30m 0.32mm 5.00µm

Chromatographic Conditions	
Oven	100°C - 4°C/min - 250°C
Injection	Split - 250°C - 1:50
Carrier Gas	Hydrogen - 70 kPa
Injection volume	1 µL
Detector	FID - 250°C

Peak Identification	
1	Monoethanolamine
2	Diethanolamine
3	Aminethylethanolamine
4	Butylcarbitol

044

Anaesthetics

DN-264 30m 0.32mm 5.00µm

Chromatographic Conditions	
Oven	Isothermal - 40°C
Injection	Split - 1:50
Carrier Gas	Hydrogen - 40 kPa
Injection volume	1 µL
Detector	FID - 250°C

Peak Identification	
1	Isoflurane
2	Enflurane

045

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DN-264 FAST

DANI Instruments S.p.A. www.danispa.it dani.instruments@danispa.it

DN-264 FAST 5m

ID	Film	Max Temp	Code	Chroma
0.05mm	0.05µm	350°C	9414.117 163	
0.05mm	0.10µm	350°C	9414.117 164	
0.10mm	0.10µm	350°C	9414.117 165	
0.10mm	0.20µm	350°C	9414.117 166	

DN-264 FAST 10m

ID	Film	Max Temp	Code	Chroma
0.05mm	0.05µm	350°C	9414.117 167	
0.05mm	0.10µm	350°C	9414.117 168	
0.10mm	0.10µm	350°C	9414.117 169	
0.10mm	0.20µm	350°C	9414.117 170	

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DANI DN-264 FAST Capillary Column

Low polarity
Bonded and cross-linked
Inertness
Low bleeding
Good thermal stability

Similar to NO EQUIVALENT

DN-SAFE

Retention Gap are often added to the front of the analytical column to act as a guard. **DN-SAFE** columns is a combination of a DANI GC capillary columns with a built-in DANI Retention Gaps.
These innovative columns incorporate both Retention Gap column and analytical column in a continuous length of tubing, eliminating the connection: peak shape problems and leaks associated with unions are history as well as samples containing difficult analytes such as pesticides or drugs.

DANI **DN-SAFE** columns offer:

- Minimize front-end contamination of the column and increase column lifetime.
- Aid in focusing sample onto the front end of the column for excellent peak shape.
- Minimize the amount of mass selective detector (MSD) source contamination originating from the column.
- Faster stabilization in MS and other detection systems due to an additional uncoated, deactivated section at the end.

DN-SAFE 1

Length	ID	Film	Retention Gap	Code
15 meters	0.25mm	0.25µm	+ 5 meters	9414.117 311
15 meters	0.32mm	0.25µm	+ 5 meters	9414.117 312
30 meters	0.25mm	0.25µm	+ 5 meters	9414.117 313
30 meters	0.32mm	0.25µm	+ 5 meters	9414.117 314
50 meters	0.25mm	0.25µm	+ 5 meters	9414.117 315
50 meters	0.32mm	0.25µm	+ 5 meters	9414.117 316
15 meters	0.25mm	0.25µm	+ 10 meters	9414.117 317
15 meters	0.32mm	0.25µm	+ 10 meters	9414.117 318
30 meters	0.25mm	0.25µm	+ 10 meters	9414.117 319
30 meters	0.32mm	0.25µm	+ 10 meters	9414.117 320
50 meters	0.25mm	0.25µm	+ 10 meters	9414.117 321
50 meters	0.32mm	0.25µm	+ 10 meters	9414.117 322

DN-SAFE 5

Length	ID	Film	Retention Gap	Code
15 meters	0.25mm	0.25µm	+ 5 meters	9414.117 335
15 meters	0.32mm	0.25µm	+ 5 meters	9414.117 336
30 meters	0.25mm	0.25µm	+ 5 meters	9414.117 337
30 meters	0.32mm	0.25µm	+ 5 meters	9414.117 338
50 meters	0.25mm	0.25µm	+ 5 meters	9414.117 339
50 meters	0.32mm	0.25µm	+ 5 meters	9414.117 340
15 meters	0.25mm	0.25µm	+ 10 meters	9414.117 341
15 meters	0.32mm	0.25µm	+ 10 meters	9414.117 342
30 meters	0.25mm	0.25µm	+ 10 meters	9414.117 343
30 meters	0.32mm	0.25µm	+ 10 meters	9414.117 344
50 meters	0.25mm	0.25µm	+ 10 meters	9414.117 345
50 meters	0.32mm	0.25µm	+ 10 meters	9414.117 346

DN-SAFE 1 MS

Length	ID	Film	Retention Gap	Code
15 meters	0.25mm	0.25µm	+ 5 meters	9414.117 323
15 meters	0.32mm	0.25µm	+ 5 meters	9414.117 324
30 meters	0.25mm	0.25µm	+ 5 meters	9414.117 325
30 meters	0.32mm	0.25µm	+ 5 meters	9414.117 326
50 meters	0.25mm	0.25µm	+ 5 meters	9414.117 327
50 meters	0.32mm	0.25µm	+ 5 meters	9414.117 328
15 meters	0.25mm	0.25µm	+ 10 meters	9414.117 329
15 meters	0.32mm	0.25µm	+ 10 meters	9414.117 330
30 meters	0.25mm	0.25µm	+ 10 meters	9414.117 331
30 meters	0.32mm	0.25µm	+ 10 meters	9414.117 332
50 meters	0.25mm	0.25µm	+ 10 meters	9414.117 333
50 meters	0.32mm	0.25µm	+ 10 meters	9414.117 334

DN-SAFE 5 MS

Length	ID	Film	Retention Gap	Code
15 meters	0.25mm	0.25µm	+ 5 meters	9414.117 347
15 meters	0.32mm	0.25µm	+ 5 meters	9414.117 348
30 meters	0.25mm	0.25µm	+ 5 meters	9414.117 349
30 meters	0.32mm	0.25µm	+ 5 meters	9414.117 350
50 meters	0.25mm	0.25µm	+ 5 meters	9414.117 351
50 meters	0.32mm	0.25µm	+ 5 meters	9414.117 352
15 meters	0.25mm	0.25µm	+ 10 meters	9414.117 353
15 meters	0.32mm	0.25µm	+ 10 meters	9414.117 354
30 meters	0.25mm	0.25µm	+ 10 meters	9414.117 355
30 meters	0.32mm	0.25µm	+ 10 meters	9414.117 356
50 meters	0.25mm	0.25µm	+ 10 meters	9414.117 357
50 meters	0.32mm	0.25µm	+ 10 meters	9414.117 358

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DN-SAFE

DANI Instruments S.p.A. www.danispa.it dani.instruments@danispa.it

DN-SAFE WAX

Length	ID	Film	Retention Gap	Code
15 meters	0.25mm	0.25µm	+ 5 meters	9414.117 359
15 meters	0.32mm	0.25µm	+ 5 meters	9414.117 360
30 meters	0.25mm	0.25µm	+ 5 meters	9414.117 361
30 meters	0.32mm	0.25µm	+ 5 meters	9414.117 362
50 meters	0.25mm	0.25µm	+ 5 meters	9414.117 363
50 meters	0.32mm	0.25µm	+ 5 meters	9414.117 364
15 meters	0.25mm	0.25µm	+ 10 meters	9414.117 365
15 meters	0.32mm	0.25µm	+ 10 meters	9414.117 366
30 meters	0.25mm	0.25µm	+ 10 meters	9414.117 367
30 meters	0.32mm	0.25µm	+ 10 meters	9414.117 368
50 meters	0.25mm	0.25µm	+ 10 meters	9414.117 369
50 meters	0.32mm	0.25µm	+ 10 meters	9414.117 370

DN-SAFE FFAP

Length	ID	Film	Retention Gap	Code
15 meters	0.25mm	0.25µm	+ 5 meters	9414.117 383
15 meters	0.32mm	0.25µm	+ 5 meters	9414.117 384
30 meters	0.25mm	0.25µm	+ 5 meters	9414.117 385
30 meters	0.32mm	0.25µm	+ 5 meters	9414.117 386
50 meters	0.25mm	0.25µm	+ 5 meters	9414.117 387
50 meters	0.32mm	0.25µm	+ 5 meters	9414.117 388
15 meters	0.25mm	0.25µm	+ 10 meters	9414.117 389
15 meters	0.32mm	0.25µm	+ 10 meters	9414.117 390
30 meters	0.25mm	0.25µm	+ 10 meters	9414.117 391
30 meters	0.32mm	0.25µm	+ 10 meters	9414.117 392
50 meters	0.25mm	0.25µm	+ 10 meters	9414.117 393
50 meters	0.32mm	0.25µm	+ 10 meters	9414.117 394

DN-SAFE WAX MS

Length	ID	Film	Retention Gap	Code
15 meters	0.25mm	0.25µm	+ 5 meters	9414.117 371
15 meters	0.32mm	0.25µm	+ 5 meters	9414.117 372
30 meters	0.25mm	0.25µm	+ 5 meters	9414.117 373
30 meters	0.32mm	0.25µm	+ 5 meters	9414.117 374
50 meters	0.25mm	0.25µm	+ 5 meters	9414.117 375
50 meters	0.32mm	0.25µm	+ 5 meters	9414.117 376
15 meters	0.25mm	0.25µm	+ 10 meters	9414.117 377
15 meters	0.32mm	0.25µm	+ 10 meters	9414.117 378
30 meters	0.25mm	0.25µm	+ 10 meters	9414.117 379
30 meters	0.32mm	0.25µm	+ 10 meters	9414.117 380
50 meters	0.25mm	0.25µm	+ 10 meters	9414.117 381
50 meters	0.32mm	0.25µm	+ 10 meters	9414.117 382

DN-SAFE Columns ON DEMAND

DN-1 HT DN-1 FAST DN-1 FAST HT	DN-200 DN-200 FAST	DN-264 DN-264 FAST
DN-5 HT DN-5 FAST DN-5 FAST HT	DN-225 DN-225 FAST	DN-WAX FAST
DN-20 DN-20 HT DN-20 FAST HT	DN-50 DN-50 FAST	DN-FFAP FAST
DN-17 DN-17 HT DN-17 FAST DN-17 FAST HT	DN-10 DN-10 FAST	DN-624
DN-1701 DN-1701 FAST	DN-13 DN-13 HT DN-13 FAST DN-13 FAST HT	
	DN-PLUS DN-PLUS FAST	

DN-SAFE Technical Specifications

Every Column Individually Tested
Test Certified and Grob Mixture included in each Column
Instruction Manual included in each Column

DANI DN-SAFE Capillary Column

Please refer to Stationary Phase Technical Specifications

DN-BioDiesel

Dedicated Columns

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www.danispa.it
DANI Instruments S.p.A.

DN-BioDiesel 15m

ID	Film	Max Temp	Code	Chroma	Methods
0.32mm	0.10µm	380°C	9414.117 297	059	UNI EN ISO 14105 ASTM 6584

DN-BioDiesel 30m

ID	Film	Max Temp	Code	Chroma	Methods
0.32mm	0.25µm	250°C	9414.117 298	060	UNI EN ISO 14103
0.32mm	1.00µm	250°C	9414.117 299	061	UNI EN ISO 14110

DN-BioDiesel Technical Specifications

Every Column Individually Tested
Test Certified and Grob Mixture included in each Column
Instruction Manual included in each Column

DANI DN-BioDiesel Capillary Column

Bonded and cross-linked
Inertness
Low bleeding
Good thermal stability

Similar to NO EQUIVALENT

DN-BioDiesel

Chromatograms

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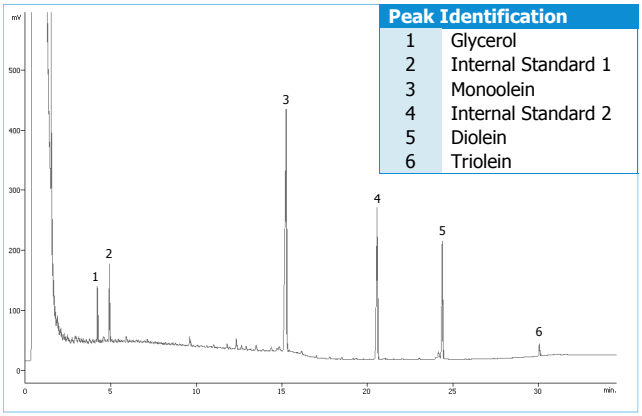
Determination of free and total glycerol and mono-, di-, triglyceride .
According to UNI EN ISO 14105 and ASTM 6584



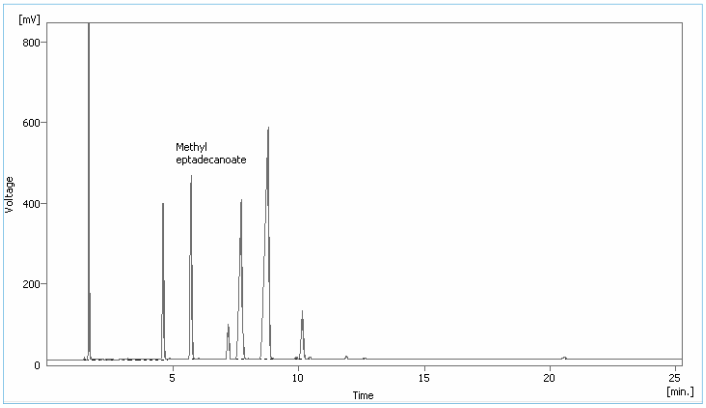
Peak Identification	
1	Glycerol
2	Internal Standard 1
3	Monoolein
4	Internal Standard 2
5	Diolein
6	Triolein

DN-BioDiesel 15m 0.32mm 0.10µm

Chromatographic Conditions	
Oven	50°C - 1 min - 15°C/min - 180°C 0 min - 7°C/min - 230°C - 0 min 10°C/min - 370°C - 10 min
Injection	PTV - 50°C - 999°C/min - 360°C - 15 min
Carrier Gas	Helium - 3 ml/min
Injection volume	1 µL
Detector	FID - 380°C

059

Determination of ester and linolenic acid methyl ester contents.
According to UNI EN ISO 14103:2003

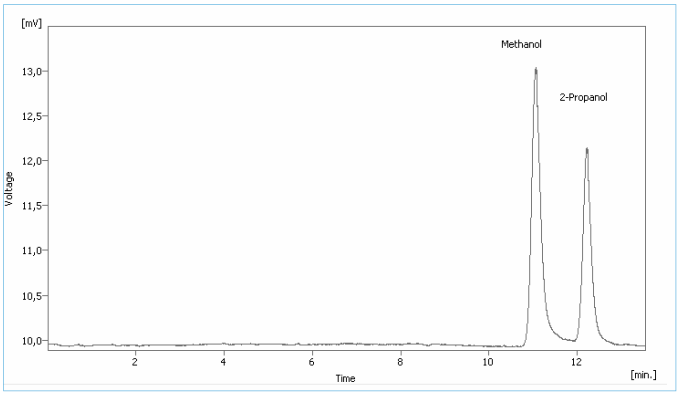


DN-BioDiesel 30m 0.32mm 0.25µm

Chromatographic Conditions	
Oven	210°C - 20 min
Injection	Split - 250°C
Carrier Gas	Helium - 1 ml/min
Injection volume	1 µL
Detector	FID - 250°C

060

Determination of ester and methanol content using headspace sampler.
According to UNI EN ISO 14110:2003



DN-BioDiesel 30m 0.32mm 1.00µm

Chromatographic Conditions	
Oven	70°C - 20 min
Injection	Split - 150°C
Carrier Gas	Helium - 1 ml/min
Injection volume	1 µL
Detector	FID - 150°C

061

DN-PAH

Dedicated Columns

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DN-PAH 15m

ID	Film	Max Temp	Code	Chroma
0.25mm	0.25µm	350°C	9414.117 303	067

DN-PAH 25m

ID	Film	Max Temp	Code	Chroma
0.25mm	0.25µm	350°C	9414.117 304	

DN-PAH Technical Specifications

Every Column Individually Tested
Test Certified and Grob Mixture included in each Column
Instruction Manual included in each Column

DANI DN-PAH Capillary Column

Bonded and cross-linked
Inertness
Low bleeding
Good thermal stability

Similar to NO EQUIVALENT

DN-PAH

Chromatograms

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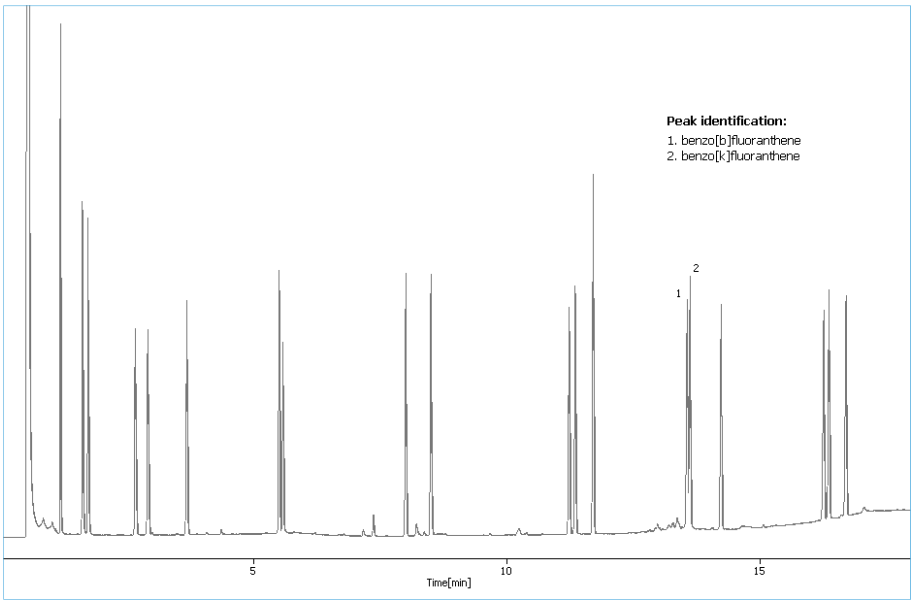
Polyaromatic Hydrocarbons (PAHs)



DN-PAH 15m 0.25mm 0.25µm

Chromatographic Conditions	
Oven	140°C - 1.0 min - 10°C/min 350°C - 1.0 min
Injection	PTV - 40°C - 999°C/min - 400°C - 5 min
Carrier Gas	Hydrogen - 1.0 ml/min
Injection volume	0.5 µL
Detector	FID - 400°C

067

DN-PAH FAST

Dedicated Columns

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DN-PAH FAST 15m

ID	Film	Max Temp	Code	Chroma
0.10mm	0.10µm	350°C	9414.117 302	066

DN-PAH FAST Technical Specifications

Every Column Individually Tested
Test Certified and Grob Mixture included in each Column
Instruction Manual included in each Column

DANI DN-PAH FAST Capillary Column

Bonded and cross-linked
Inertness
Low bleeding
Good thermal stability

Similar to NO EQUIVALENT

DN-PAH FAST

Chromatograms

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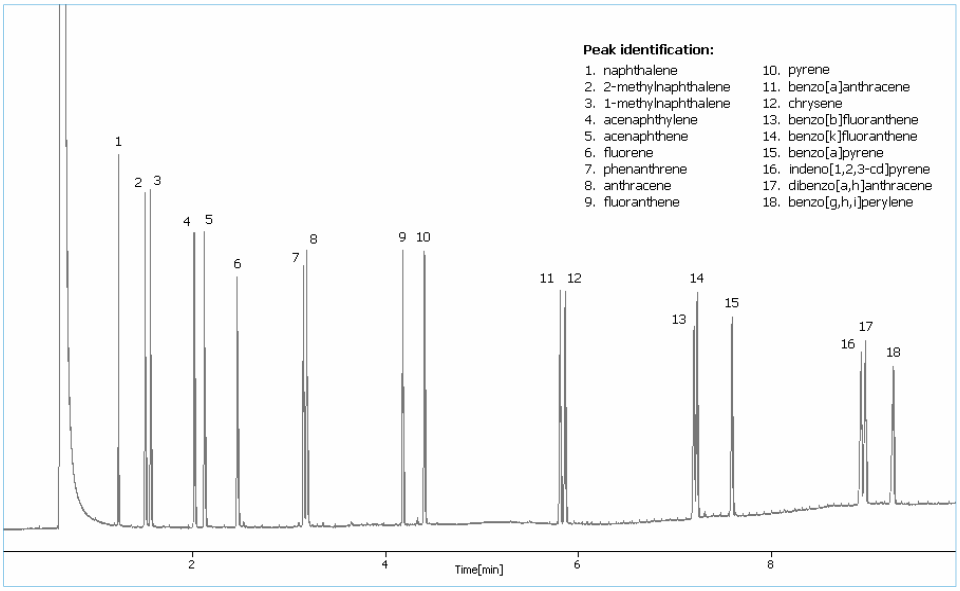
Fast GC application: Polyaromatic Hydrocarbons (PAHs)



DN-PAH FAST 15m 0.10mm 0.10µm

Chromatographic Conditions	
Oven	140°C - 0.5 min - 30°C/min 220°C - 15°C/min - 300°C
Injection	PTV - 80°C - 999°C/min - 400°C
Carrier Gas	Hydrogen - 0.5 ml/min
Injection volume	0.5 µL
Detector	FID - 400°C

066

DN-SOLVE

Dedicated Columns

DANI Instruments S.p.A.
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dani.instruments@danispa.it

DN-SOLVE 50m

ID	Film	Max Temp	Code	Chroma
0.32mm	0.25µm		9414.117 183	046

DN-SOLVE Technical Specifications

Every Column Individually Tested
Test Certified and Grob Mixture included in each Column
Instruction Manual included in each Column

DANI DN-SOLVE Capillary Column

Bonded and cross-linked
Inertness
Low bleeding
Good thermal stability

Similar to NO EQUIVALENT

DN-SOLVE

Chromatograms

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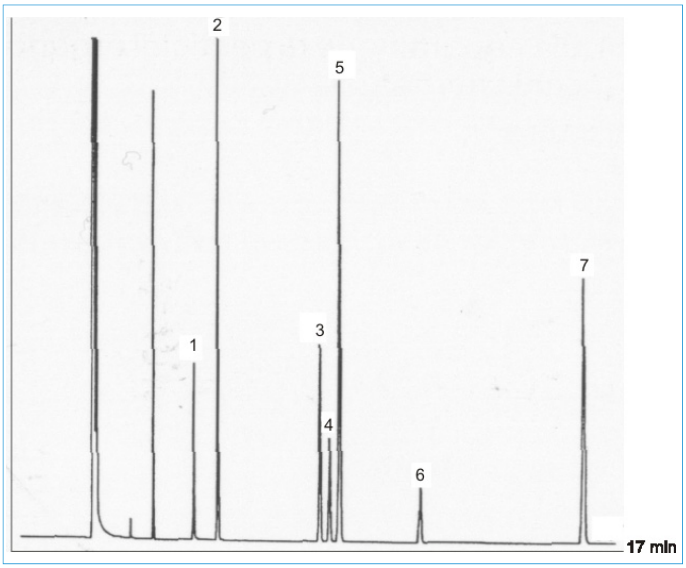

Solvents

DN-SOLVE 50m 0.32mm 0.25µm

Chromatographic Conditions	
Oven	35°C - 2 min - 1°C/min - 90°C
Injection	Split - 200°C - 1:70
Carrier Gas	Hydrogen - 2.5 ml/min
Injection volume	0.5 µL
Detector	FID - 200°C

Peak Identification	
1	Ethanol
2	Toluene
3	Ethylbenzene
4	m-Xylene
5	p-Xylene
6	o-Xylene
7	Pyridine

046

Solvents List

Solvents	Retention Time
Heptane	2.50 min
n-Hexane	2.72 min
Ether Etilic	2.80 min
Cyclohexane	3.06 min
Methylformiate	3.40 min
2,2-Dimetossi Propane	4.07 min
Methyl acetate	4.08 min
Acetone	4.08 min
1,2-Epossi Butane	4.17 min
Carbon Tetrachloride	4.55 min
1,1,1-TrichloroEthane	4.59 min
Ethyl Acetate	5.01 min
Methyl Ethyl Ketone	5.45 min
Methylene Chloride	5.52 min
Benzene	5.80 min
Methyl alcohol	6.60 min
Pinacolone	6.67 min
Tertiary Butyl alcohol	7.08 min
Trieline	7.25 min
Isopropylic alcohol	7.94 min
Etilic alcohol	8.08 min
Acetonitrile	8.57 min
Chloroform	8.60 min
Isobutyl acetate	8.87 min
Ethyl Isobutyl Ketone	8.90 min
Toluene	9.08 min
Dioxane	11.77 min
n-Butyl Acetate	12.07 min
Secondary Butyl alcohol	12.70 min
n-Propylic alcohol	13.42 min
Ethyl Benzene	13.92 min
m-Xylene	14.36 min
p-Xylene	14.80 min
Mesityl oxide	16.50 min

Solvents	Retention Time
Isobutyl alcohol	17.09 min
Nitromethane	17.43 min
Nitroethane	17.86 min
o-Xylene	18.12 min
1-Metossi 2-Propanol	20.81 min
n-Butyl alcohol	22.08 min
Nitropropane	22.38 min
Pyridine	24.49 min
Methylcellosolve	25.84 min
2-Metossi 3-Propanol	28.48 min
2-Methyl Pyridine	28.83 min
Methylcellosolve Acetate	30.05 min
Cellosolve	30.75 min
Cellosolve Acetate	34.70 min
3-Methyl Pyridine	37.03 min
N.N. Dimethylformamide	44.53 min
Diaceton alcohol	47.22 min
N.N. Dimethyl Aniline	57.40 min
N.N. Dimethyl Acetamide	58.70 min
N.N. Diethyl Aniline	72.60 min

DN-SOLVE 50m 0.32mm 0.25µm

Chromatographic Conditions	
Oven	110°C - 8°C/min - 280°C
Injection	Split - 300°C - 1:100
Carrier Gas	Hydrogen - 60 kPa
Injection volume	1 µL
Detector	FID - 300°C

DN-68

Dedicated Columns

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DN-68				25m
ID	**Film**	**Max Temp**	**Code**	**Chroma**
0.32mm	0.25µm		9414.117 184	047/061

DN-68	Technical Specifications

Every Column Individually Tested
Test Certified and Grob Mixture included in each Column
Instruction Manual included in each Column

DANI DN-68 Capillary Column

Bonded and cross-linked
Inertness
Low bleeding
Good thermal stability

Similar to NO EQUIVALENT

DN-68

Chromatograms

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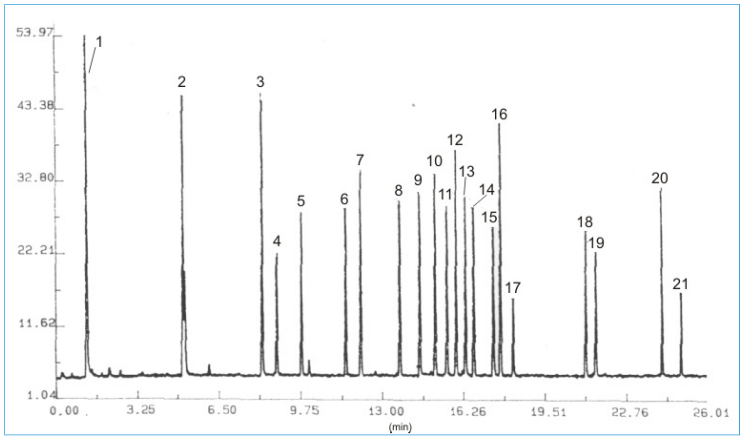
Phosphorous Pesticides

Peak	Identification
1	Trichlorfon
2	Phosdrin
3	Tionazine
4	Ethoprophos
5	Phorate
6	Phonophos
7	Diazinone
8	CH3-Chlorpyriphos
9	CH3-Parathion
10	CH3-Pirimiphos
11	Chlorpyriphos
12	Malathion
13	Parathion
14	Pirimiphos
15	Quinalphos
16	C2H5-Bromophos
17	Metidathion
18	Ethion
19	Trithion
20	CH3-Azinphos
21	C2H5-Azinphos

DN-68 25m 0.32mm 0.25µm

Chromatographic Conditions	
Oven	100°C - 1 min - 5.5°C/min - 230°C - 30°C/min - 270°C
Injection	Splitless - 240°C
Carrier Gas	Hydrogen - 70 kPa
Injection volume	1 µL
Detector	FPD - 140°C



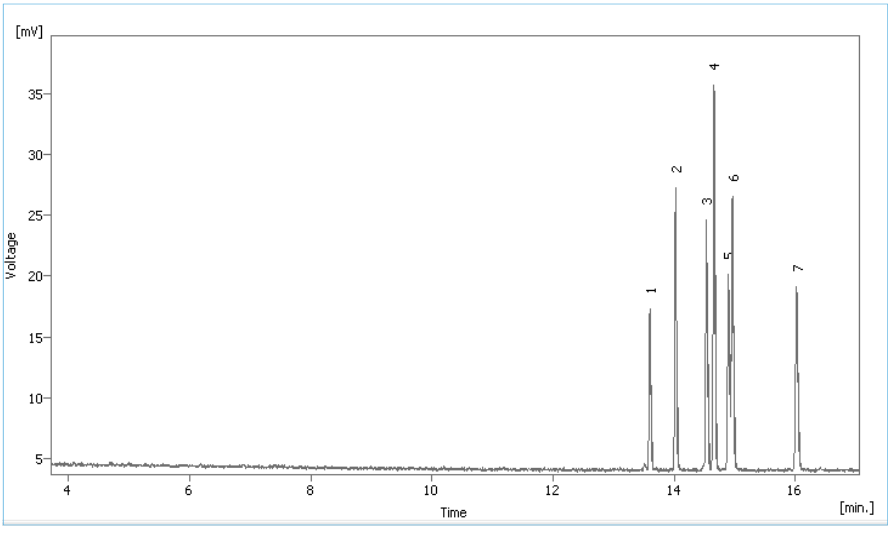
047

Determination of phosphorous pesticides in essential oil of tangerine with FPD detector

Peak	Identification
1	Chlorpyriphos-methyl
2	Parathion-methyl
3	Chlorpyriphos-ethyl
4	Ethion
5	Bromophos-rthyl
6	Parathion-ethyl
7	Methidathion

DN-68 25m 0.32mm 0.25µm

Chromatographic Conditions	
Oven	75°C - 10°C/min - 240°C
Injection	PTV - 65°C - 999°C - 260°C
Carrier Gas	Helium - 2 ml/min
Injection volume	1 µL
Detector	FPD - 150°C



061

DN-BASIC

Dedicated Columns

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dani.instruments@danispa.it

DN-BASIC 25m

ID	Film	Max Temp	Code	Chroma
0.32mm	0.25µm		9414.117 185	048

DN-BASIC Technical Specifications

Every Column Individually Tested
Test Certified and Grob Mixture included in each Column
Instruction Manual included in each Column

DANI DN-BASIC Capillary Column

Bonded and cross-linked
Inertness
Low bleeding
Good thermal stability

Similar to NO EQUIVALENT

DN-BASIC

Chromatograms

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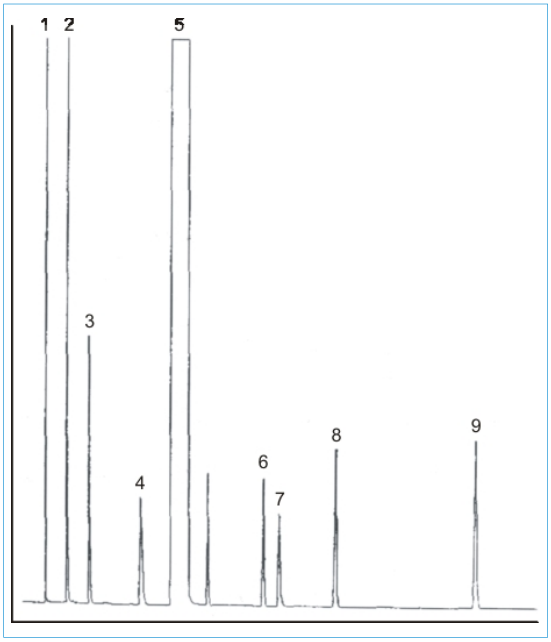

Amines

DN-BASIC 25m 0.32mm 0.25µm

Chromatographic Conditions	
Oven	35°C - 2.5°C/min - 130°C
Injection	Split - 250°C - 1:50
Carrier Gas	Hydrogen - 40 kPa
Injection volume	0.5 µL
Detector	FID - 250°C

Peak Identification	
1	N. ethyl diisopropyl amine
2	Di N. propyl amine
3	Diallylamine
4	2-methyl piroline
5	Pyridine
6	2-methyl diazolo
7	Morpholine
8	4,5 dimethyl diazolo
9	Pyrrole

048

DN-LAP

Dedicated Columns

DANI Instruments S.p.A.
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DN-LAP 25m

ID	Film	Max Temp	Code	Chroma
0.32mm	0.10µm		9414.117 186	049/050/051 052/053/054

DN-LAP Technical Specifications

Every Column Individually Tested
Test Certified and Grob Mixture included in each Column
Instruction Manual included in each Column

DANI DN-LAP Capillary Column

Bonded and cross-linked
Inertness
Low bleeding
Good thermal stability

Similar to NO EQUIVALENT

DN-LAP

Chromatograms

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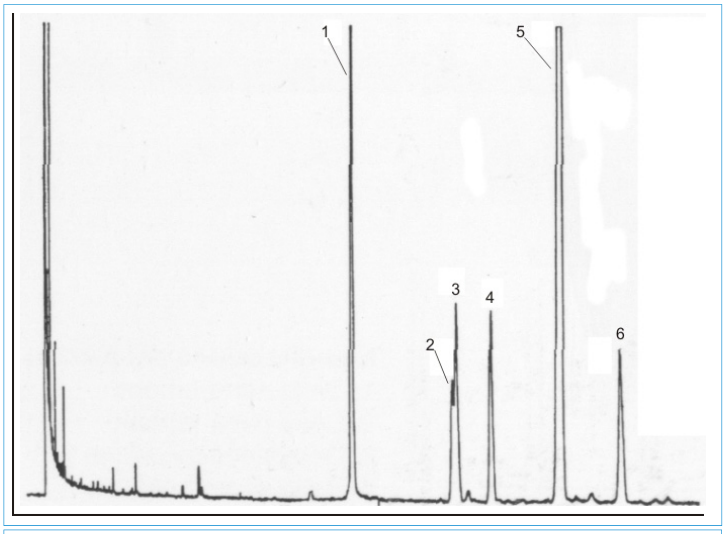


Courtesy of Dott. Mariani - Stazione Sperimentale Olii e Grassi
Via Giuseppe Colombo, 79 - Milano - ITALY

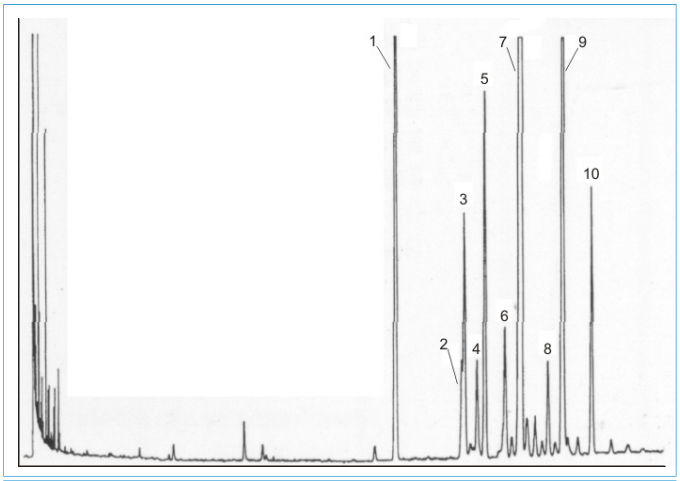
Sterols TMS
Peanut Oil

DN-LAP 25m 0.32mm 0.10µm

Chromatographic Conditions	
Oven	Isothermal 220°C
Injection	Split - 300°C - 1:80
Carrier Gas	Hydrogen - 1.2 ml/min
Injection volume	1 µL
Detector	FID - 300°C

Peak Identification	
1	alpha-colestanol (I.S.)
2	22,23-diidrobrassicasterol
3	Campesterol
4	Stigmasterol
5	Sitosterol
6	D5-campesterol

049



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Via Giuseppe Colombo, 79 - Milano - ITALY

Sterols TMS
Sunflower Oil

DN-LAP 25m 0.32mm 0.10µm

Chromatographic Conditions	
Oven	Isothermal 220°C
Injection	Split - 300°C - 1:80
Carrier Gas	Hydrogen - 1.2 ml/min
Injection volume	1 µL
Detector	FID - 300°C

Peak Identification	
1	alpha-colestanol (I.S.)
2	22,23-diidrobrassicasterol
3	Campesterol
4	*Incognito*
5	Stigmasterol
6	D7-campesterol
7	Sitosterol
8	D5-avenasterol
9	D7-stigmastenol
10	D7-avenasterol

050

DN-LAP

Chromatograms

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www.danispa.it

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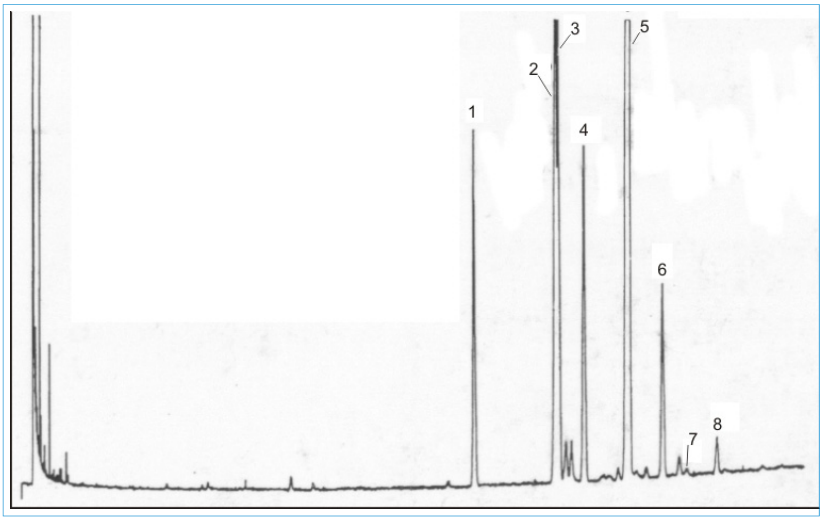

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Via Giuseppe Colombo, 79 - Milano - ITALY

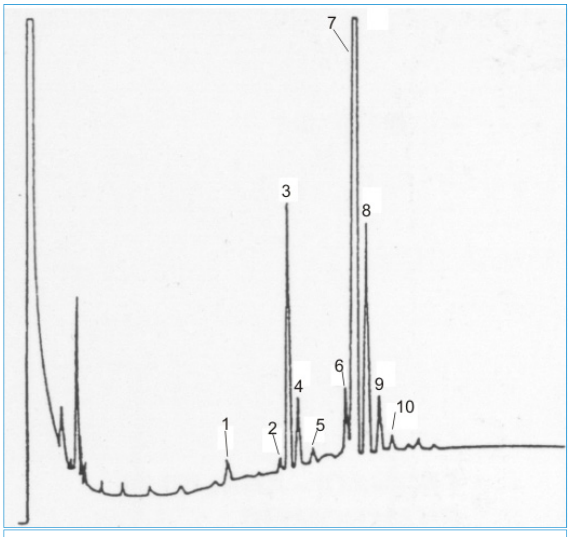
Sterols TMS
Mais Oil

DN-LAP 25m 0.32mm 0.10µm

Chromatographic Conditions	
Oven	Isothermal 220°C
Injection	Split - 300°C - 1:80
Carrier Gas	Hydrogen - 1.2 ml/min
Injection volume	1 µL
Detector	FID - 300°C

Peak Identification	
1	alpha-colestanol (I.S.)
2	22,23-diidrobrassicasterol
3	Campesterol
4	Stigmasterol
5	Sitosterol
6	D5-avenasterol
7	D7-stigmastenol
8	D7-avenasterol

051



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Triglycerides - Hazelnut Oil

DN-LAP 25m 0.32mm 0.10µm

Chromatographic Conditions	
Oven	Isothermal 220°C
Injection	Split - 300°C - 1:80
Carrier Gas	Hydrogen - 1.2 ml/min
Injection volume	1 µL
Detector	FID - 300°C

Peak Identification	
1	PPO
2	POS
3	POO
4	PLO + OOPo
5	PLL + PoOL
6	8OO
7	OOO
8	OOL
9	OOL
10	LLL

052

DN-LAP

Chromatograms

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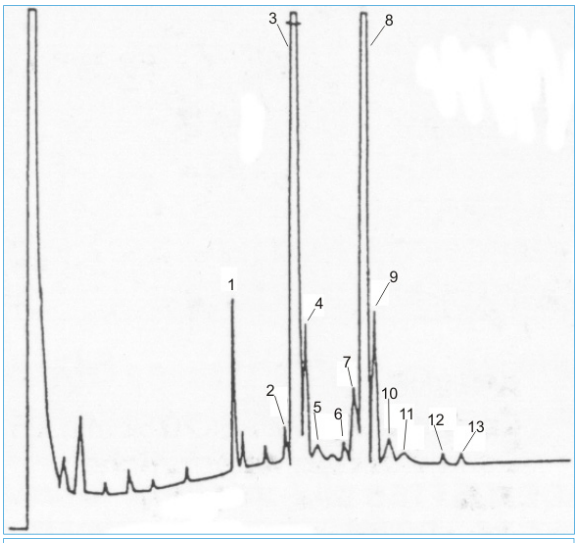

Courtesy of Dott. Mariani - Stazione Sperimentale Olii e Grassi
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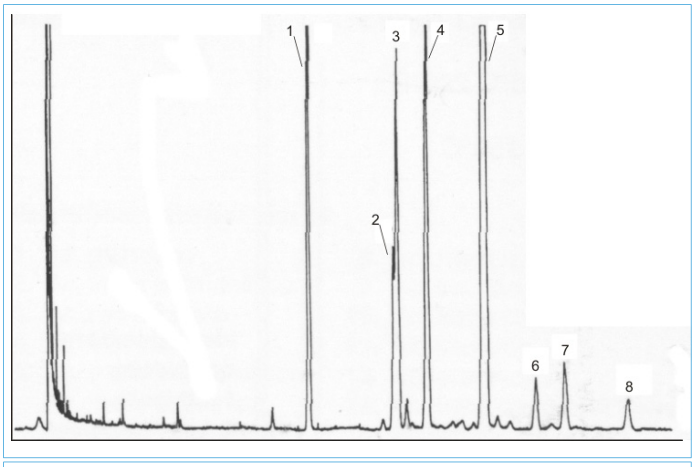
Triglycerides - Olive Oil

DN-LAP 25m 0.32mm 0.10µm

Chromatographic Conditions	
Oven	Isothermal 220°C
Injection	Split - 300°C - 1:80
Carrier Gas	Hydrogen - 1.2 ml/min
Injection volume	1 µL
Detector	FID - 300°C

Peak Identification	
1	PPO
2	POS
3	POO
4	PLO + OOPo
5	PLL + PoOL
6	SSO
7	SOO
8	OOO
9	OOL
10	OLL
11	LLL
12	OOO
13	GoOO

053



Courtesy of Dott. Mariani - Stazione Sperimentale Olii e Grassi
Via Giuseppe Colombo, 79 - Milano - ITALY

Sterols TMS
Soya Oil

DN-LAP 25m 0.32mm 0.10µm

Chromatographic Conditions	
Oven	Isothermal 220°C
Injection	Split - 300°C - 1:80
Carrier Gas	Hydrogen - 1.2 ml/min
Injection volume	1 µL
Detector	FID - 300°C

Peak Identification	
1	alpha-colestanol (I.S.)
2	22,23-diidrobrassicasterol
3	Campesterol
4	Stigmasterol
5	Sitosterol
6	D5-avenasterol
7	D7-stigmastenol
8	D7-avenasterol

054

DN-Beta 1

Chiral Columns

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DN-Beta 1 10m

ID	Film	Max Temp	Code	Chroma
0.25mm	0.25µm	230°C	9414.117 171	

DN-Beta 1 25m

ID	Film	Max Temp	Code	Chroma
0.25mm	0.25µm	230°C	9414.117 172	

DN-Beta 1 Technical Specifications

Every Column Individually Tested
Test Certified and Grob Mixture included in each Column
Instruction Manual included in each Column

DANI DN-Beta 1 Chiral Capillary Column
Dimethyl Tert Butyl Silyl BETA Cyclodextrine
Chiral
Bonded and cross-linked
Inertness
Low bleeding
Good thermal stability

DN-Beta 2

Chiral Columns

DANI Instruments S.p.A. www.danispa.it dani.instruments@danispa.it

DN-Beta 2 10m

ID	Film	Max Temp	Code	Chroma
0.25mm	0.25µm	230°C	9414.117 173	

DN-Beta 2 25m

ID	Film	Max Temp	Code	Chroma
0.25mm	0.25µm	230°C	9414.117 174	055

DN-Beta 2 Technical Specifications

Every Column Individually Tested
Test Certified and Grob Mixture included in each Column
Instruction Manual included in each Column

DANI DN-Beta 2 Chiral Capillary Column
Diacethyl Tert Butyl Silyl BETA Cyclodextrine
Chiral
Bonded and cross-linked
Inertness
Low bleeding
Good thermal stability

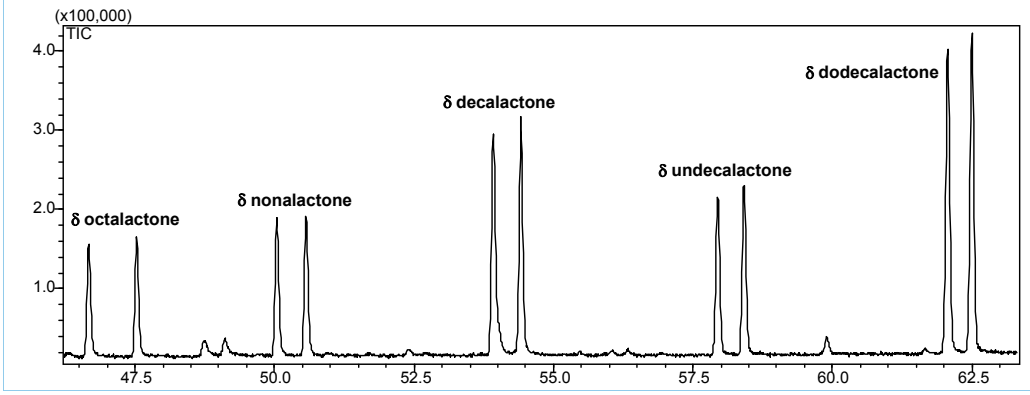
DN-Beta 2

Chromatograms

DN-Beta 2 25m 0.25mm 0.25µm

Delta Lactones - C8-C12

Chromatographic Conditions	
Oven	80°C - 1.5°C/min - 200°C
Injection	Split - 250°C - 1:70
Carrier Gas	Hydrogen - 70 kPa
Injection volume	1 µL
Detector	FID - 250°C



Courtesy of Prof. C. Bicchi, C. Brunelli
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055

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DN-Beta 3

Chiral Columns

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DN-Beta 3 10m

ID	Film	Max Temp	Code	Chroma
0.25mm	0.25µm	230°C	9414.117 175	

DN-Beta 3 25m

ID	Film	Max Temp	Code	Chroma
0.25mm	0.25µm	230°C	9414.117 176	056

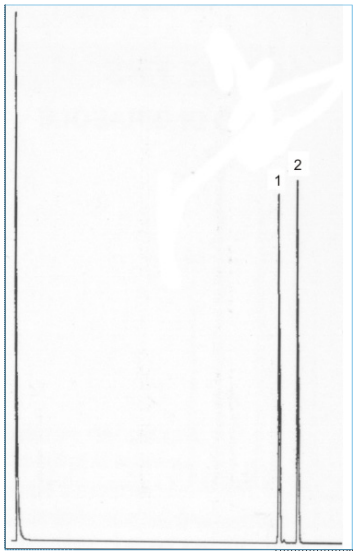
DN-Beta 3 Technical Specifications

Every Column Individually Tested
Test Certified and Grob Mixture included in each Column
Instruction Manual included in each Column

DANI DN-Beta 3 Chiral Capillary Column
Dimethyl Pentyl BETA Cyclodextrine
Chiral
Bonded and cross-linked
Inertness
Low bleeding
Good thermal stability

DN-Beta 3

Chromatograms



Pharmaceutical Enantiomers

DN-Beta 3 25m 0.25mm 0.25µm

Chromatographic Conditions	
Oven	100°C - 2.5°C/min - 170°C
Injection	Split - 250°C - 1:50
Carrier Gas	Hydrogen - 70 kPa
Injection volume	1 µL
Detector	FID - 250°C

Peak Identification	
1	Hexobarbital (+)
2	Hexobarbital (-)

056

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DN-Beta 4

Chiral Columns

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DN-Beta 4 10m

ID	Film	Max Temp	Code	Chroma
0.25mm	0.25µm	230°C	9414.117 177	

DN-Beta 4 25m

ID	Film	Max Temp	Code	Chroma
0.25mm	0.25µm	230°C	9414.117 178	057/058

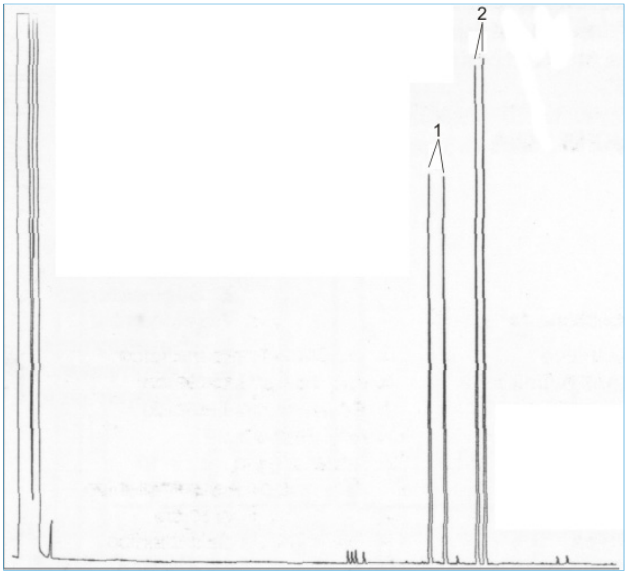
DN-Beta 4 Technical Specifications

Every Column Individually Tested
Test Certified and Grob Mixture included in each Column
Instruction Manual included in each Column

DANI DN-Beta 4 Chiral Capillary Column
Diethyl Tert Butyl Silyl BETA Cyclodextrine
Chiral
Bonded and cross-linked
Inertness
Low bleeding
Good thermal stability

DN-Beta 4

Chromatograms



Linalool

DN-Beta 4 25m 0.25mm 0.25µm

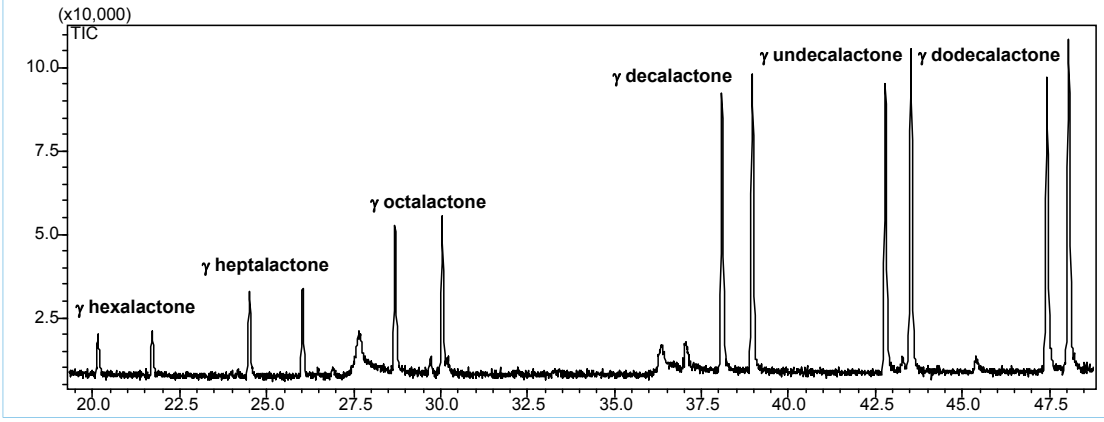
Chromatographic Conditions	
Oven	80°C - 1.5°C/min - 200°C
Injection	Split - 250°C - 1:70
Carrier Gas	Hydrogen - 70 kPa
Injection volume	1 µL
Detector	FID - 250°C

Peak Identification	
1	Linalool (+)
	Linalool (-)
2	Linalylacetate (+)
	Linalylacetate (-)

057

DN-Beta 4 25m 0.25mm 0.25µm

Gamma Lactones - C6-C12



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058

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DN-Beta

Chromatograms

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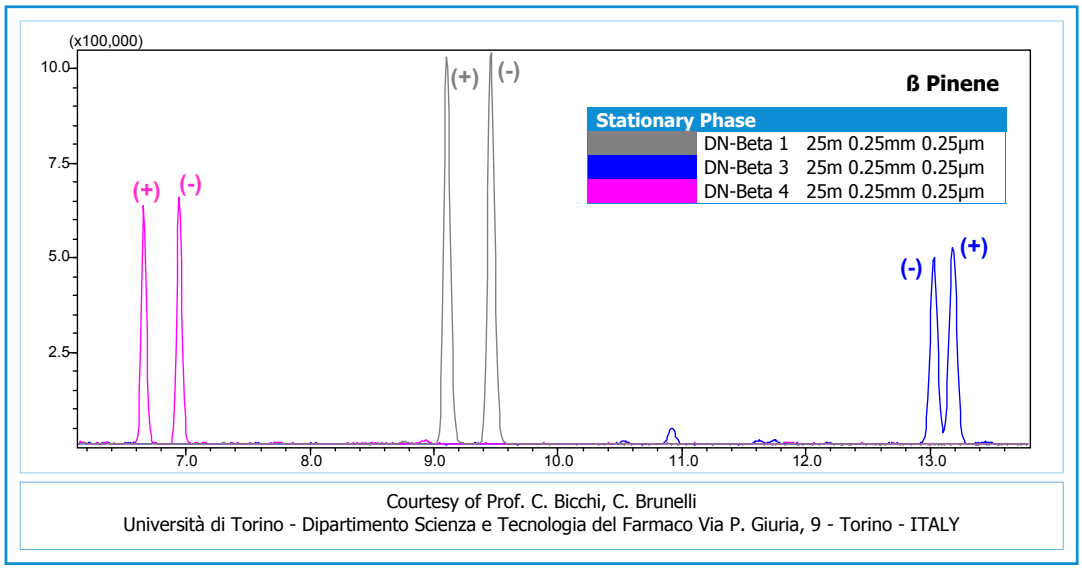

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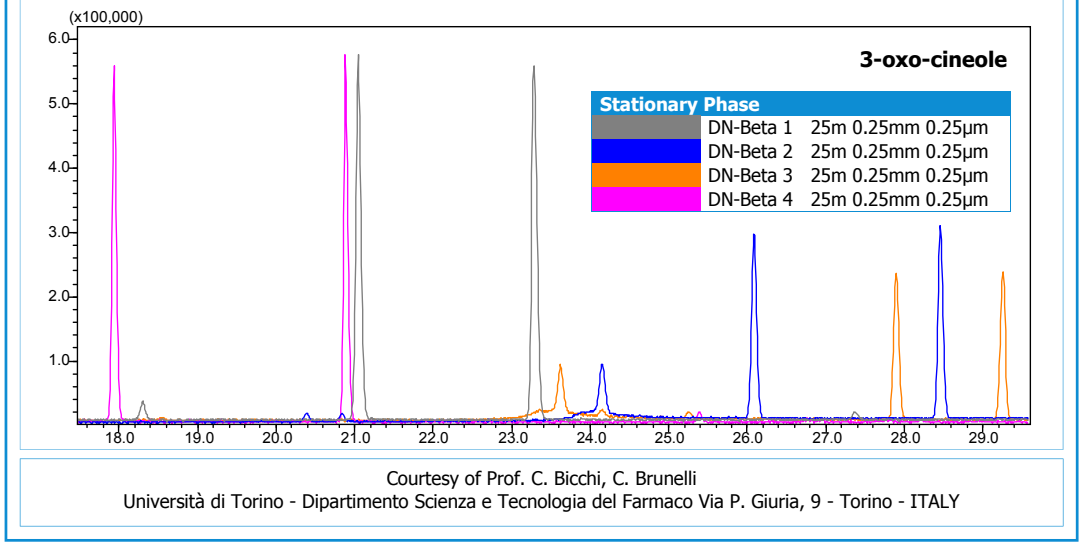

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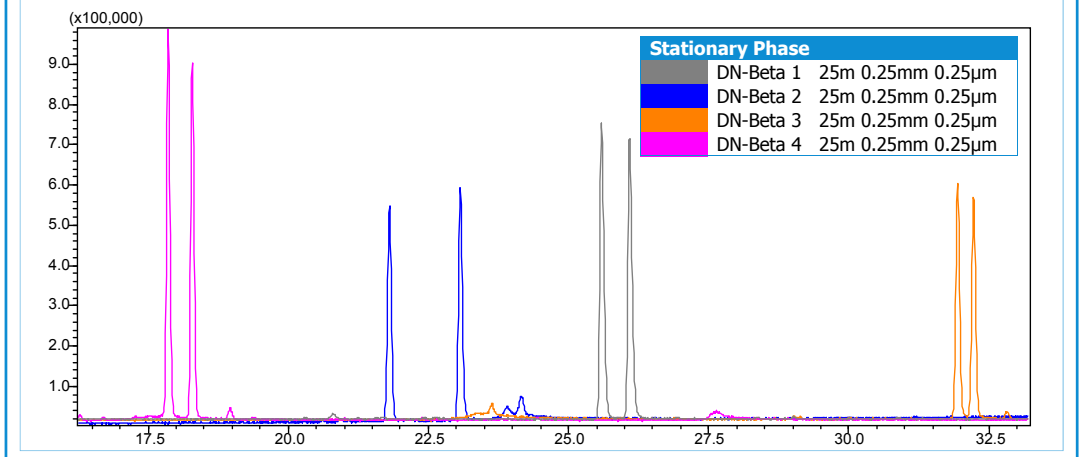
Isoborneol



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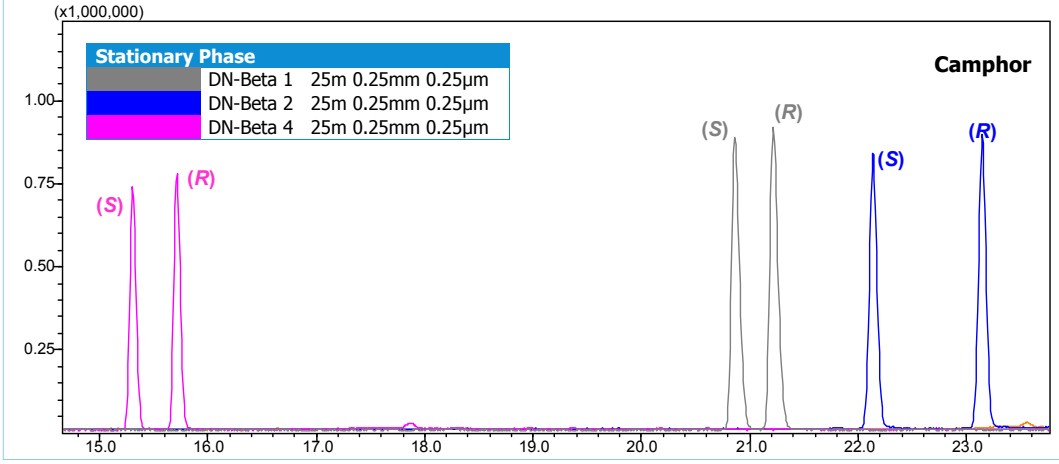
DN-Beta

Chromatograms



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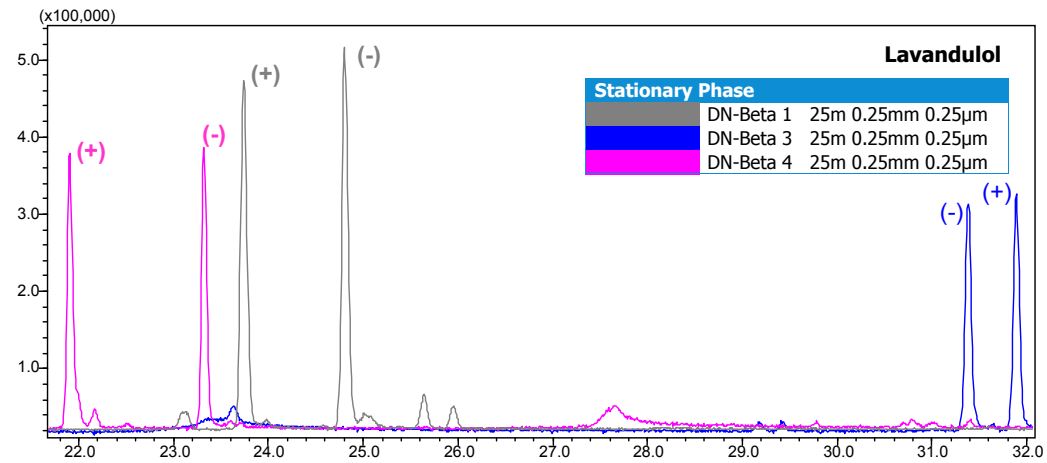

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DN-Gamma 1

Chiral Columns

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DN-Gamma 1 10m

ID	Film	Max Temp	Code	Chroma
0.25mm	0.25µm	230°C	9414.117 179	

DN-Gamma 1 25m

ID	Film	Max Temp	Code	Chroma
0.25mm	0.25µm	230°C	9414.117 180	

DN-Gamma 1 Technical Specifications

Every Column Individually Tested
Test Certified and Grob Mixture included in each Column
Instruction Manual included in each Column

DANI DN-Gamma 1 Chiral Capillary Column
Diacethyl Tert Butyl Silyl GAMMA Cyclodextrine
Chiral
Bonded and cross-linked
Inertness
Low bleeding
Good thermal stability

DN-Gamma 2

Chiral Columns

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DN-Gamma 2 10m

ID	Film	Max Temp	Code	Chroma
0.25mm	0.25µm	230°C	9414.117 181	

DN-Gamma 2 25m

ID	Film	Max Temp	Code	Chroma
0.25mm	0.25µm	230°C	9414.117 182	

DN-Gamma 2 Technical Specifications

Every Column Individually Tested
Test Certified and Grob Mixture included in each Column
Instruction Manual included in each Column

DANI DN-Gamma 2 Chiral Capillary Column
Diethyl Tert Butyl Silyl GAMMA Cyclodextrine
Chiral
Bonded and cross-linked
Inertness
Low bleeding
Good thermal stability

New GC Capillary Columns

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New Columns

Stationary Phase	Length	ID	Film	Max Temp	Polarity	Code	Chroma
DN-5	10 meters	0.32mm	0.10µm	350°C	Non-polar	9414.116 124	
DN-1	10 meters	0.53mm	1.00µm	330°C	Non-polar	9414.117 187	005/006/009
DN-5	10 meters	0.53mm	1.00µm	330°C	Non-polar	9414.117 188	021
DN-1	10 meters	0.53mm	2.65µm	320°C	Non-polar	9414.117 189	
DN-1	15 meters	0.32mm	0.10µm	350°C	Non-polar	9414.117 190	
DN-5	15 meters	0.32mm	0.10µm	350°C	Non-polar	9414.117 191	
DN-5	30 meters	0.53mm	2.65µm	320°C	Non-polar	9414.117 305	
DN-WAX	10 meters	0.53mm	1.20µm	250°C	Polar	9414.117 306	
DN-1	10 meters	0.53mm	0.10µm	350°C	Non-polar	9414.117 307	
DN-624	60 meters	0.32mm	1.80µm	250°C	Intermediate	9414.117 308	
DN-1	10 meters	0.25mm	1.00µm	330°C	Non-polar	9414.117 309	
DN-624	30 meters	0.32mm	1.80µm	250°C	Intermediate	9414.117 310	
DN-WAX	25 meters	0.53mm	1.20µm	250°C	Polar	9414.117 395	
DN-SAFE 1	4m + RG 2m	0.32mm	0.10µm	350°C	Non-polar	9414.117 396	
DN-35	30 meters	0.25mm	0.25µm	350°C	Intermediate	9414.117 397	
DN-1	100 meters	0.25mm	1.00µm	330°C	Non-polar	9414.117 398	
DN-1	30 meters	0.53mm	2.65µm	320°C	Non-polar	9414.117 399	

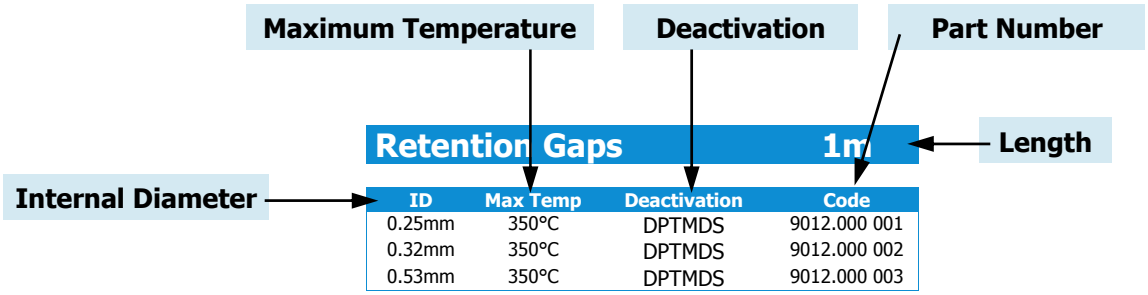
Technical Specifications

Every Column Individually Tested
Test Certified and Grob Mixture included in each Column
Instruction Manual included in each Column

Please refer to previous Stationary Phase Technical Specifications

To order **STANDARD** Retention Gaps and Press Fit please specify only the

Part Number

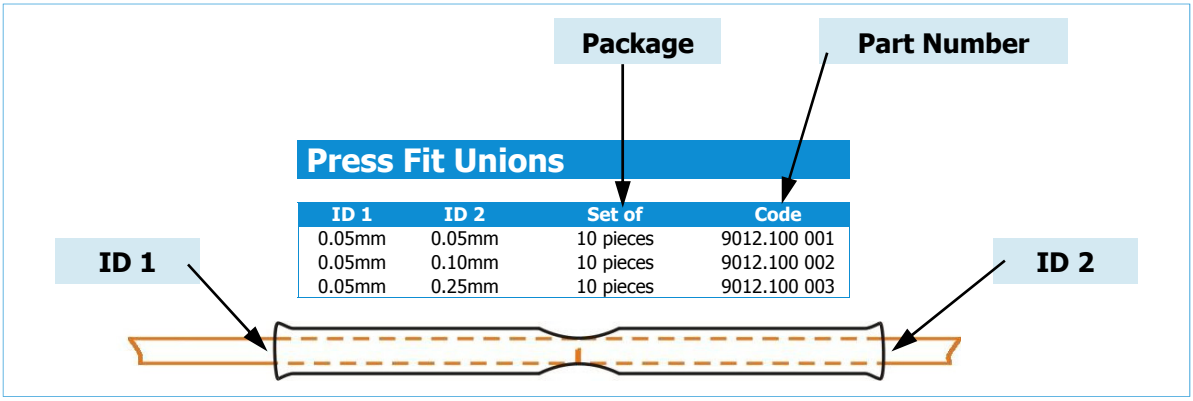


ID	Max Temp	Deactivation	Code
0.25mm	350°C	DPTMDS	9012.000 001
0.32mm	350°C	DPTMDS	9012.000 002
0.53mm	350°C	DPTMDS	9012.000 003

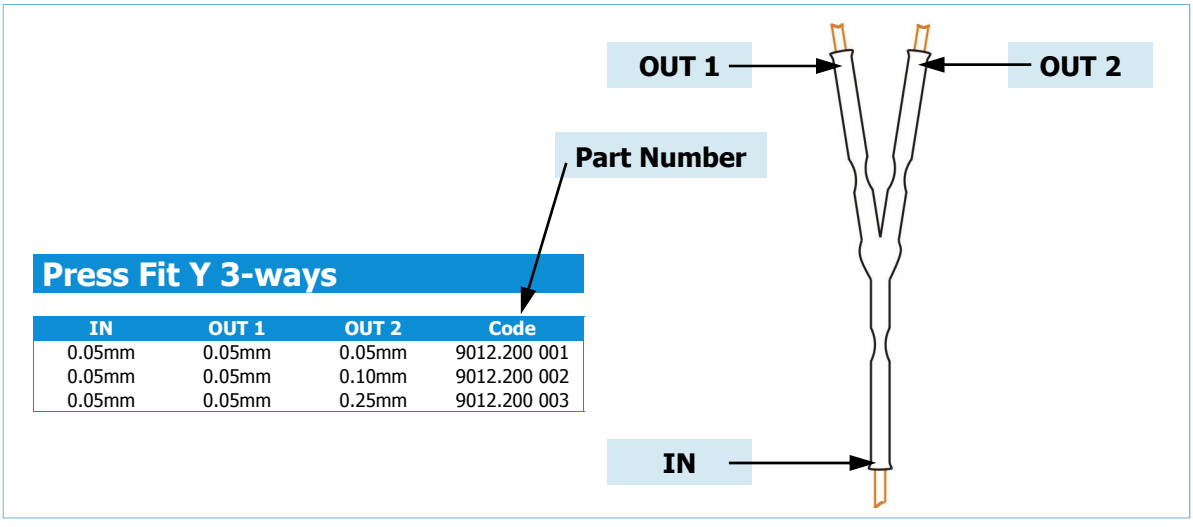
On request DANI Instruments can supply **Retention Gaps** with different length or diameter

To order **CUSTOM** Retention Gap please specify

Internal Diameter + Length



ID 1	ID 2	Set of	Code
0.05mm	0.05mm	10 pieces	9012.100 001
0.05mm	0.10mm	10 pieces	9012.100 002
0.05mm	0.25mm	10 pieces	9012.100 003



IN	OUT 1	OUT 2	Code
0.05mm	0.05mm	0.05mm	9012.200 001
0.05mm	0.05mm	0.10mm	9012.200 002
0.05mm	0.05mm	0.25mm	9012.200 003

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Retention Gaps 1m

ID	Max Temp	Deactivation	Code
0.25mm	350°C	DPTMDS	9012.000 001
0.32mm	350°C	DPTMDS	9012.000 002
0.53mm	350°C	DPTMDS	9012.000 003
0.25mm	350°C	HMDS	9012.001 001
0.32mm	350°C	HMDS	9012.001 002
0.53mm	350°C	HMDS	9012.001 003
0.25mm	280°C	CARBOWAX 20M	9012.002 001
0.32mm	280°C	CARBOWAX 20M	9012.002 002
0.53mm	280°C	CARBOWAX 20M	9012.002 003

Retention Gaps Technical Specifications

Retention Gap deactivated DPTMDS: for General Use
Retention Gap deactivated HMDS: for Non Polar solvents
Retention Gap deactivated CARBOWAX 20M: for Polar solvents
Retention Gap material: Fused Silica

Press Fit Unions

ID 1	ID 2	Set of	Code
0.25mm	0.25mm	10 pieces	9012.100 001
0.25mm	0.32mm	10 pieces	9012.100 002
0.25mm	0.53mm	10 pieces	9012.100 003
0.32mm	0.32mm	10 pieces	9012.100 004
0.32mm	0.53mm	10 pieces	9012.100 005
0.53mm	0.53mm	10 pieces	9012.100 006

Press Fit Y 3-ways

IN	OUT 1	OUT 2	Code
0.25mm	0.25mm	0.25mm	9012.200 001
0.25mm	0.25mm	0.32mm	9012.200 002
0.25mm	0.25mm	0.53mm	9012.200 003
0.25mm	0.32mm	0.32mm	9012.200 004
0.25mm	0.32mm	0.53mm	9012.200 005
0.25mm	0.53mm	0.53mm	9012.200 006
0.32mm	0.25mm	0.25mm	9012.200 007
0.32mm	0.25mm	0.32mm	9012.200 008
0.32mm	0.25mm	0.53mm	9012.200 009
0.32mm	0.32mm	0.32mm	9012.200 010
0.32mm	0.32mm	0.53mm	9012.200 011
0.32mm	0.53mm	0.53mm	9012.200 012
0.53mm	0.25mm	0.25mm	9012.200 013
0.53mm	0.25mm	0.32mm	9012.200 014
0.53mm	0.25mm	0.53mm	9012.200 015
0.53mm	0.32mm	0.32mm	9012.200 016
0.53mm	0.32mm	0.53mm	9012.200 017
0.53mm	0.53mm	0.53mm	9012.200 018

Press Fit 4 or 5 ways

Available on request special 4 or 5 ways fused silica Press Fits

To order DANI GC Packed column please specify

Packed Column + Length + Stationary Phase

Empty Packed Columns (**)

Description	O.D. (mm)	I.D. (mm)
Glass	6	2
Glass	6	3
Stainless Steel	**4**	**2**
Stainless Steel	4	3
Stainless Steel	6	4

Stationary Phases

Description	Mesh	Max Temp
Porapak PS	80/100	250°C
Porapak Q	**80/100**	250°C
Porapak Q-S	80/100	250°C
Porapak R	80/100	250°C

Column Stainless Steel 4x2mm 2 meters Porapak Q 80/100 mesh

Packed Column + Length + Liquid Stationary Phase + % Liquid Stationary Phase + Support

Empty Packed Columns (**)

Description	O.D. (mm)	I.D. (mm)
Glass	6	2
Glass	6	3
Stainless Steel	**4**	**2**
Stainless Steel	4	3
Stainless Steel	6	4

Supports

Description	Mesh	Treatment
Chromosorb® G-LA	100/120	Silanized
Chromosorb® G-LA	120/140	Silanized
Chromosorb® W HP	**80/100**	
Chromosorb® W HP	100/120	
Chromosorb® R-6470-1		
Chromosorb® T (teflon)	30/60	

Stationary Phases

Description	Min Temp	Max Temp
Carbowax™ 200	Amb. Temp.	100°C
Carbowax™ 400	Amb. Temp.	125°C
Carbowax™ 600	Amb. Temp.	125°C
Carbowax™ 1000	40°C	200°C
Carbowax™ 1500	40°C	200°C
Carbowax™ 1540	40°C	200°C
Carbowax™ 4000	60°C	200°C
Carbowax™ 6000	60°C	200°C
Carbowax™ 20M	60°C	220°C
SE-30	50°C	300°C
SE-52	50°C	300°C
SE-54	100°C	300°C
Neo-pentylglycol adipate LAC 9R 769	50°C	220°C

Column Stainless Steel 4x2mm 2 meters Carbowax™ 20M 5% Chromosorb W HP 80/100 mesh

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Empty Packed Columns (**)

Description	O.D. (mm)	I.D. (mm)
Glass	6	2
Glass	6	3
Stainless Steel	4	2
Stainless Steel	4	3
Stainless Steel	6	4

(**) Only for DANI GC8610, GC1000, MASTER GC

Stationary Phases

Description	Maglie/cm^2	Activation Temp
Activated Alumina	260/1600	100°C/24h
Activated Charcoal	200/400	150°C/24h
Fluorisil	590/1600	150°C/2h
Silica Gel	510/1100	150°C/24h
Molecular Sieve 5A	200/1100	250°C/24h
Molecular Sieve 5A spheres		250°C/24h
Molecular Sieve 13X	200/1100	250°C/24h
Silica Gel + Octoil S (3%)		130°C/24h
Spherosil		150°C/24h

Stationary Phases

Description	Min Temp	Max Temp
Acetonylacetone	10°C	20°C
Alkaterge Tensioactive Amine	50°C	75°C
Silver Nitrate	Amb. Temp.	75°C
Armeen SD Primary apliphatic amine	30°C	100°C
Aroclor 1232 Byphenil chlorate	50°C	110°C
Bentone 34 Dimethyldioctadecylammonium Bentonite	Amb. Temp.	200°C
Bentone 34 in mix 1:1 with didecylphtalate	Amb. Temp.	150°C
7-8 Benzochinoline	50°C	150°C
Bis(2(2-Metossietossi)Ethyl) Ether	Amb. Temp.	50°C
Bis(2-Metossi-Ethyl)-Adipate	Amb. Temp.	150°C

Stationary Phases

Description	Mesh	Max Temp
Chromosorb® 101	100/120	275°C
Chromosorb® 101	80/100	275°C
Chromosorb® 101	60/80	275°C
Chromosorb® 102	100/120	250°C
Chromosorb® 102	80/100	250°C
Chromosorb® 102	60/80	250°C
Chromosorb® 103	100/120	275°C
Chromosorb® 103	80/100	275°C
Chromosorb® 103	60/80	275°C
Chromosorb® 104	100/120	250°C
Chromosorb® 104	80/100	250°C
Chromosorb® 104	60/80	250°C
Chromosorb® 105	100/120	250°C
Chromosorb® 105	80/100	250°C
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Chromosorb® 106	60/80	250°C
Chromosorb® 107	100/120	250°C
Chromosorb® 107	80/100	250°C
Chromosorb® 107	60/80	250°C
Chromosorb® 108	100/120	250°C
Chromosorb® 108	80/100	250°C
Chromosorb® 108	60/80	250°C
Porapak P	80/100	250°C
Porapak PS	80/100	250°C
Porapak Q	80/100	250°C
Porapak Q-S	80/100	250°C
Porapak R	80/100	250°C
Porapak S	80/100	250°C
Porapak N	80/100	190°C
Porapak T	80/100	190°C

Stationary Phases

Description	Min Temp	Max Temp
Butandiol Succinate LAC 860	50°C	225°C
ßß' oxidipropionitrile	Amb. Temp.	100°C
Celanese ester 9	20°C	200°C
Cyclohexane dimethanol succinate LAC 796	100°C	210°C
Dexil 300 Carborane methyl silicone	50°C	500°C
Dexil 400 Carborane methyl phenyl silicone	50°C	500°C
Dexil 410 Carborane methyl ciano ethyl silicone	50°C	500°C
Dibenzyl ether	Amb. Temp.	50°C
Dibutylphtalate	Amb. Temp.	125°C
Diethylenglycol adipate LAC 296	Amb. Temp.	200°C
Di-2-Ethylhexyl sebacate Octoil-S	Amb. Temp.	125°C
Didecylphtalate	Amb. Temp.	160°C
Diglycerol	Amb. Temp.	120°C
Dimethylsulpholane	Amb. Temp.	50°C
Dinonylphtalate	Amb. Temp.	150°C
Epikote 728 Epossidic Resin	50°C	200°C
Epon 1001 Epossidic Resin	75°C	250°C
Diethylenglycol adipate LAC 446	50°C	190°C
Ethylenglycol adipate LAC 741	Amb. Temp.	260°C
Ethylenglycol glutarate LAC 737	50°C	200°C
Ethylenglycol isophthalate LAC 7R745	50°C	220°C
Ethylenglycol succinate LAC 728	Amb. Temp.	200°C
Ethofat 60/25 polyoxyethylene monostearate	50°C	120°C
Phenilacetonitrile	Amb. Temp.	40°C
FFAP	50°C	250°C
Flexol 8N8	Amb. Temp.	180°C
Glycerine	Amb. Temp.	75°C
Carbowax™ 200	Amb. Temp.	100°C
Carbowax™ 400	Amb. Temp.	125°C
Carbowax™ 600	Amb. Temp.	125°C
Carbowax™ 1000	40°C	200°C
Carbowax™ 1500	40°C	200°C
Carbowax™ 1540	40°C	200°C
Carbowax™ 4000	60°C	200°C
Carbowax™ 6000	60°C	200°C
Carbowax™ 20M	60°C	220°C
SE-30	50°C	300°C
SE-52	50°C	300°C
SE-54	100°C	300°C
Neo-pentylglycol adipate LAC 9R 769	50°C	220°C
Neo-pentylglycol sebacate LAC 17R 770	50°C	220°C
Neo-pentylglycol succinate LAC 18R 767	50°C	220°C

Stationary Phases

Description	Min Temp	Max Temp
Silicone Oil 200 (methyl)	Amb. Temp.	225°C
Silicone Oil 550 (phenyl-methyl)	Amb. Temp.	225°C
Silicone Oil 550 + 5% Stearic Acid	Amb. Temp.	175°C
Silicone Oil 702 (phenyl-methyl)	Amb. Temp.	200°C
Silicone Oil 710 (phenyl-methyl)	Amb. Temp.	200°C
Silicone Oil F 60 (methyl para chlorophenylsiloxane)	Amb. Temp.	300°C
Silicone Oil QF 1	Amb. Temp.	250°C
Vaseline Oil - low viscosity	Amb. Temp.	40°C
Vaseline Oil - high viscosity	Amb. Temp.	75°C
Solid Paraffin PF 50°C	50°C	200°C
Polyphenyl ether (5 rings)	50°C	200°C
Polyphenyl ether (6 rings)	50°C	250°C
Polypropylenglycol UCON-LB 550X	Amb. Temp.	200°C
Propylene Carbonate	Amb. Temp.	50°C
Poly-S 179	200°C	400°C
Reoplex 400 (Polypropylenglycol adipate)	Amb. Temp.	220°C
OV™-1	100°C	350°C
OV™-3	0°C	350°C
OV™-7	Amb. Temp.	350°C
OV™-11	Amb. Temp.	350°C
OV™-17	0°C	350°C
OV™-101	0°C	350°C
OV™-210	Amb. Temp.	300°C
OV™-225	Amb. Temp.	275°C
OV™-275	25°C	250°C
OV™-73	0°C	350°C
SP 400	Amb. Temp.	350°C
SP 1000	Amb. Temp.	275°C
SP 2100	0°C	350°C
SP 2250	0°C	375°C
SP 2300	0°C	275°C
SP 2310	0°C	275°C
SP 2330	0°C	275°C
SP 2340	35°C	275°C
SP 2401	0°C	275°C
Squalane	Amb. Temp.	140°C
Squalene	Amb. Temp.	140°C
STAP	100°C	225°C
Tetraethylenglycol dimethyether	Amb. Temp.	80°C
Tetraethylpentamine	Amb. Temp.	150°C
Tetraisobutylene	Amb. Temp.	35°C
Tricresilphosphate	20°C	125°C
Triethanolamine	Amb. Temp.	75°C
Versamide 900 Polyamidic Resin	190°C	275°C

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Supports

Description	Mesh	Treatment
Chromosorb® A	20/30	
Chromosorb® A	45/60	
Chromosorb® A	60/80	
Chromosorb® P	45/60	
Chromosorb® P	60/80	
Chromosorb® P	80/100	
Chromosorb® P	100/120	
Chromosorb® P	45/60	Acid Washed
Chromosorb® P	60/80	Acid Washed
Chromosorb® P	80/100	Acid Washed
Chromosorb® P	100/120	Acid Washed
Chromosorb® P	45/60	Silanized
Chromosorb® P	60/80	Silanized
Chromosorb® P	80/100	Silanized
Chromosorb® P	100/120	Silanized
Chromosorb® W	45/60	
Chromosorb® W	60/80	
Chromosorb® W	80/100	
Chromosorb® W	100/120	
Chromosorb® W	120/140	
Chromosorb® W	45/60	Acid Washed
Chromosorb® W	60/80	Acid Washed
Chromosorb® W	80/100	Acid Washed
Chromosorb® W	100/120	Acid Washed
Chromosorb® W	120/140	Acid Washed
Chromosorb® W-LA	45/60	Silanized
Chromosorb® W-LA	60/80	Silanized
Chromosorb® W-LA	80/100	Silanized
Chromosorb® W-LA	100/120	Silanized
Chromosorb® W-LA	120/140	Silanized
Chromosorb® G	45/60	
Chromosorb® G	60/80	
Chromosorb® G	80/100	
Chromosorb® G	100/120	
Chromosorb® G	120/140	

Supports

Description	Mesh	Treatment
Chromosorb® G	45/60	Acid Washed
Chromosorb® G	60/80	Acid Washed
Chromosorb® G	80/100	Acid Washed
Chromosorb® G	100/120	Acid Washed
Chromosorb® G	120/140	Acid Washed
Chromosorb® G-LA	45/60	Silanized
Chromosorb® G-LA	60/80	Silanized
Chromosorb® G-LA	80/100	Silanized
Chromosorb® G-LA	100/120	Silanized
Chromosorb® G-LA	120/140	Silanized
Chromosorb® W HP	80/100	
Chromosorb® W HP	100/120	
Chromosorb® R-6470-1		
Chromosorb® T (teflon)	30/60	
Chromosorb® T (teflon)	40/60	
Chromosorb® 750	80/100	
Chromosorb® 750	100/120	

Summary

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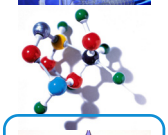


GLASS LINERS

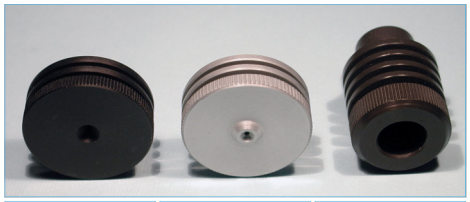
Description	Set of	Code	
Glass Liner for SL/IN Injector complete *Liner in vetro per iniettore SL/IN completo*	5 pieces *5 pezzi*	9291.100 003	MASTER GC - GC1000 - GC8610
Glass Liner for SL/IN Injector complete - SPME *Liner in vetro per iniettore SL/IN completo - SPME*	5 pieces *5 pezzi*	9291.200 001	MASTER GC - GC1000 - GC8610
Glass Liner for PTV 38 Injector complete *Liner per iniettore PTV 38 completo*	5 pieces *5 pezzi*	9291.100 002	MASTER GC - GC1000 - GC8610
Glass Liner for PTV 38 Injector complete *Liner per iniettore PTV 38 completo*	*10 pieces* *10 pezzi*	9291.409 501	MASTER GC - GC1000 - GC8610
Glass Liner for PTV 38 Injector complete filled with GRAPHTRAP-GB *Liner per iniettore PTV 38 completo riempito GRAPHTRAP-GB*	1 piece *1 pezzo*	9291.409 005	MASTER GC - GC1000 - GC8610
Glass Liner for PTV 38 Injector complete filled with TENAX TA *Liner per iniettore PTV 38 completo riempito TENAX TA*	1 piece *1 pezzo*	9291.409 004	MASTER GC - GC1000 - GC8610
Glass Liner W-Mega-Bore for PK Injector *Liner W-Mega-Bore per iniettore IN 68/06*	5 pieces *5 pezzi*	9291.100 001	MASTER GC - GC1000 - GC8610

9291.100 003	9291.100 002	9291.100 001	
9291.200 001	9291.409 501		

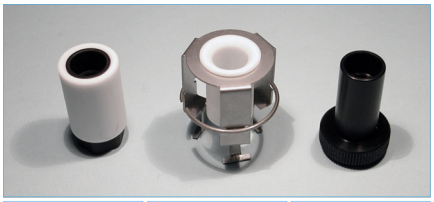
INJECTORS SEPTA

Description	Set of	Code	
Septa SIL 12x4 *Setto SIL 12x4*	50 pieces *50 pezzi*	2308.506 950	MASTER GC - GC1000 - GC8610
Septum Holder 12S (short) *Portasetto 12S (corto)*	1 piece *1 pezzo*	2308.505 010	MASTER GC - GC1000 - GC8610
Septum Holder for MASTER AS *Portasetto per MASTER AS*	1 piece *1 pezzo*	6405.000 400	MASTER GC
Septum Holder 12L (long) *Portasetto 12L (lungo)*	1 piece *1 pezzo*	2308.505 020	MASTER GC - GC1000 - GC8610
Adapter for Agilent Injectors *Adattatore per Iniettori Agilent*	1 piece *1 pezzo*	6410.090 050	6890 - 6850 - 6820 - 5890
Adapter for Varian and Thermo Injectors *Adattatore per Iniettori Varian e Thermofinnigan*	1 piece *1 pezzo*	6410.150 001	3800 - 3900 - TRACE - FOCUS
Adapter for Shimadzu Injectors *Adattatore per Iniettori Shimadzu*	1 piece *1 pezzo*	6410.218 001	2010 - 2014

2308.506 950



2308.505 010 | 6405.000 400 | 2308.505 020



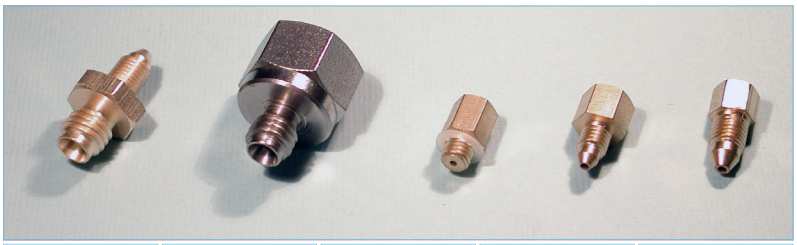
6410.090 050 | 6410.150 001 | 6410.218 001

COLUMNS INSTALLATION KIT

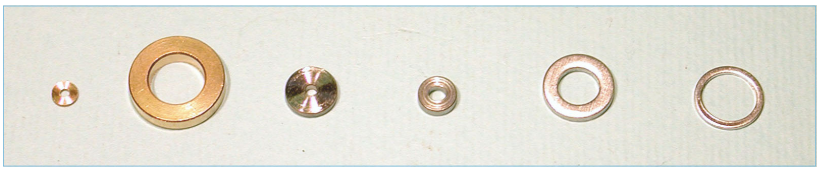
Description	Set of	Code	
Installation Kit Packed columns SS o.d. 4 mm *Kit Installazione Colonne impaccate Acciaio o.d. 4 mm*	2 pieces *2 pezzi*	2300.595 005	MASTER GC - GC1000 - GC8610
Installation Kit Packed columns SS o.d. 6 mm *Kit Installazione Colonne impaccate Acciaio o.d. 6 mm*	2 pieces *2 pezzi*	2300.595 006	MASTER GC - GC1000 - GC8610
Installation Kit Packed columns SS o.d. 1/8" *Kit Installazione Colonne Impaccate Acciaio o.d. 1/8"*	1 piece *1 pezzo*	9440.000 001	MASTER GC - GC1000 - GC8610
Installation Kit Packed columns Glass o.d. 6 mm *Kit Installazione Colonne impaccate Vetro o.d. 6 mm*	2 pieces *2 pezzi*	2300.595 007	MASTER GC - GC1000 - GC8610
Ferrule GR D6 for Glass Packed columns o.d. 6 mm (2 required) *Tenute GR D6 per colonne impaccate in vetro o.d. 6 mm*	1 piece *1 pezzo*	2306.400 442	MASTER GC - GC1000 - GC8610
Installation Kit capillary columns *Kit Installazione Colonne Capillari*	1 piece *1 pezzo*	9450.000 001	MASTER GC - GC1000 - GC8610

REDUCERS

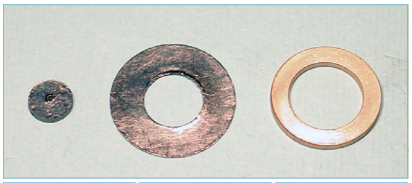
Description	Set of	Code
Reducer M 1/8"SW - M 6 MB BR *Riduzione M 1/8"SW - M 6 MB BR*	5 pieces *5 pezzi*	2303.124 001
Reducer F 1/4G - M 1/8"SW SS *Riduzione F 1/4G - M 1/8"SW SS*	5 pieces *5 pezzi*	2303.124 002
Reducer M 5M F 5M *Riduzione M 5M F 5M*	10 pieces *10 pezzi*	2308.610 950
Reducer M 5M F 6MB BR *Riduzione M 5M F 6MB BR*	10 pieces *10 pezzi*	2303.095 001
Reducer M 6MB F 5M BR *Riduzione M 6MB F 5M BR*	10 pieces *10 pezzi*	2303.095 002
Reducer M 1/8"x 1/16" - M6x0,75 F *Riduzione M 1/8"x 1/16" - M6x0,75 F*	1 piece *1 pezzo*	2400.300 102



2303.124 001 | 2303.124 002 | 2308.610 950 | 2303.095 001 | 2303.095 002



2180.095 002 | 2180.095 003 | 2180.095 011 | 2180.095 012 | 2180.095 006 | 2180.095 010 | 2180.300 006 | 2180.300 005



2180.095 021 | 2180.095 024 | 2180.300 007

WASHERS

Description	Set of	Code
Washer 1.1x3x0.5 BR *Rondella Piana 1.1x3x0.5 BR*	10 pieces *10 pezzi*	2180.095 002
Washer 1.1x3x0.5 BR *Rondella Piana 1.1x3x0.5 BR*	50 pieces *50 pezzi*	2180.300 006
Washer 6.25x11x2 BR *Rondella Piana 6.25x11x2 BR*	20 pieces *20 pezzi*	2180.095 003
Washer 6.25x11x2 BR *Rondella Piana 6.25x11x2 BR*	50 pieces *50 pezzi*	2180.300 005
Washer 1.25x6x1 SS *Rondella Piana 1.25x6x1 SS*	10 pieces *10 pezzi*	2180.095 011
Washer 2x4.5x1.2 SS *Rondella Piana 2x4.5x1.2 SS*	10 pieces *10 pezzi*	2180.095 012
Washer 4.5x8.25x1 AL *Rondella Piana 4.5x8.25x1 AL*	20 pieces *20 pezzi*	2180.095 006
Washer 6.1x8x0,5 AL *Rondella Piana 6.1x8x0,5 AL*	10 pieces *10 pezzi*	2180.095 010
Washer 1x6x2 GR *Rondella Piana 1x6x2 GR*	10 pieces *10 pezzi*	2180.095 021
Washer 8x18x0.2 GR *Rondella Piana 8x18x0.2 GR*	10 pieces *10 pezzi*	2180.095 024
Washer 10.5x16x1.5 BR *Rondella Piana 10.5x16x1.5 BR*	10 pieces *10 pezzi*	2180.300 007

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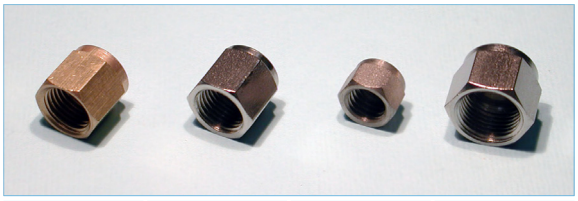
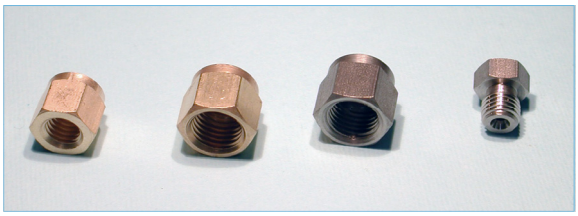
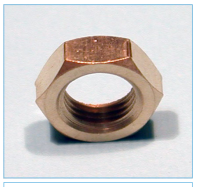


2300.095 008	2300.095 009	2300.595 008	2300.095 010



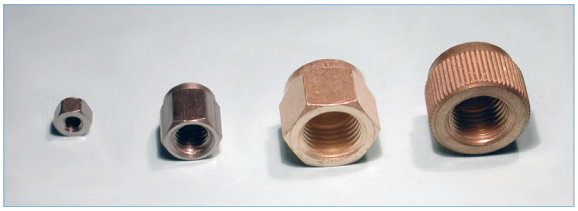
2300.495 001	2300.495 003	2300.495 004	2300.595 004



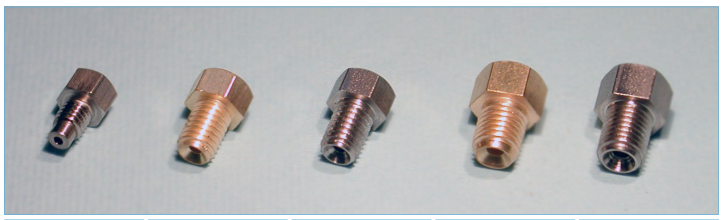
2160.095 004

NUTS

Description	Set of	Code
Nut F 4M SS *Bloccaggio F 4M SS*	10 pieces *10 pezzi*	2300.095 012
Nut F 4M SS Bloccaggio F 4M SS	20 pieces *20 pezzi*	2300.100 003
Nut M 4M SS *Bloccaggio M 4M SS*	10 pieces *10 pezzi*	2300.095 001
Nut F 1/8" SW F SS *Bloccaggio F 1/8" SW F SS*	10 pieces *10 pezzi*	2300.495 002
Nut F 1/8" SW F SS *Bloccaggio F 1/8" SW F SS*	20 pieces *20 pezzi*	2300.100 001
Nut F 1/4G BR *Bloccaggio F 1/4G BR*	20 pieces *20 pezzi*	2300.095 011
Nut, hand F 1/4G BR *Bloccaggio a mano F 1/4G BR*	10 pieces *10 pezzi*	2300.395 001
Nut, hand F 1/4G BR *Bloccaggio a mano F 1/4G BR*	20 pieces *20 pezzi*	2300.100 002
Nut M 5M BR *Bloccaggio M 5M BR*	20 pieces *20 pezzi*	2300.095 002
Nut M 5M SS *Bloccaggio M 5M SS*	20 pieces *20 pezzi*	2300.095 003
Nut M 6MB BR *Bloccaggio M 6MB BR*	20 pieces *20 pezzi*	2300.095 004
Nut M 6MB SS *Bloccaggio M 6MB SS*	20 pieces *20 pezzi*	2300.095 005
Nut F 10Mx1 BR *Bloccaggio F 10Mx1 BR*	10 pieces *10 pezzi*	2300.095 008
Nut F 10Mx1 SS *Bloccaggio F 10Mx1 SS*	10 pieces *10 pezzi*	2300.095 009
Nut F 5M SS D1 *Bloccaggio F 5M SS D1*	10 pieces *10 pezzi*	2300.095 006
Nut F 8M SS *Bloccaggio F 8M SS*	20 pieces *20 pezzi*	2300.595 008
Nut F 12M SS *Bloccaggio F 12M SS*	10 pieces *10 pezzi*	2300.095 010
Nut SW F 1/8 BR *Bloccaggio SW F 1/8 BR*	10 pieces *10 pezzi*	2300.495 001
Nut SW F 1/4 BR Bloccaggio SW F 1/4 BR	10 pieces *10 pezzi*	2300.495 003
Nut F 1/4" SW F SS *Bloccaggio F 1/4" SW F SS*	10 pieces *10 pezzi*	2300.495 004
Nut M 8MB SS *Bloccaggio M 8MB SS*	20 pieces *20 pezzi*	2300.595 004
Hex Nut M 10 x 1 S 5 CH 14 BR *Dado M 10 x 1 S 5 CH 14 BR*	10 pieces *10 pezzi*	2160.095 003
Hex Nut M12x1 S 5 CH 14 BR *Dado M12x1 S 5 CH 14 BR*	10 pieces *10 pezzi*	2160.095 004



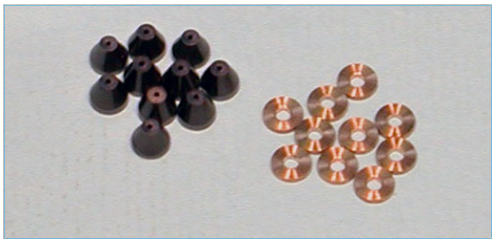
2300.095 012	2300.495 002	2300.095 011	2300.395 001
2300.100 003	2300.100 001		2300.100 002



2300.095 001	2300.095 002	2300.095 003	2300.095 004	2300.095 005

FERRULES

Description	Set of	Code	
Ferrule 4M VGR for columns ID 0.25 mm with washer *Tenuta 4M VGR colonne ID 0.25 mm con rondella*	10 pieces *10 pezzi*	2306.095 019	
Ferrule 4M VGR for columns ID 0.32 mm with washer *Tenuta 4M VGR colonne ID 0.32 mm con rondella*	10 pieces *10 pezzi*	2306.095 020	
Ferrule 4M VGR for columns ID 0.53 mm with washer *Tenuta 4M VGR colonne ID 0.53 mm con rondella*	10 pieces *10 pezzi*	2306.095 021	
Ferrule 1x3x2 GR *Tenuta 1x3x2 GR*	50 pieces *50 pezzi*	2180.095 020	
Ferrule 5M D1 SS *Tenuta 5M D1 SS*	10 pieces *10 pezzi*	2306.095 006	
Ferrule 5M D 1.6 AL *Tenuta 5M D 1.6 AL*	50 pieces *50 pezzi*	2306.095 009	
Ferrule 5M D 1,6 SS *Tenuta 5M D 1,6 SS*	10 pieces *10 pezzi*	2306.095 008	
Ferrule 5M D 1,6 SS *Tenuta 5M D 1.6 SS*	50 pieces *50 pezzi*	2306.032 282	
Ferrule 6MB D 1.6 AL *Tenuta 6MB D 1.6 AL*	50 pieces *50 pezzi*	2306.095 011	
Ferrule 6MB D 2.0 AL *Tenuta 6MB D 2.0 AL*	50 pieces *50 pezzi*	2306.095 013	
Ferrule 6MB D 1,6 SS *Tenuta 6MB D 1,6 SS*	20 pieces *20 pezzi*	2306.295 001	
Ferrule BF 1/4G D 4 BR *Tenuta BF 1/4G D 4 BR*	20 pieces *20 pieces*	2306.295 003	
Ferrule BF 1/4G D 6 BR *Tenuta BF 1/4G D 6 BR*	20 pieces *20 pezzi*	2306.295 004	
Ferrule BF 1/8"SW D 1/8" BR *Tenuta BF 1/8"SW D 1/8" BR*	10 pieces *10 pezzi*	2306.395 001	
Ferrule BF 1/8"SW D 1/8" BR *Tenuta BF 1/8"SW D 1/8" BR*	20 pieces *20 pezzi*	2306.395 002	
Ferrule BF 1/4 SW D1/4 SS *Tenuta BF 1/4 SW D1/4 SS*	10 pieces *10 pezzi*	2306.395 004	
Ferrule 6x11x1.5 AL *Tenuta 6x11x1.5 AL*	20 pieces *20 pezzi*	2180.095 008	
Ferrule 10M D4 SS *Tenuta 10M D4 SS*	10 pieces *10 pezzi*	2306.095 015	SPT 37.50 STD 33.50 HSS 39.50
Ferrule 2.0x6.0x2.0 GR for SPT 37.50 trap upper side *Tenuta 2.0x6.0x2.0 GR per lato superiore trappola*	10 pieces *10 pezzi*	2180.095 022	SPT 37.50
Ferrule 4M D1 VGR with washer *Tenuta 4M D1 VGR con rondella*	10 pieces *10 pezzi*	2306.095 022	
Ferrule 5M D1 VGR for STD 33.50 trap *Tenuta 5M D1 VGR per trappola STD 33.50*	1 piece *1 pezzo*	2306.032 400	STD 33.50
Ferrule + Ring D4 GR *Tenuta + Anello D4 GR*	5 pieces *5 pezzi*	2306.495 001	
Ferrule D6 GR *Tenuta D6 GR*	5 pieces *5 pezzi*	2306.495 002	



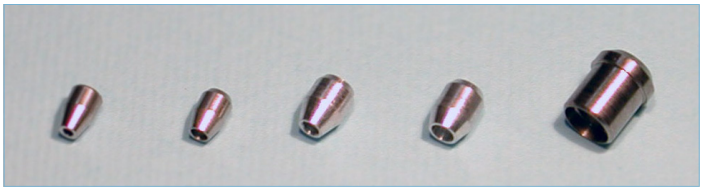
2306.095 019

2306.095 020

2306.095 021

2306.095 022

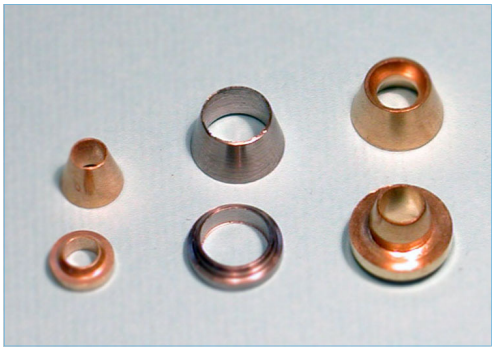
2180.095 020 | 2180.095 022 | 2180.095 008



2306.095 006 | 2306.095 009 | 2306.095 011 | 2306.095 013 | 2306.095 015

2306.095 008 | 2306.295 001

2306.032 282



2306.395 001 | 2306.395 004 | 2306.295 003

2306.395 002

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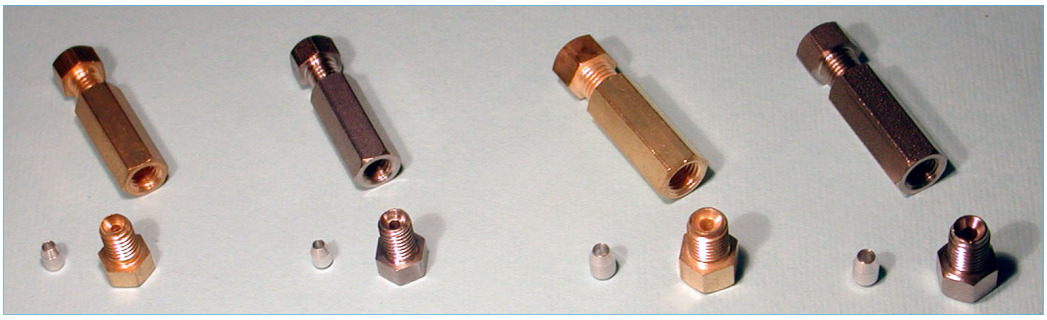
O-RING SEAL

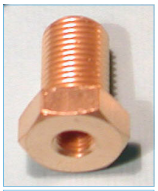
Description	Set of	Code	
O-ring Seal 2-001 Viton *O-ring Seal 2-001 Viton*	10 pieces *10 pezzi*	2290.330 101	SPT 37.50
O-ring Seal 2056 Viton *O-ring Seal 2056 Viton*	10 pieces *10 pezzi*	2290.349 514	
O-ring Seal 2015 SR *O-ring Seal 2015 SR*	10 pieces *10 pezzi*	2290.339 508	
O-ring Seal 2021 SR *O-ring Seal 2021 SR*	10 pieces *10 pezzi*	2290.339 510	
O-ring Seal 2200 SR *O-ring Seal 2200 SR*	10 pieces *10 pezzi*	2290.339 518	
O-ring Seal 3206 SR *O-ring Seal 3206 SR*	10 pieces *10 pezzi*	2290.339 527	
O-ring Seal 2007 PTFE *O-ring Seal 2007 PTFE*	10 pieces *10 pezzi*	2290.369 501	
O-ring Seal SIL/PTFE D 5,5 *O-ring Seal SIL/PTFE D 5,5*	100 pieces *100 pezzi*	2291.359 501	
O-ring Seal 104 Viton *O-ring Seal 104 Viton*	50 pieces *50 pezzi*	2291.349 501	
O-ring Seal 108 Viton *O-ring Seal 108 Viton*	10 pieces *10 pezzi*	2290.349 501	
O-ring Seal 115 Viton *O-ring Seal 115 Viton*	10 pieces *10 pezzi*	2290.349 502	
O-ring Seal 119 Viton *O-ring Seal 119 Viton*	10 pieces *10 pezzi*	2290.349 503	
O-ring Seal 147 Viton *O-ring Seal 147 Viton*	10 pieces *10 pezzi*	2290.349 504	
O-ring Seal 2007 Viton *O-ring Seal 2007 Viton*	10 pieces *10 pezzi*	2290.349 505	
O-ring Seal 2012 Viton *O-ring Seal 2012 Viton*	20 pieces *20 pezzi*	2290.349 506	
O-ring Seal 2015 Viton *O-ring Seal 2015 Viton*	50 pieces *50 pezzi*	2290.349 507	
O-ring Seal 2018 Viton *O-ring Seal 2018 Viton*	10 pieces *10 pezzi*	2290.349 508	
O-ring Seal 2021 Viton *O-ring Seal 2021 Viton*	50 pieces *50 pezzi*	2290.349 509	
O-ring Seal 2025 Viton *O-ring Seal 2025 Viton*	10 pieces *10 pezzi*	2290.349 510	
O-ring Seal 2031 Viton *O-ring Seal 2031 Viton*	10 pieces *10 pezzi*	2290.349 511	
O-ring Seal 2037 Viton *O-ring Seal 2037 Viton*	10 pieces *10 pezzi*	2290.349 512	
O-ring Seal 2043 Viton *O-ring Seal 2043 Viton*	50 pieces *50 pezzi*	2290.349 513	
O-ring Seal 2062 Viton *O-ring Seal 2062 Viton*	10 pieces *10 pezzi*	2290.349 515	
O-ring Seal 2068 Viton *O-ring Seal 2068 Viton*	10 pieces *10 pezzi*	2290.349 516	
O-ring Seal 2075 Viton *O-ring Seal 2075 Viton*	10 pieces *10 pezzi*	2290.349 517	
O-ring Seal 2081 Viton *O-ring Seal 2081 Viton*	10 pieces *10 pezzi*	2290.349 518	
O-ring Seal 2087 Viton *O-ring Seal 2087 Viton*	10 pieces *10 pezzi*	2290.349 519	
O-ring Seal 2093 Viton *O-ring Seal 2093 Viton*	10 pieces *10 pezzi*	2290.349 520	
O-ring Seal 2125 Viton *O-ring Seal 2125 Viton*	10 pieces *10 pezzi*	2290.349 521	

UNIONS

Description	Set of	Code
Union F-F 5MB D 1.6 BR complete *Unione F-F 5MB D 1.6 BR completa*	5 pieces *5 pezzi*	2307.232 903
Union F-F 5MB D 1.6 SS complete *Unione F-F 5MB D 1.6 SS completa*	5 pieces *5 pezzi*	2307.232 902
Union F-F 6MB D 2.0 BR complete *Unione F-F 6MB D 2.0 BR completa*	5 pieces *5 pezzi*	2307.233 950
Union F-F 6MB D 2.0 SS complete *Unione F-F 6MB D 2.0 SS completa*	5 pieces *5 pezzi*	2307.233 951
Union F-F 5MB BR *Unione F-F 5MB BR*	5 pieces *5 pezzi*	2302.500 001
Union F-F 5MB SS *Unione F-F 5MB SS*	5 pieces *5 pezzi*	2302.500 002
Union F-F 6MB BR *Unione F-F 6MB BR*	5 pieces *5 pezzi*	2302.595 001
Union F-F 6MB SS *Unione F-F 6MB SS*	5 pieces *5 pezzi*	2302.595 002
Bulkhead fitting 6MB - 6MB BR *Raccordo Paratia 6MB - 6MB BR*	5 pieces *5 pezzi*	2308.520 001



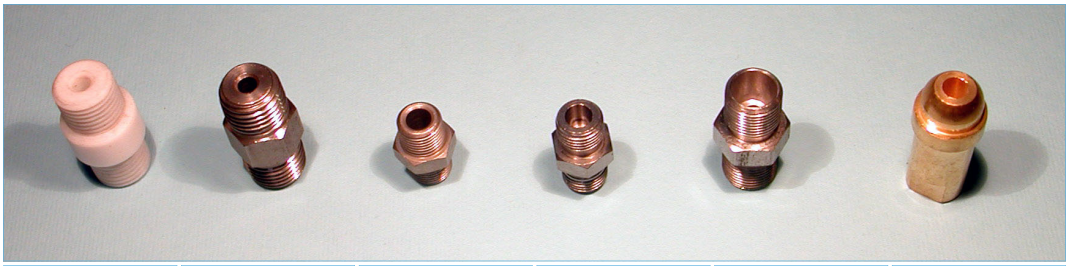
2307.232 903	2307.232 902	2307.233 950	2307.233 951



2302.500 001	2302.500 002	2302.595 001	2302.595 002	2308.520 001

NIPPLES

Description	Set of	Code
Nipple M 1/4 NPT M 1/4 NPT PTFE *Nipplo M 1/4 NPT M 1/4 NPT PTFE*	1 piece *1 pezzo*	2302.123 360
Nipple M 1/4 NPT M 1/4 NPT SS *Nipplo M 1/4 NPT M 1/4 NPT SS*	1 piece *1 pezzo*	2302.123 040
Nipple M 1/8 NPT M 1/8 NPT CPBR *Nipplo M 1/8 NPT M 1/8 NPT CPBR*	1 piece *1 pezzo*	2302.124 160
Nipple M 10Mx1 M 10Mx1 SS *Nipplo M 10Mx1 M 10Mx1 SS*	1 piece *1 pezzo*	2302.006 040
Nipple M 12M M 12M SS *Nipplo M 12M M 12M SS*	1 piece *1 pezzo*	2302.009 040
Ogiva F 6MB BR for reducer gas cylinder *Ogiva F 6MB BR per riduttore Bombole*	1 piece *1 pezzo*	2308.502 010



2302.123 360	2302.123 040	2302.124 160	2302.006 040	2302.009 040	2308.502 010

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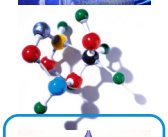
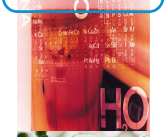
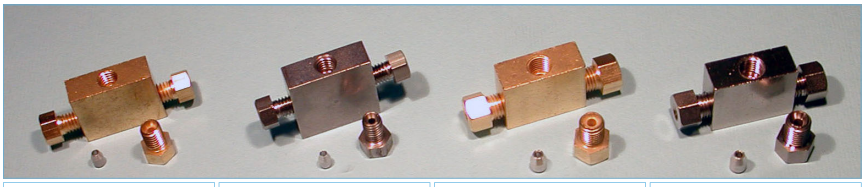


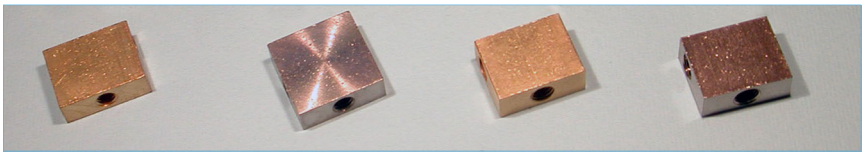



TEES

Description	Set of	Code
Tee union F 5M D1.6 BR complete *Unione a T F 5M D1.6 BR completa*	5 pieces *5 pezzi*	2307.632 903
Tee union on F 5M D1.6 SS complete *Unione a T F 5M D1.6 SS completa*	5 pieces *5 pezzi*	2307.632 902
Tee union F 6MB D2.0 BR complete *Unione a T F 6MB D2.0 BR completa*	5 pieces *5 pezzi*	2307.633 903
Tee union F 6MB D2.0 SS complete *Unione a T F 6MB D2.0 SS completa*	5 pieces *5 pezzi*	2307.633 902
Tee union 5M BR *Unione a T 5M BR*	5 pieces *5 pezzi*	2308.520 006
Tee union 5M SS *Unione a T 5M SS*	5 pieces *5 pezzi*	2308.520 007
Tee union 6MB BR *Unione a T 6MB BR*	5 pieces *5 pezzi*	2304.595 001
Tee union 6MB SS *Unione a T 6MB SS*	5 pieces *5 pezzi*	2308.520 005
Tee union 1/8" SW SS 316 *Unione a T 1/8" SW SS 316*	1 piece *1 pezzo*	2400.300 103



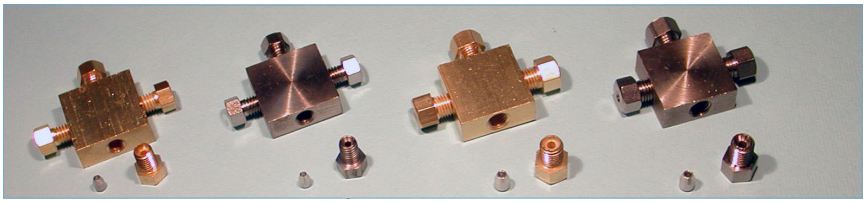
2307.632 903	2307.632 902	2307.633 903	2307.633 902



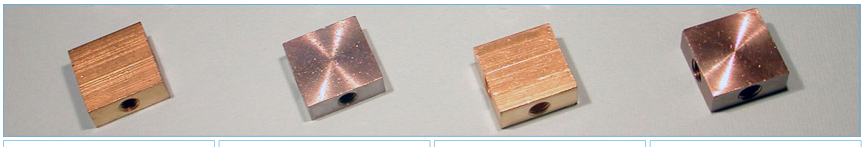
2308.520 006	2308.520 007	2304.595 001	2308.520 005

CROSSES

Description	Set of	Code
Cross union F 5M D1.6 BR complete *Unione a croce F 5M D1.6 BR completa*	5 pieces *5 pezzi*	2307.732 903
Cross union F 5M D1.6 SS complete *Unione a croce F 5M D1.6 SS completa*	5 pieces *5 pezzi*	2307.732 902
Cross union F 6MB D2.0 BR complete *Unione a croce F 6MB D2.0 BR completa*	5 pieces *5 pezzi*	2307.733 903
Cross union F 6MB D2.0 SS complete *Unione a croce F 6MB D2.0 SS completa*	5 pieces *5 pezzi*	2307.733 902
Cross union 5M BR *Unione a Croce 5M BR*	5 pieces *5 pezzi*	2308.520 002
Cross union 5M SS *Unione a Croce 5M SS*	5 pieces *5 pezzi*	2308.520 004
Cross union 6MB BR *Unione a Croce 6MB BR*	5 pieces *5 pezzi*	2305.095 001
Cross union 6MB SS *Unione a Croce 6MB SS*	5 pieces *5 pezzi*	2308.520 003
Cross union 1/8" SW SS 316 *Unione a Croce 1/8" SW SS 316*	1 piece *1 pezzo*	2400.300 104



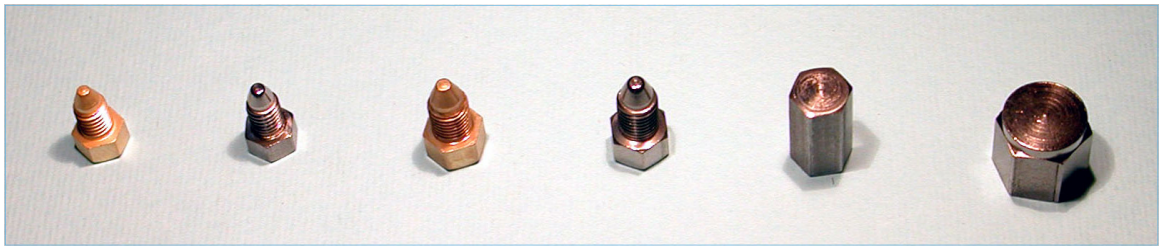
2307.732 903	2307.732 902	2307.733 903	2307.733 902



2308.520 002	2308.520 004	2305.095 001	2308.520 003

PLUGS

Description	Set of	Code
Plug M 5M BR *Tappo M 5M BR*	10 pieces *10 pezzi*	2301.195 001
Plug M 5M BR *Tappo M 5M BR*	20 pieces *20 pezzi*	2301.102 042
Plug M 5M SS *Tappo M 5M SS*	10 pieces *10 pezzi*	2301.195 002
Plug M 5M SS *Tappo M 5M SS*	20 pieces *20 pezzi*	2301.102 041
Plug M 6MB BR *Tappo M 6MB BR*	10 pieces *10 pezzi*	2301.195 003
Plug M 6MB BR *Tappo M 6MB BR*	20 pieces *20 pezzi*	2301.195 006
Plug M 6MB SS *Tappo M 6MB SS*	10 pieces *10 pezzi*	2301.195 004
Plug M 6MB SS *Tappo M 6MB SS*	20 pieces *20 pezzi*	2301.195 005
Plug F 6MB *Bloccaggio cieco F 6MB*	5 pieces *5 pezzi*	2300.295 001
Plug F 10Mx1 SS *Bloccaggio cieco F 10Mx1 SS*	5 pieces *5 pezzi*	2300.295 002
Plug 1/8" SW BR *Tappo 1/8" SW BR*	1 piece *1 pezzo*	2308.601 904



2301.195 001	2301.195 002	2301.195 003	2301.195 004	2300.295 001	2300.295 002
2301.102 042	2301.102 041	2301.195 006	2301.195 005		

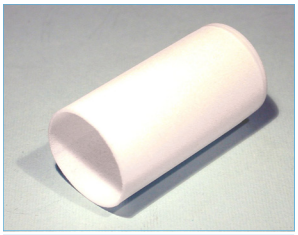
MICRO FILTERS

Description	Set of	Code
Micro Filter MF 396 *Micro Filtro MF 396*	1 piece *1 pezzo*	1050.509 008

1050.509 008

AIR PUMP CRYOFOCUSING TRAP for SPT 37.50

Description	Set of	Code	
Filter TFE replacement *Ricambio Filtro TFE*	1 piece *1 pezzo*	1050.600 016	SPT 37.50



1050.600 016

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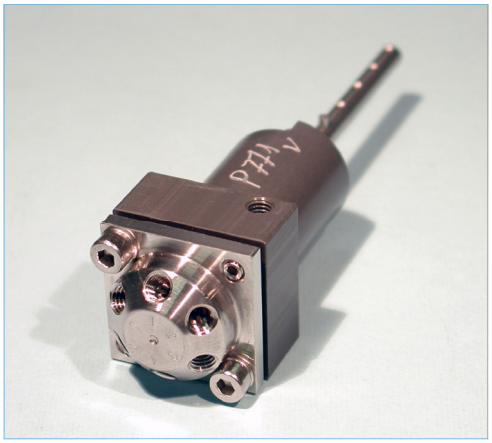
SAMPLING VALVES with actuator

Description	Set of	Code	
Manual External SS 6 ways with 1 ml loop Stainless Steel *Manuale Esterna 6 vie completa di loop 1 ml Stainless Steel*	1 piece *1 pezzo*	0305.200 001	MASTER GC - GC1000 - GC8610
Automatic external 6 ways Stainless Steel *Automatica Esterna 6 vie Stainless Steel*	1 piece *1 pezzo*	0305.200 002	GC1000 - GC8610
Automatic external 6 ways Stainless Steel *Automatica Esterna 6 vie Stainless Steel*	1 piece *1 pezzo*	0305.300 002	MASTER GC
Automatic external 8 ways Stainless Steel *Automatica Esterna 8 vie Stainless Steel*	1 piece *1 pezzo*	0305.200 003	GC1000 - GC8610
Automatic external 8 ways Stainless Steel *Automatica Esterna 8 vie Stainless Steel*	1 piece *1 pezzo*	0305.300 003	MASTER GC
Automatic external 8 ways MONEL 400 *Automatica Esterna 8 vie MONEL 400*	1 piece *1 pezzo*	0305.200 015	GC1000 - GC8610
Automatic external 8 ways MONEL 400 *Automatica Esterna 8 vie MONEL 400*	1 piece *1 pezzo*	0305.300 015	MASTER GC
Automatic external 10 ways Stainless Steel *Automatica Esterna 10 vie Stainless Steel*	1 piece *1 pezzo*	0305.200 004	GC1000 - GC8610
Automatic external 10 ways Stainless Steel *Automatica Esterna 10 vie Stainless Steel*	1 piece *1 pezzo*	0305.300 004	MASTER GC
Automatic external 10 ways MONEL 400 *Automatica Esterna 10 vie MONEL 400*	1 piece *1 pezzo*	0305.200 017	GC1000 - GC8610
Automatic external 10 ways MONEL 400 *Automatica Esterna 10 vie MONEL 400*	1 piece *1 pezzo*	0305.300 017	MASTER GC
Automatic internal 6 ways Stainless Steel *Automatica Interna 6 vie Stainless Steel*	1 piece *1 pezzo*	0305.200 005	MASTER GC - GC1000 - GC8610
Automatic internal 8 ways Stainless Steel *Automatica Interna 8 vie Stainless Steel*	1 piece *1 pezzo*	0305.200 006	MASTER GC - GC1000 - GC8610
Automatic internal 10 ways Stainless Steel *Automatica Interna 10 vie Stainless Steel*	1 piece *1 pezzo*	0305.200 007	MASTER GC - GC1000 - GC8610
Automatic internal 10 ways MONEL 400 *Automatica Interna 10 vie MONEL 400*	1 piece *1 pezzo*	0305.200 010	MASTER GC - GC1000 - GC8610

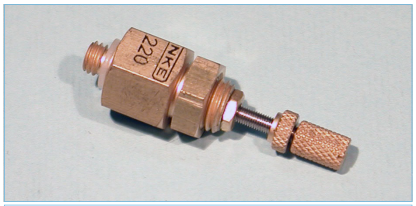
SWITCHING VALVES with actuator

Description	Set of	Code	
Automatic external 6 ways Stainless Steel *Automatica Esterna 6 vie Stainless Steel*	1 piece *1 pezzo*	0305.200 008	GC1000 - GC8610
Automatic external 6 ways Stainless Steel *Automatica Esterna 6 vie Stainless Steel*	1 piece *1 pezzo*	0305.300 008	MASTER GC
Automatic external 8 ways Stainless Steel *Automatica Esterna 8 vie Stainless Steel*	1 piece *1 pezzo*	0305.200 009	GC1000 - GC8610
Automatic external 8 ways Stainless Steel *Automatica Esterna 8 vie Stainless Steel*	1 piece *1 pezzo*	0305.300 009	MASTER GC
Automatic internal 6 ways Stainless Steel *Automatica Interna 6 vie Stainless Steel*	1 piece *1 pezzo*	0305.200 011	MASTER GC - GC1000 - GC8610
Automatic internal 6 ways MONEL 400 *Automatica Interna 6 vie MONEL 400*	1 piece *1 pezzo*	0305.200 013	MASTER GC - GC1000 - GC8610
Automatic internal 8 ways Stainless Steel *Automatica Interna 8 vie Stainless Steel*	1 piece *1 pezzo*	0305.200 012	MASTER GC - GC1000 - GC8610
Automatic internal 8 ways MONEL 400 *Automatica Interna 8 vie MONEL 400*	1 piece *1 pezzo*	0305.200 016	MASTER GC - GC1000 - GC8610



MICROFLOW VALVES

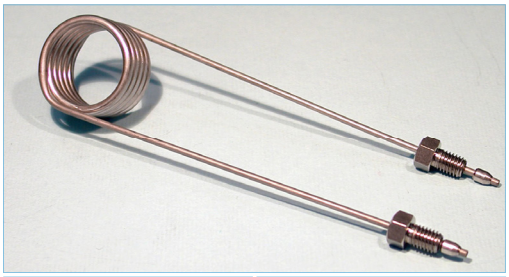
Description	Set of	Code
Microflow Valve *Valvola microregolazione flusso*	1 piece *1 pezzo*	9040.500 001



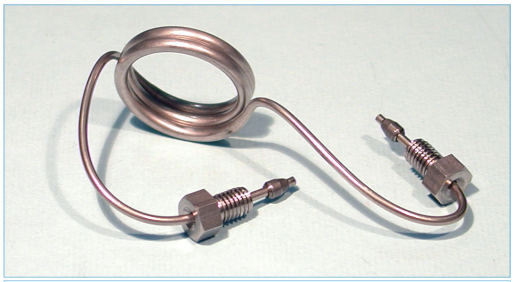
9040.500 001

SAMPLING LOOPS

Description	Set of	Code	
Sampling Loop 5 microliter	1 piece *1 pezzo*	2320.200 001	MASTER GC - GC1000 - GC8610
Sampling Loop 10 microliter	1 piece *1 pezzo*	2320.200 002	MASTER GC - GC1000 - GC8610
Sampling Loop 20 microliter	1 piece *1 pezzo*	2320.200 003	MASTER GC - GC1000 - GC8610
Sampling Loop 50 microliter	1 piece *1 pezzo*	2320.200 004	MASTER GC - GC1000 - GC8610
Sampling Loop 100 microliter	1 piece *1 pezzo*	2320.200 005	MASTER GC - GC1000 - GC8610
Sampling Loop 250 microliter	1 piece *1 pezzo*	2320.200 006	MASTER GC - GC1000 - GC8610
Sampling Loop 500 microliter	1 piece *1 pezzo*	2320.300 001	MASTER GC - GC1000 - GC8610
Sampling Loop 500 microliter MONEL 400	1 piece *1 pezzo*	2320.300 011	MASTER GC - GC1000 - GC8610
Sampling Loop 1 ml	1 piece *1 pezzo*	2320.300 009	MASTER GC - GC1000 - GC8610
Sampling Loop 1 ml MONEL 400	1 piece *1 pezzo*	2320.300 010	MASTER GC - GC1000 - GC8610
Sampling Loop 1.5 ml	1 piece *1 pezzo*	2320.300 002	MASTER GC - GC1000 - GC8610
Sampling Loop 2 ml	1 piece *1 pezzo*	2320.300 007	MASTER GC - GC1000 - GC8610
Sampling Loop 3 ml	1 piece *1 pezzo*	2320.300 003	MASTER GC - GC1000 - GC8610
Sampling Loop 5 ml	1 piece *1 pezzo*	2320.300 004	MASTER GC - GC1000 - GC8610
Sampling Loop 10 ml	1 piece *1 pezzo*	2320.300 005	MASTER GC - GC1000 - GC8610
Sampling Loop 25 ml	1 piece *1 pezzo*	2320.300 006	MASTER GC - GC1000 - GC8610
Sampling Loop - 0.25 ml	1 piece *1 pezzo*	2321.690 011	HSS 86.50 - HSS1000
Sampling Loop - 0.50 ml	1 piece *1 pezzo*	2321.690 012	HSS 86.50 - HSS1000
Sampling Loop - 1 ml	1 piece *1 pezzo*	2321.690 004	HSS 86.50 - HSS1000
Sampling Loop - 2 ml	1 piece *1 pezzo*	2321.690 013	HSS 86.50 - HSS1000
Sampling Loop - 3 ml	1 piece *1 pezzo*	2321.690 008	HSS 86.50 - HSS1000



2320.200 001	2320.300 009
2320.200 002	2320.300 010
2320.200 003	2320.300 002
2320.200 004	2320.300 007
2320.200 005	2320.300 003
2320.200 006	2320.300 004
2320.300 001	2320.300 005
2320.300 011	2320.300 006



2321.690 011
2321.690 012
2321.690 004
2321.690 013
2321.690 008

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ACCESORIES for INJECTORS

Description	Set of	Code	
Internal fitting for injector SL/IN 85/2 *Ghiera Interna per Iniettore SL/IN 85/2*	1 piece *1 pezzo*	9291.502 001	MASTER GC - GC1000 - GC8610
Internal fitting for injector SL/IN 85/2 - SPME *Ghiera Interna per Iniettore SL/IN 85/2 - SPME*	1 piece *1 pezzo*	9291.502 002	MASTER GC - GC1000 - GC8610
Spring for injector SL/IN 85/2 *Molla per Iniettore SL/IN 85/2*	1 piece *1 pezzo*	2351.500 006	MASTER GC - GC1000 - GC8610
Internal fitting for injector PTV 38 *Ghiera Interna per Iniettore PTV 38*	1 piece *1 pezzo*	9291.400 702	MASTER GC - GC1000 - GC8610
Spring for injector PTV 38 *Molla per Iniettore PTV 38*	1 piece *1 pezzo*	2351.500 005	MASTER GC - GC1000 - GC8610
Internal fitting for injector PK *Ghiera Interna per Iniettore PK*	1 piece *1 pezzo*	9291.300 901	MASTER GC - GC1000 - GC8610
Key for injector PTV 38 *Chiave per Iniettore PTV 38*	1 piece *1 pezzo*	1342.000 003	MASTER GC - GC1000 - GC8610
Key for injector SL/IN 85/2 Chiave per Iniettore SL/IN 85/2	1 piece *1 pezzo*	1342.000 007	MASTER GC - GC1000 - GC8610

9291.502 001	9291.502 002	2351.500 006	9291.400 702	2351.500 005	9291.300 901

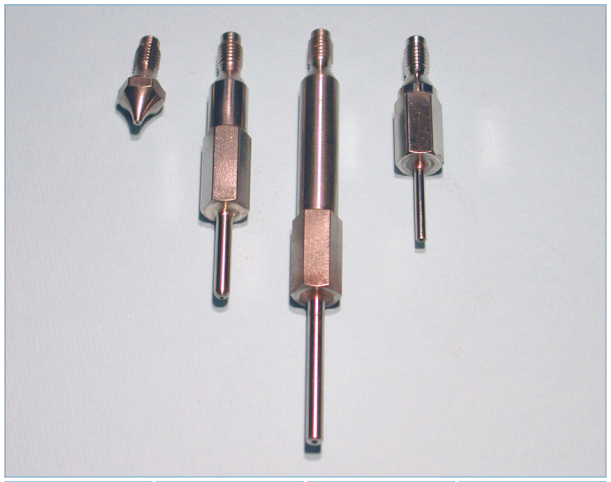
1342.000 003	1342.000 007

GAS PURIFIERS

Description	Set of	Code
Moisture trap with 6MB fittings *Trappola per Umidità completa di raccordi 6MB*	1 piece *1 pezzo*	9380.300 002
Moisture trap 1/8" fittings *Trappola per Umidità raccordi 1/8"*	1 piece *1 pezzo*	1050.500 017
Oxygen trap with 6MB fittings *Trappola per Ossigeno completa di raccordi 6MB*	1 piece *1 pezzo*	9380.300 001
Oxygen trap 1/8" fittings *Trappola per Ossigeno raccordi 1/8"*	1 piece *1 pezzo*	1050.500 018
Hydrocarbons trap with 6MB fittings *Trappola per Idrocarburi completa di raccordi 6MB*	1 piece *1 pezzo*	9380.300 003
Hydrocarbons trap 1/8" fittings *Trappola per Idrocarburi raccordi 1/8"*	1 piece *1 pezzo*	1050.500 019
Moisture trap Hydropurge 1/8" fittings *Trappola per Umidità Hydropurge raccordi 1/8"*	1 piece *1 pezzo*	1050.500 016
Moisture trap Hydropurge II 200cc 1/8" fittings *Trappola per Umidità Hydropurge II 200cc raccordi 1/8"*	1 piece *1 pezzo*	1050.500 020

ACCESSORIES for DETECTORS

Description	Set of	Code	
FID Nozzle *Ugello FID*	1 piece *1 pezzo*	2321.900 011	MASTER GC - GC1000 - GC8610
NPD Nozzle *Ugello NPD*	1 piece *1 pezzo*	2321.900 013	MASTER GC - GC1000 - GC8610
FPD Nozzle lower *Ugello FPD inferiore*	1 piece *1 pezzo*	2321.900 017	MASTER GC - GC1000 - GC8610
FPD Nozzle upper *Ugello FPD superiore*	1 piece *1 pezzo*	2321.900 018	MASTER GC - GC1000 - GC8610
PID Nozzle *Ugello PID*	1 piece *1 pezzo*	2321.900 021	MASTER GC - GC1000 - GC8610
FPD Sulfur Filter *Filtro Zolfo*	1 piece *1 pezzo*	3741.000 001	MASTER GC - GC1000 - GC8610
FPD Phosphorus Filter *Filtro Fosforo FPD*	1 piece *1 pezzo*	3741.000 002	MASTER GC - GC1000 - GC8610
UV Lamp HI-Energy 10.0 - 10.6 Ev *UV Lamp HI-Energy 10.0 - 10.6 Ev*	1 piece *1 pezzo*	3742.010 006	MASTER GC - GC1000 - GC8610
Flame Igniter Mod.680 FID/NPD *Flame Igniter Mod.680 FID/NPD*	1 piece *1 pezzo*	9281.309 001	MASTER GC - GC1000 - GC8610
TCD Filaments WX-2 *Filamenti WX-2 coppia TCD*	1 piece *1 pezzo*	9281.400 601	MASTER GC - GC1000 - GC8610
Rubidium Pearl NPD *Rubidium Pearl NPD*	1 piece *1 pezzo*	9281.509 003	MASTER GC - GC1000 - GC8610
Rubidium Pearl NPD - LONGLIFE *Rubidium Pearl NPD - LONGLIFE*	1 piece *1 pezzo*	9281.509 004	MASTER GC - GC1000 - GC8610



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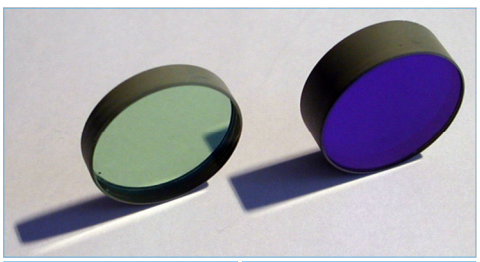
2321.900 018

3742.010 006

9281.309 001



3741.000 002 | 3741.000 001

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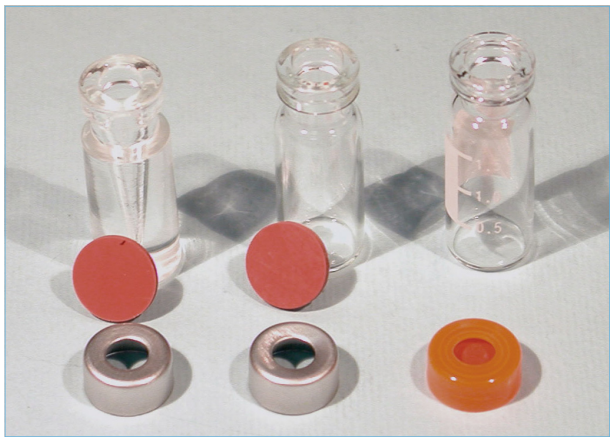
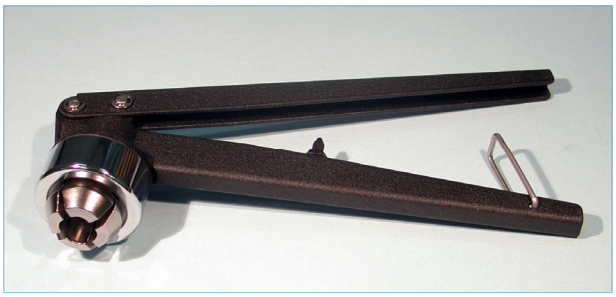
VIALS for Liquid Autosamplers

Description	Set of	Code	
Vial 12x32 mm - volume 100 µl *Vial 12x32 mm - volume 100 µl*	50 pieces *50 pezzi*	1262.011 004 *Sample*	MASTER AS - ALS1000 - HT300A - HT310A
Vial 12x32 mm - volume 1,5 ml *Vial 12x32 mm - volume 1,5 ml*	50 pieces *50 pezzi*	1262.095 002 *Sample*	MASTER AS - ALS1000 - HT300A - HT310A
Vial - volume 2 ml - snap cap + cap + septa *Vial - volume 2 ml - snap cap completo di tappo e setto*	100 pieces *100 pezzi*	1261.000 002 *Sample*	HT300A - HT310A
Crimp seal for Vial 12x32 mm *Capsula per Vial 12x32 mm*	100 pieces *100 pezzi*	1260.895 001	MASTER AS - ALS1000 - HT300A - HT310A
Septa TFE/BUT for Crimp seal *Setto TFE/BUT per Capsula*	100 pieces *100 pezzi*	1260.995 004	MASTER AS - ALS1000 - HT300A - HT310A
Septa TFE/SIL for Crimp seal *Setto TFE/SIL per Capsula*	100 pieces *100 pezzi*	1260.905 004	MASTER AS - ALS1000 - HT300A - HT310A
Hand crimper for Crimp seal *Pinza Chiudi Vials per Capsula*	1 piece *1 pezzo*	1343.000 006	MASTER AS - ALS1000 - HT300A - HT310A
Vial 23x50 mm - volume 10.5 ml - screw top + cap + septa TFE/SIL *Vial 23x50 mm - volume 10.5 ml - chiusura a vite completo di tappo e setto TFE/SIL*	5 pieces *5 pezzi*	1262.017 001 *Solvent*	MASTER AS - ALS1000
Vial 10 ml + cap + septa *Vial 10 ml + cap + septa*	4 pieces *4 pezzi*	1261.000 010 *Solvent*	HT300A - HT310A
Vial 23x50 mm - volume 10.5 ml - screw top + cap + septa TFE/SIL *Vial 23x50 mm - volume 10.5 ml - chiusura a vite completo di tappo e setto TFE/SIL*	5 pieces *5 pezzi*	1262.017 001 *Waste*	MASTER AS
Vial 23x46 mm - volume 10 ml + crimp seal + septa TFE/BUT *Vial 23x46 mm - volume 10 ml completo di capsula e setto TFE/BUT*	5 pieces *5 pezzi*	1261.100 001 *Waste*	ALS1000
Vial 20 ml + cap + septa *Vial 20 ml + cap + septa*	1 piece *1 pezzo*	1261.000 020 *Waste*	HT300A - HT310A
Vial 17x60 mm - volume 8 ml - screw top + cap + septa TFE/SIL *Vial 17x60 mm - volume 8 ml - chiusura a vite completo di tappo e setto TFE/SIL*	5 pieces *5 pezzi*	1261.090 003 *Flush & Dry*	ALS1000



1262.011 004 | 1262.095 002 | 1261.000 002 | 1260.995 004 | 1260.895 001



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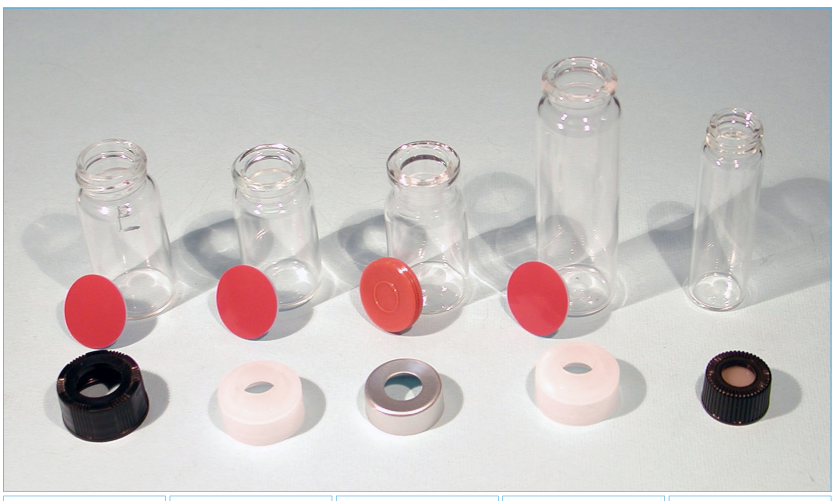


1262.017 001 | 1261.000 010 | 1261.100 001 | 1261.000 020 | 1261.090 003

1250.400 003 | 1250.490 001
1250.401 002
1250.400 004
1250.400 005
1250.400 006
1250.400 007
1250.400 008

SYRINGES for Liquid Autosamplers

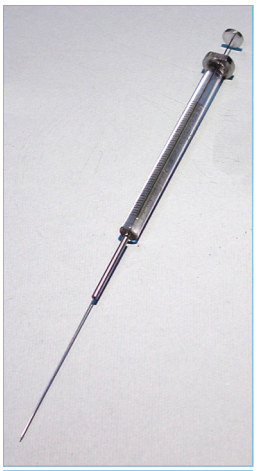
Description	Set of	Code	
Microsyringe 5 ul *Microsiringa 5 ul*	1 piece *1 pezzo*	1250.400 003	MASTER AS
Microsyringe 10 ul *Microsiringa 10 ul*	1 piece *1 pezzo*	1250.401 002	MASTER AS - ALS1000
Microsyringe 10 ul Flush&Dry *Microsiringa 10 ul per Flush&Dry*	1 piece *1 pezzo*	1250.490 001	MASTER AS - ALS1000
Microsyringe 10 ul - Long Needle *Microsiringa 10 ul - Long Needle*	1 piece *1 pezzo*	1250.400 001	HT310A - HT300A
Microsyringe 25 ul *Microsiringa 25 ul*	1 piece *1 pezzo*	1250.400 004	MASTER AS - HT300A - HT310A
Microsyringe 50 ul *Microsiringa 50 ul*	1 piece *1 pezzo*	1250.400 005	MASTER AS - HT300A - HT310A
Microsyringe 100 ul *Microsiringa 100 ul*	1 piece *1 pezzo*	1250.400 006	MASTER AS - HT300A - HT310A
Microsyringe 250 ul *Microsiringa 250 ul*	1 piece *1 pezzo*	1250.400 007	MASTER AS
Microsyringe 500 ul *Microsiringa 500 ul*	1 piece *1 pezzo*	1250.400 008	MASTER AS

TRANSFER LINE NEEDLES

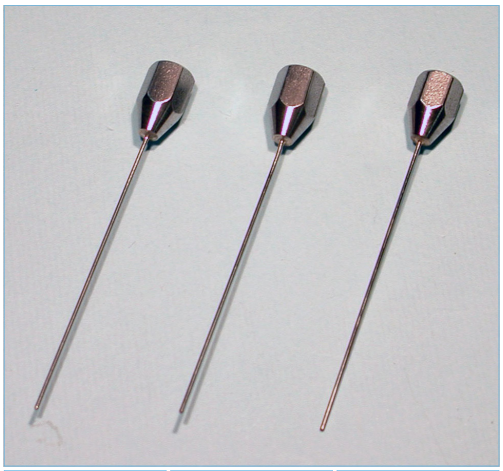
Description	Set of	Code	
Transfer Line needle - 0.7x0.4 *Puntale Linea di Trasferimento - 0.7x0.4*	2 pieces *2 pezzi*	2322.590 105	HSS 86.50 - HSS1000
Transfer Line needle - 0.5x0.2 *Puntale Linea di Trasferimento - 0.5x0.2*	2 pieces *2 pezzi*	2322.590 104	HSS 86.50 - HSS1000
Transfer Line needle *Puntale Linea di Trasferimento*	2 pieces *2 pezzi*	2322.590 106	MASTER TD - STD1000

NEEDLES for HSS

Description	Set of	Code	
Needle for HSS 86.50 - HSS 1000 *Ago per HSS 86.50 - HSS 1000*	2 pieces *2 pezzi*	2322.790 120	HSS 86.50 - HSS1000
Key for Nozzle NZ373 *Chiave a Tubo 8 x Ugello NZ373*	1 piece *1 pezzo*	1342.000 002	SPT 37.50



1250.400 001



2322.590 105 | 2322.590 104 | 2322.590 106

2322.790 120 | 1342.000 002

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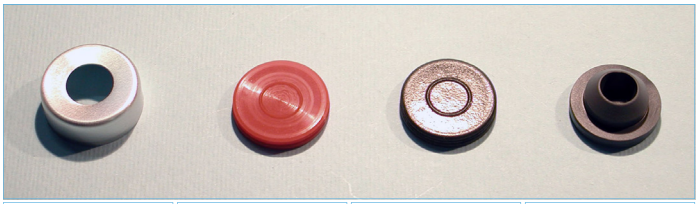
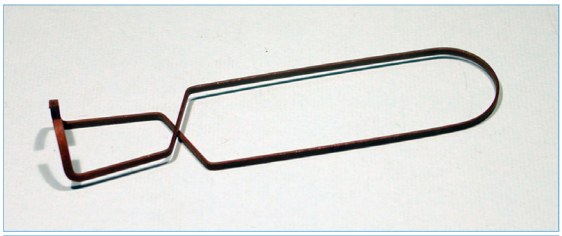
HEAD SPACE VIALS

Description	Set of	Code	
Vial 23x46 – volume 10 ml – crimp top *Vial 23x46 – volume 10 ml – chiusura a capsula*	50 pieces *50 pezzi*	1262.195 001	HSS 86.50 - HSS1000
Vial 23x46 – volume 10 ml – crimp top *Vial 23x46 – volume 10 ml – chiusura a capsula*	500 pieces *500 pezzi*	1262.020 003	HSS 86.50 - HSS1000
Vial 23x75 – volume 20 ml – crimp top *Vial 23x75 – volume 20 ml – chiusura a capsula*	50 pieces *50 pezzi*	1262.195 003	HSS 86.50 - HSS1000 - SPT 37.50
Vial 23x75 – volume 20 ml – crimp top *Vial 23x75 – volume 20 ml – chiusura a capsula*	500 pieces *500 pezzi*	1262.020 002	HSS 86.50 - HSS1000 - SPT 37.50
Crimp seal AL for Vial 23x46 and 23x75 *Capsula AL per Vial 23x46 and 23x75*	100 pieces *100 pezzi*	1260.895 002	HSS 86.50 - HSS1000 - SPT 37.50
Crimp seal AL for Vial 23x46 and 23x75 *Capsula AL per Vial 23x46 and 23x75*	500 pieces *500 pezzi*	1260.820 002	HSS 86.50 - HSS1000 - SPT 37.50
Septa TFE/BUT for crimp seal cod. 1260.895 002 *Setto TFE/BUT per Capsula cod. 1260.895 002*	100 pieces *100 pezzi*	1260.995 005	HSS 86.50 - HSS1000 - SPT 37.50
Septa TFE/BUT for crimp seal cod. 1260.895 002 *Setto TFE/BUT per Capsula cod. 1260.895 002*	500 pieces *500 pezzi*	1260.920 004	HSS 86.50 - HSS1000 - SPT 37.50
Septa TFE/SIL for crimp seal cod. 1260.895 002 *Setto TFE/SIL per Capsula cod. 1260.895 002*	100 pieces *100 pezzi*	1260.995 003	HSS 86.50 - HSS1000 - SPT 37.50
Septa BUT for crimp seal cod. 1260.895 002 *Setto BUT per Capsula cod. 1260.895 002*	100 pieces *100 pezzi*	1260.995 002	HSS 86.50 - HSS1000 - SPT 37.50
Hand Crimper for crimp seal cod. 1260.895 002 *Pinza Chiudi Vials per Capsula cod. 1260.895 002*	1 piece *1 pezzo*	1343.000 007	HSS 86.50 - HSS1000 - SPT 37.50
Vials extractor for Vial 23x75 *Estrattore per Vial 23x75*	1 piece *1 pezzo*	1343.000 003	SPT 37.50
Tray adapter for Vial volume 10 ml *Adattatore per Vial volume 10 ml portacampioni esterno*	25 pieces *25 pezzi*	1269.095 001	HSS 86.50 - HSS1000
Incubation Oven adapter for Vial volume 10 ml *Adattatore per Vial volume 10 ml camera incubazione*	6 pieces *6 pezzi*	1269.100 001	HSS 86.50 - HSS1000



1260.895 002	1260.995 005	1260.995 003	1260.995 002
1260.820 002	1260.920 004		

1262.195 001	1262.195 003
1262.020 003	1262.020 002



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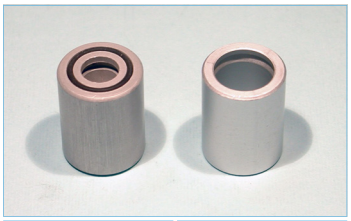
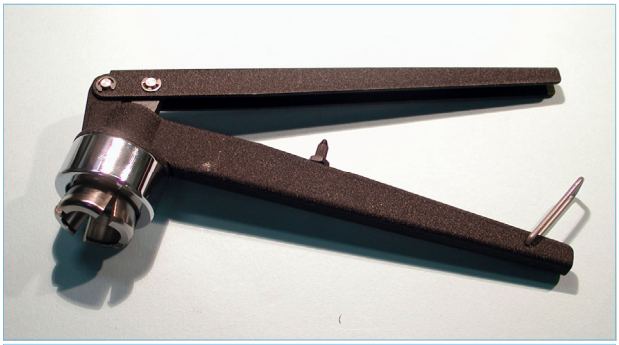


1269.095 001	1269.100 001



1343.000 007

6310.220 041 | 1300.110 009 | 1260.904 002
5281.200 002 | 1260.905 002
6310.220 049
6310.220 052

THERMAL DESORPTION TUBES - 3.5" X 1/4" - Empty

Description	Set of	Code	
Empty Tube Stainless Steel 3.5" x 1/4" *Tubo vuoto in acciaio 3.5" x 1/4"*	10 pieces *10 pezzi*	6310.220 041	MASTER TD - STD1000
Empty Tube Glass 3.5" x 1/4" *Tubo vuoto in vetro 3.5" x 1/4"*	10 pieces *10 pezzi*	1300.110 009	MASTER TD - STD1000
Septum D4 for Glass tube *Setto D4 per tubo in vetro*	100 pieces *100 pezzi*	1260.904 002	MASTER TD - STD1000
Septum D5 for Stainless Steel tube *Setto D5 per tubo in acciaio*	100 pieces *100 pezzi*	1260.905 002	MASTER TD - STD1000
Cap for tube 3.5" x 1./4" *Tappo per tubo 3.5" x 1/4"*	20 pieces *20 pezzi*	6310.220 049	MASTER TD - STD1000
Diffusion cap for tube 3.5" x 1./4" *Tappo diffusivo per tubo 3.5" x 1/4"*	20 pieces *20 pezzi*	6310.220 052	MASTER TD - STD1000
Long Term cap with PTFE seal *Tappo a Lunga Tenuta completo di tenute PTFE*	20 pieces *20 pezzi*	5281.200 002	MASTER TD - STD1000

THERMAL DESORPTION TUBES - 3.5" X 1/4" - Stainless Steel Packed

Description	Set of	Code	
Thermal Desorption Tube Carbotrap® 100 *Tubo per desorbimento termico Carbotrap® 100*	10 pieces *10 pezzi*	1300.400 100	MASTER TD - STD1000
Thermal Desorption Tube Carbotrap® 202 *Tubo per desorbimento termico Carbotrap® 202*	10 pieces *10 pezzi*	1300.400 202	MASTER TD - STD1000
Thermal Desorption Tube Carbotrap® 300 *Tubo per desorbimento termico Carbotrap® 300*	10 pieces *10 pezzi*	1300.400 300	MASTER TD - STD1000
Thermal Desorption Tube Carbotrap® 349 *Tubo per desorbimento termico Carbotrap® 349*	10 pieces *10 pezzi*	1300.400 349	MASTER TD - STD1000
Thermal Desorption Tube Air Toxics *Tubo per desorbimento termico Air Toxics*	10 pieces *10 pezzi*	1300.401 100	MASTER TD - STD1000
Thermal Desorption Tube Carbosieve SIII *Tubo per desorbimento termico Carbosieve SIII*	10 pieces *10 pezzi*	1300.401 102	MASTER TD - STD1000
Thermal Desorption Tube Tenax® GR *Tubo per desorbimento termico Tenax® GR*	10 pieces *10 pezzi*	1300.401 104	MASTER TD - STD1000
Thermal Desorption Tube Tenax® TA *Tubo per desorbimento termico Tenax® TA*	10 pieces *10 pezzi*	1300.401 106	MASTER TD - STD1000
Thermal Desorption Tube Chromosorb® 106 *Tubo per desorbimento termico Chromosorb® 106*	10 pieces *10 pezzi*	1300.402 106	MASTER TD - STD1000
Thermal Desorption Tube Tenax® GR, Carbotrap® B, Carbosieve SIII *Tubo per desorbimento termico Tenax® GR, Carbotrap® B, Carbosieve SIII*	10 pieces *10 pezzi*	1300.403 100	MASTER TD - STD1000

THERMAL DESORPTION TUBES - 3.5" X 1/4" - Glass Packed

Description	Set of	Code	
Thermal Desorption Tube Carbotrap® 100 *Tubo per desorbimento termico Carbotrap® 100*	10 pieces *10 pezzi*	1300.100 100	MASTER TD - STD1000
Thermal Desorption Tube Carbotrap® 202 *Tubo per desorbimento termico Carbotrap® 202*	10 pieces *10 pezzi*	1300.100 202	MASTER TD - STD1000
Thermal Desorption Tube Carbotrap® 300 *Tubo per desorbimento termico Carbotrap® 300*	10 pieces *10 pezzi*	1300.100 300	MASTER TD - STD1000
Thermal Desorption Tube Carbotrap® 349 *Tubo per desorbimento termico Carbotrap® 349*	10 pieces *10 pezzi*	1300.100 349	MASTER TD - STD1000
Thermal Desorption Tube Air Toxics *Tubo per desorbimento termico Air Toxics*	10 pieces *10 pezzi*	1300.101 100	MASTER TD - STD1000
Thermal Desorption Tube Carbosieve SIII *Tubo per desorbimento termico Carbosieve SIII*	10 pieces *10 pezzi*	1300.101 102	MASTER TD - STD1000
Thermal Desorption Tube Tenax® GR *Tubo per desorbimento termico Tenax® GR*	10 pieces *10 pezzi*	1300.101 104	MASTER TD - STD1000
Thermal Desorption Tube Tenax® TA *Tubo per desorbimento termico Tenax® TA*	10 pieces *10 pezzi*	1300.101 106	MASTER TD - STD1000
Thermal Desorption Tube Chromosorb® 106 *Tubo per desorbimento termico Chromosorb® 106*	10 pieces *10 pezzi*	1300.102 106	MASTER TD - STD1000

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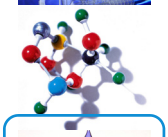
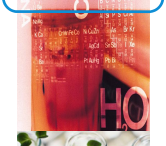
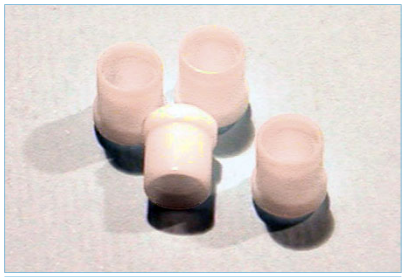





TRAPS

Description	Set of	Code	
Empty Trap *Trappola in quarzo vuota*	1 piece *1 pezzo*	1270.510 002	STD1000
Empty Trap *Trappola in quarzo vuota*	1 piece *1 pezzo*	9380.344 002	MASTER TD
Trap filled with Tenax® GR *Trappola riempita in Tenax® GR*	1 piece *1 pezzo*	9291.409 006	STD1000
Trap filled with Tenax® GR *Trappola riempita in Tenax® GR*	1 piece *1 pezzo*	6402.000 639	MASTER TD
Trap filled with Tenax® TA *Trappola riempita in Tenax® TA*	1 piece *1 pezzo*	9291.409 008	STD1000
Trap filled with Tenax® TA *Trappola riempita in Tenax® TA*	1 piece *1 pezzo*	6402.000 643	MASTER TD
Trap filled with Carbotrap® and Carbosieve SIII *Trappola doppio strato Carbotrap® - Carbosieve SIII*	1 piece *1 pezzo*	9291.409 007	STD1000
Trap filled with Carbotrap® and Carbosieve SIII *Trappola doppio strato Carbotrap® - Carbosieve SIII*	1 piece *1 pezzo*	6402.000 642	MASTER TD
Trap filled with Tenax® GR, Carbotrap® and Carbosieve SIII *Trappola Triplo stato Tenax® GR, Carbotrap® - Carbosieve SIII*	1 piece *1 pezzo*	9291.409 015	STD1000
Trap filled with Tenax® GR, Carbotrap® and Carbosieve SIII *Trappola Triplo stato Tenax® GR, Carbotrap® - Carbosieve SIII*	1 piece *1 pezzo*	6402.000 644	MASTER TD
Ferrule 10M D4 PTFE for MASTER TD/STD1000 trap *Tenuta 10M D4 PTFE per trappola MASTER TD/STD1000*	10 pieces *10 pezzi*	2306.095 016	MASTER TD - STD1000

1270.510 002	9291.409 006	9291.409 008	9291.409 007	9291.409 015
9380.344 002	6402.000 639	6402.000 643	6402.000 642	6402.000 644



2306.095 016

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TUBING

Description	Set of	Code
Tube SS AISI 316 D 1.6x1 mm *Tubo SS AISI 316 D 1.6x1 mm*	5 meters *5 metri*	1300.509 505
Tube SIL 3x0.5 mm *Tubo Silicone naturale 3x0.5 mm*	1 meter *1 metro*	1303.505 001
Tube SIL 4x2 mm *Tubo Silicone naturale 4x2 mm*	1 meter *1 metro*	1303.520 001
Tube TFE 1.6x0.95 mm *Tubo TFE 1.6x0.95 mm*	1 meter *1 metro*	1303.600 001
Tube PVC 13x7 mm *Tubo retinato PVC 13x7 mm*	5 meters *5 metri*	1303.250 002
Tube SS 1,6x0,8 mm *Tubo SS 1,6x0,8 mm*	5 meters *5 metri*	1300.409 502
Tube Rilsan 4x2 mm *Tubo Rilsan 4x2 mm*	10 meters *10 metri*	1304.609 502
Tube SS 304 2x1 mm *Tubo SS 304 2x1 mm*	5 meters *5 metri*	1300.409 504
Tube 1/8" o.d. x 1/16" i.d. Copper *Tubo 1/8" o.d. x 1/16" i.d. Rame*	1 meter *1 metro*	1302.040 002

FUSES

Description	Set of	Code
Fuse fast F 5x20 315mA 250V *Fusibile rapido F 5x20 315mA 250V*	10 pieces *10 pezzi*	3841.095 001
Fuse fast F 5x20 0.5A 250V *Fusibile rapido F 5x20 0.5A 250V*	10 pieces *10 pezzi*	3841.095 002
Fuse fast F 5x20 0.63A 250V *Fusibile rapido F 5x20 0.63A 250V*	10 pieces *10 pezzi*	3841.095 003
Fuse fast F 5x20 1A 250V *Fusibile rapido F 5x20 1A 250V*	10 pieces *10 pezzi*	3841.095 004
Fuse fast F 5x20 2A 250V *Fusibile rapido F 5x20 2A 250V*	10 pieces *10 pezzi*	3841.095 005
Fuse fast F 5x20 3.15A 250V *Fusibile rapido F 5x20 3.15A 250V*	10 pieces *10 pezzi*	3841.095 006
Fuse fast F 5x20 4A 250V *Fusibile rapido F 5x20 4A 250V*	10 pieces *10 pezzi*	3841.095 008
Fuse T 5x20 0.63A 250V *Fusibile ritardato T 5x20 0.63A 250V*	10 pieces *10 pezzi*	3841.595 002
Fuse T 5x20 3,15A 250V *Fusibile ritardato T 5x20 3,15A 250V*	10 pieces *10 pezzi*	3841.595 008
Fuse T 5x20 1A 250V *Fusibile ritardato T 5x20 1A 250V*	10 pieces *10 pezzi*	3841.595 011
Fuse T 5x20 0.5A 250V *Fusibile ritardato T 5x20 0.5A 250V*	10 pieces *10 pezzi*	3841.595 001

MISCELLANEOUS

Description	Set of	Code	
Silicon Oil *Olio Silicone*	1,5 liters *1,5 litri*	1156.090 001	SPT 37.50
Funnel *Imbuto*	1 piece *1 pezzo*	3002.560 000	SPT 37.50

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MASTER GC - Fast Gas Chromatograph

Code	Description
0305.100 012	MASTER GC Main Frame
Capillary columns injection systems	
0305.102 071	OPT 011M - PTV-DHR Programmable Temperature Vaporizer
0305.102 072	OPT 022M - SL/IN Split-Splitless Injector
Packed columns injection systems	
0305.102 333	OPT 333M - Packed Column Injector with adapter for Widebore columns
Capillary and Packed columns detection systems	
0305.102 070	OPT 100M - FID Flame Ionization Detector
0305.102 111	OPT 111M - NPD Nitrogen Phosphorous Detector
0305.102 133	OPT 133M - ECD Electron Capture Detector
0305.102 144	OPT 144M - FPD Flame Photometric Detector with sulfur filter
0305.102 155	OPT 155M - PID Photoionisation Detector
0305.102 166	OPT 166M - TCD Thermal Conductivity Detector for Widebore columns + auxiliary gas line
0305.102 270	OPT 270M - micro TCD Thermal Conductivity Detector for Capillary columns
0305.102 266	OPT 266M - TCD Thermal Conductivity Detector for Packed Columns

Liquid Autosamplers

Code	Description
0310.500 100	MASTER AS Liquid Autosampler

Thermal Desorbers

0310.600 003	MASTER TD Thermal Desorber
0305.500 002	DANI AIRSampler for MASTER TD
0305.500 001	DANI AIRSampler for STD1000
3821.019 500	Line Selector for AIRSampler

MASTER TD - Thermal Desorber

MASTER AS - Liquid Autosampler

MASTER GC - Fast Gas Chromatograph

GC1000 - Digital Gas Chromatograph

Code	Description
0305.100 005	GC1000 Main Frame
Capillary columns injection systems	
0305.102 037	OPT 011 - PTV-DHR Programmable Temperature Vaporizer
0305.102 036	OPT 022 - SL/IN Split-Splitless Injector
Packed columns injection systems	
0305.102 038	OPT 333 - Packed Column Injector with adapter for Widebore columns
Capillary and Packed columns detection systems	
0305.102 030	OPT 100 - FID Flame Ionization Detector
0305.102 033	OPT 111 - NPD Nitrogen Phosphorous Detector
0305.102 034	OPT 133 - ECD Electron Capture Detector
0305.102 043	OPT 144 - FPD Flame Photometric Detector with sulfur filter
0305.102 032	OPT 155 - PID Photoionisation Detector
0305.102 067	OPT 166 - TCD Thermal Conductivity Detector for Widebore columns + auxiliary gas line
0305.102 042	OPT 270 - micro TCD Thermal Conductivity Detector for Capillary columns
0305.102 049	OPT 266 - TCD Thermal Conductivity Detector for Packed Columns

Liquid Autosamplers

Code	Description
0307.310 001	HT310A Liquid Autosampler 10 vials
0307.300 001	HT300A Liquid Autosampler 110 vials

Head Space Samplers

0310.100 001	HSS 86.50 Head Space Sampler, with Pressure regulator
0310.100 003	HSS 86.50 Head Space Sampler, with Flow regulator

HT300A - Liquid Autosampler

GC1000 - Digital Gas Chromatograph

HSS 86.50 - Head Space Sampler

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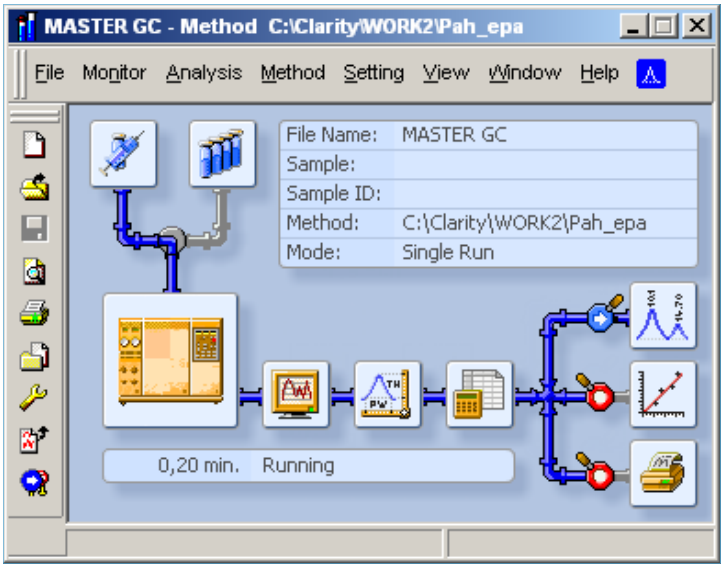
Software

	Work Stations
0320.000 018	DANI DDS CLARITY™ MASTER GC-AS 1 instrument
0320.000 011	DANI DDS CLARITY™ 1 instrument 2 Channels + GC Control
0320.000 017	DANI DDS CLARITY™ 2 Channels + GC Control - U-PAD version
	Software
0320.000 012	DDS Clarity™ Single Instrument Station
0320.000 013	DDS Clarity™ Instruments Add-on
	Converters
3450.100 001	Board INT7 1 Channel
3450.100 002	Board INT7 2 Channels
3450.100 003	Board INT7 4 Channels
3450.100 004	U-PAD - External USB 2 Channels
3450.100 005	NET-PAD - External LAN 2 Channels
	Instruments Control Module (Clarity integrated)
0305.000 002	MASTER GC-AS Control Module
0305.000 001	GC1000 Control Module
0305.010 001	Liquid Samplers Control Module (ALS1000 - HT-300A)
	Software Options (Clarity integrated)
0305.010 002	SST - System Suitability Test
3950.000 001	DANI PETROCal Software
	Instruments Control Module (stand alone version)
3950.000 002	TD Manager Software
	DDS Clarity™ LITE
0320.000 014	DDS Clarity™ LITE - 1 channel
0320.000 015	DDS Clarity™ LITE - 2 channels
0320.000 016	DDS Clarity™ LITE - 4 channels



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Micro-Spin® Parker Hannifin UK Limited
Mininert® Valco Instruments Company, Inc.
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ms-NoVent™ SGE Internationl Pty. Ltd.
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Nova-Pak™ Waters Corporation
Nucleosil® Macherey-Nagel
Nukol™ Sigma-Aldrich
Nylatron® Polymer Corp.
OmegaWAX™ Sigma-Aldrich
Omnifit® Omnifit Ltd
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OPTI-PRIME™ Optimize Technologies, Inc.
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DANI
A Scent Of Future

Master TOF
Time of Flight GC/MS

A New Concept of TOF-MS for the Latest Generation GC Techniques

When productivity is the name of the game, MASTER TOF-MS is the answer

Productivity has become of vital importance in most modern laboratories.
The automated and unattended processing of a larger number of samples per day is the real challenge to increase productivity and reduce costs/analysis.
Additionally, Fast GC has resulted in a very effective way to address this challenge providing a significant decrease in the analysis time.

However, when a positive identification is mandatory and mass spectrometric detection is needed, conventional Quadrupoles or Ion Trap Mass Spectrometers do not provide enough information for a reliable peak reconstruction of very narrow peaks over the full mass range. Time of Flight Mass Spectrometry (TOF-MS) is the only technology capable of properly coping with this requirement due to its fast acquisition rate.

DANI MASTER TOF-MS detector performs the fastest acquisition rates (1000 spectra/s) and the widest linear dynamic range (10^5) available on the market.
These capabilities are offered in a truly affordable and extremely compact bench-top instrument.
In combination with the MASTER GC, the system is the ideal solution for Fast GC and GCxGC analyses to obtain improved productivity and performance.

The simple and intuitive MASTER LAB software offers the proper tool for a reliable control of the system, from autotuning procedures to GC and sample sequence management.
It also provides a powerful data processing solution and an original deconvolution algorithm capable to handle the large amount of information in a smart and effective way resulting in a reliable identification of trace compounds even in complex matrices.

EXTREMELY COMPACT DESIGN

HIGH PRODUCTIVITY

POWERFUL SOFTWARE SOLUTION

WALKAWAY AUTOMATION

High Productivity

The use of automated instrumentation and Fast GC methods are the right approach for modern laboratories to enhance their productivity, reducing the run time and increasing the accuracy and precision of their analyses.
The Master TOF Time of Flight GC/MS system fulfills all the stringent requirements that Fast GC imposes to the analytical instrumentation, including the fast heating and cooling rate of the GC oven, the high pressure limit of the gas control and, finally, the fast acquisition rate of the MS detector.

Particularly, the narrowest chromatographic peaks produced by high speed analyses, having a 0.5 seconds or lower peak width, require a high speed acquisition rate to collect a sufficient number of information (15-20 points/peak) for a correct peak identification of a fully resolved peak.
Furthermore, a higher number of data points is mandatory for an accurate recognition and quantification of unknown and co-eluting peaks typically present in complex samples.

The MASTER TOF-MS provides an acquisition rate up to 30,000 spectra/s offering the fastest MS detection available on the market.

In addition, the TOF-MS principle allows the fast detection capability over the full mass range: in fact, all the ions generated in the ion source are continuously pulsed into the analyzer and no filtering of selected masses is applied. This overcomes the need for SIM mode operation used in conventional quadrupoles or ion-traps and limits the spectral skewing of unresolved peaks produced by scanning instruments.

The MASTER TOF-MS constantly acquires 30,000 mass spectra over the entire mass range, compared to the fastest quadrupole MS which only provides about 10 mass spectra at 10,000 amu/s in the same mass range (1–1,000 amu).

All spectra acquired are stored in a compressed format to provide a continuous full mass range acquisition rate selectable up to 1000 Hz written to disk.

In addition, the system offers an outstanding dynamic range with a linearity of 5 orders of magnitude, remarkably reducing sample preparation steps, e.g. dilutions and concentrations, as well as the number of analyses.

The MASTER TOF-MS, matching the speed required for the acquisition of the narrowest GC peaks, is also the ideal solution for GCxGC applications.

Walkaway Automation

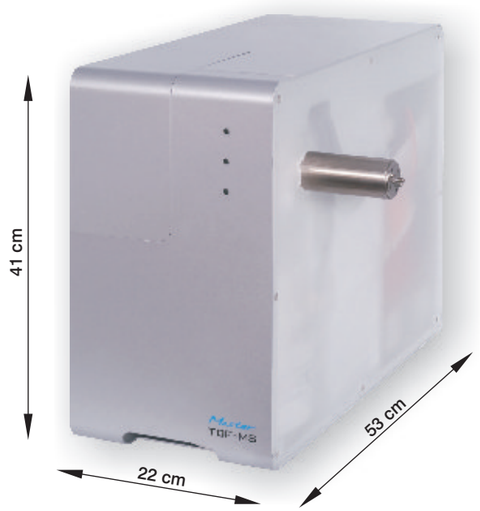
In combination with the MASTER AS, a robotic X-Y-Z coordinate sampling system, the MASTER TOF GC/MS system delivers complete automation of all operation steps, including standard addition. Hence, the complete system increases sample throughput allowing to process without attending up to 160 samples with enhanced precision and accuracy, improving analysis performance.

The MASTER Lab software delivers complete system control through a user-friendly interface without requiring particularly experienced operators.

Full Instrument Control and Powerful Data Management

The MASTER Lab software integrates the control of MASTER TOF-MS, MASTER GC, MASTER AS, and other DANI autosamplers like the Thermal Desorber and the Dynamic Head Space Sampler.
The maximum productivity is obtained through the full automation of the process, starting from sampling, to acquisition, data processing and reporting.
Methods and sequences can be easily created, edited, stored, and uploaded to the instruments.
A full diagnostic is also included and provides information on the instrument status.

In addition to the local control, DANI is also capable to provide a remote control function based on an Internet connection. The on-line support connection allows the DANI service staff to remotely operate on the instrument located at customer site.
DANI remote control service permits basic diagnostic tests and a quicker flow of information from the specialist to the user.
Minimized dead times and reduced on-site service cost add a further improvement to the gain of high productivity.



Extremely Compact Design

In today's world economy, also analytical laboratories have to deal with the increasing cost of their working environment; consequently, their choices are often restricted by a limited space.

For this reason, the compactness of the instrumentation is increasing of importance and manufacturers have to pay special attention to this specification.

Unlike other TOF-MS detectors, the extremely compact design of the MASTER TOF-MS allows it to be the smallest bench-top instrument of its class.

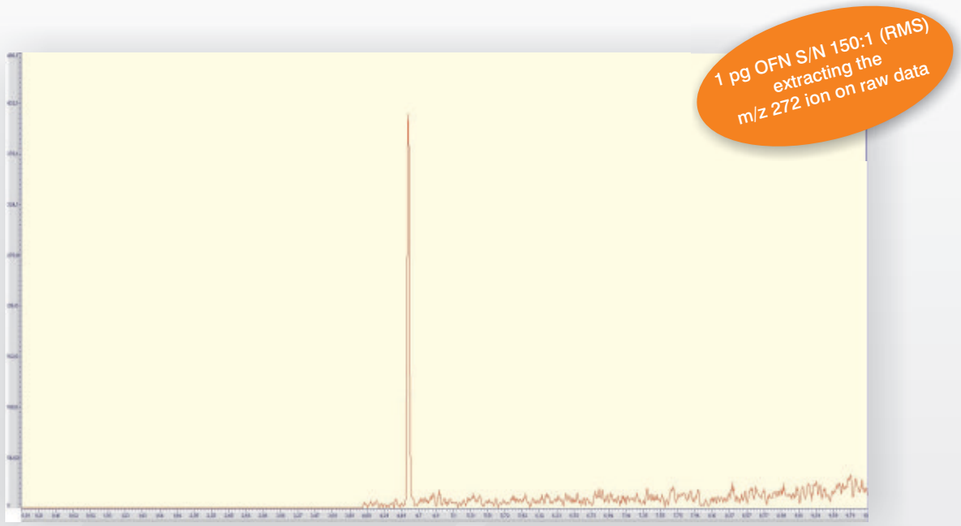
In a minimal bench space, MASTER TOF-MS includes the baking pump thus providing a highly handy and noise-free instrument.

Enhanced Sensitivity

The MASTER TOF-MS features an unsurpassed sensitivity.

Unlike scanning quadrupole MS, which generates inconstant ion-abundance ratios, the MASTER TOF-MS provides enhanced sensitivity due to the high frequency of ions expulsions (30,000 Hz), the fast acquisition system (1.2 GSPS), and the negligible ion loss during the separation process in the flight tube. In addition, high sensitivity is maintained across the entire mass range.

Outstanding sensitivity is achieved through the use of differential pumping, enabling improved vacuum conditions. Therefore, an elongated ion mean free path is achieved, avoiding collision on their transit through the TOF analyzer.



Easy Maintenance

Unlike other commercial available TOF-MS detectors, the MASTER TOF-MS design simplicity permits the user to easily access the ion source. Fast, uncomplicated, and efficient maintenance procedures can be carried out requiring just an Allen wrench and low labor input.

For extra convenience, the MASTER TOF-MS is equipped with a double filament. In case of filament damage the second filament can be used proceeding with the analyses without stopping the work schedule of the laboratory.

Complete Line for Total Solutions

The MASTER GC allows the easy assembly of a complete range of injectors, including split/splitless and PTV. The PTV is particularly suggested when high sample integrity is requested.

The MASTER GC also features a complete line of detectors compatible with Fast GC applications, such as Flame Ionization Detector (FID), Electron Capture Detector (ECD), Nitrogen-Phosphorus Detector (NPD), and Flame Photometric Detector (FPD). The MASTER GC can be equipped with up to three detectors simultaneously.

In addition, the MASTER TOF GC/MS system delivers complete volatile extraction when combined to the DANI autosamplers MASTER DHS Dynamic Head Space Sampler, MASTER TD Thermal Desorber, and HSS 86.50 Head Space Sampler.

Innovative Master Lab Software Solution

The proprietary MASTER Lab software solution is based on an innovative platform for acquiring and processing mass spectral data. The software ensures high level performance and maximized productivity, while delivering the flexibility and robustness required in laboratories with high daily sample throughput.

Autotune

The MASTER Lab allows the system to automatically tune the performance checks; manual tuning is also available. In the autotuning mode the various instrument control parameters are automatically adjusted as specified in the Autotuning Conditions.
Furthermore, tuning conditions can be customized and saved to fit specific analytical requirements. The tuning criteria are saved in a tuning file, along with the obtained results.

Data Acquisition

Data acquisition initiates after the fast and easy method set up. The chromatogram and the spectrum are displayed in real time, as well as the acquisition method.

Report

Analysis reports can be customized and stored as report files, which can be repeatedly used. Reports can also be automatically generated to improve the output of routine laboratories.

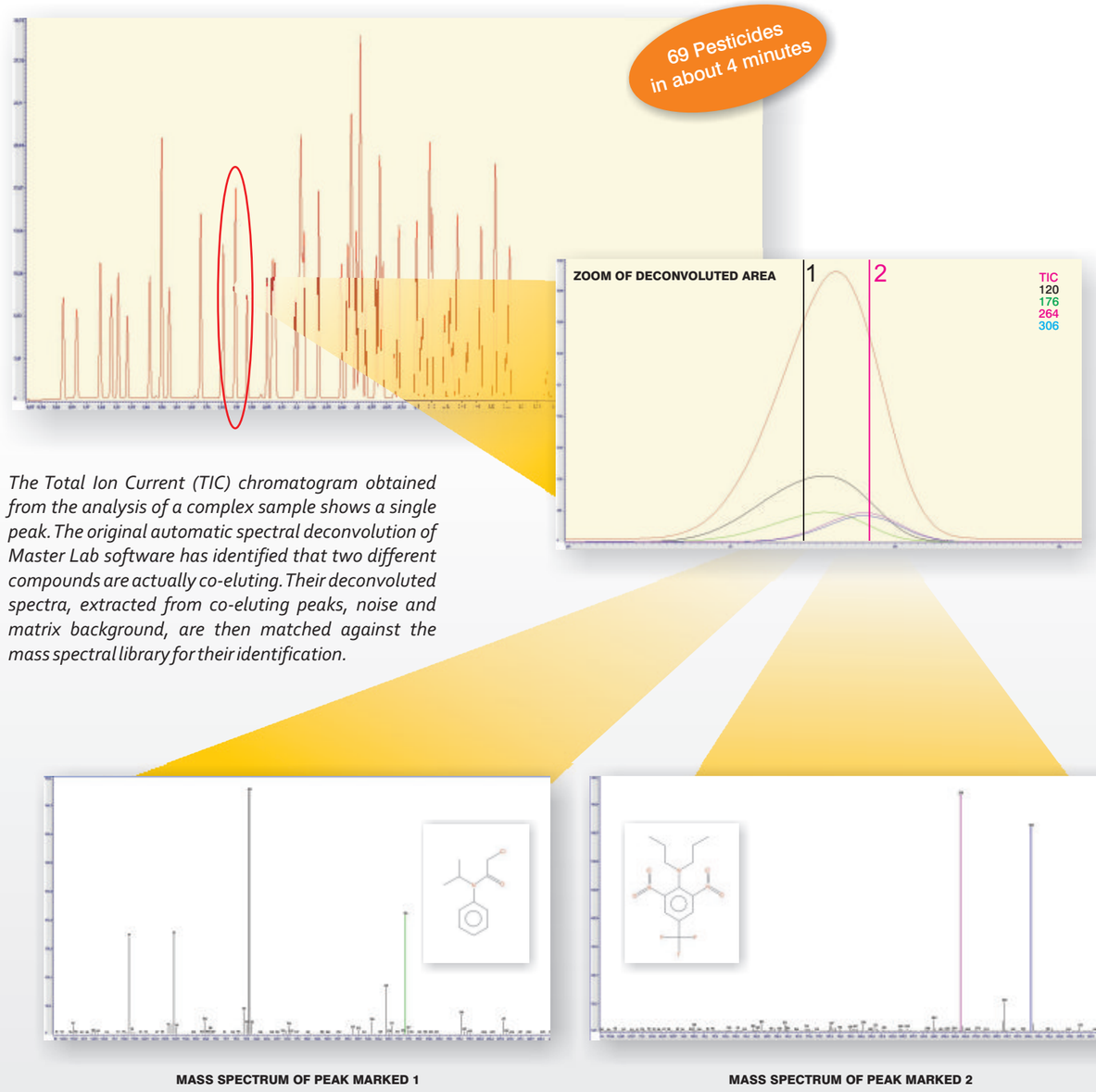
Data Export

Obtained data can be exported to several standard data formats, e.g. net.CDF and .txt files. The creation of .xls worksheets is also enabled. The convenient file export can be performed automatically or manually.

Processing: Calibration, Deconvolution, Quantitative, and Qualitative Analyses

After the acquisition, the mass spectral data are processed, enabling the access to peak identification, integration, and calibration. Calibration curves and quantitative analysis of known and unknown components are calculated automatically.

In GC analyses co-elutions are prone to occur when complex samples are analyzed or when the analysis run times are reduced. The MASTER Lab algorithms use automatic spectral deconvolution procedures to detect overlapped peaks. The unresolved mass spectra are deconvoluted, pure mass spectra are generated and then submitted as unknowns to mass spectral library search. The software supports several mass spectral libraries, such as the NIST® mass spectral library and Adams MS Library (Allured Publishing Corp.) among others. Improved effectiveness and confidence in the identification and screening of target and non target compounds is achieved.



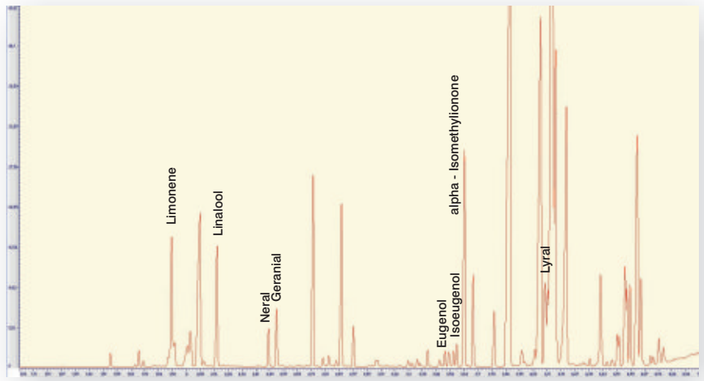
The Total Ion Current (TIC) chromatogram obtained from the analysis of a complex sample shows a single peak. The original automatic spectral deconvolution of Master Lab software has identified that two different compounds are actually co-eluting. Their deconvoluted spectra, extracted from co-eluting peaks, noise and matrix background, are then matched against the mass spectral library for their identification.

Significant Improvement in Analytical Separation Power

The combination of the MASTER GC and the MASTER AS hyphenated to the MASTER TOF-MS is the right solution for your daunting analytical tasks and is adequate for a broad range of applications.

Cosmetics and Toiletries (C&T)

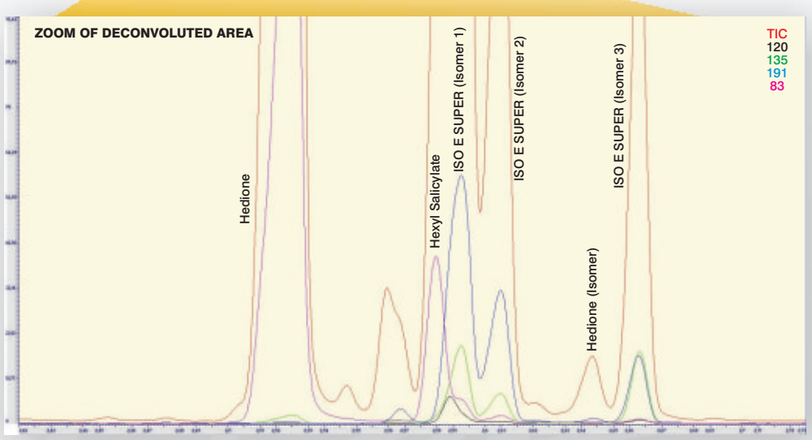
The investigation of allergens in C&T matrices is of utmost importance for safety evaluation procedures. Allergens are strictly regulated and maximum residue limits for leave-on and rinse-off cosmetic products are of 0.001 % and 0.01 %, respectively.
The MASTER TOF GC/MS system permits reliable allergens mass spectra identification due to automatic deconvolution and high productivity thanks to the excellent quantitative determination of trace level components.



Allergens determination in commercial perfume.

Flavor and Fragrances (F&F)

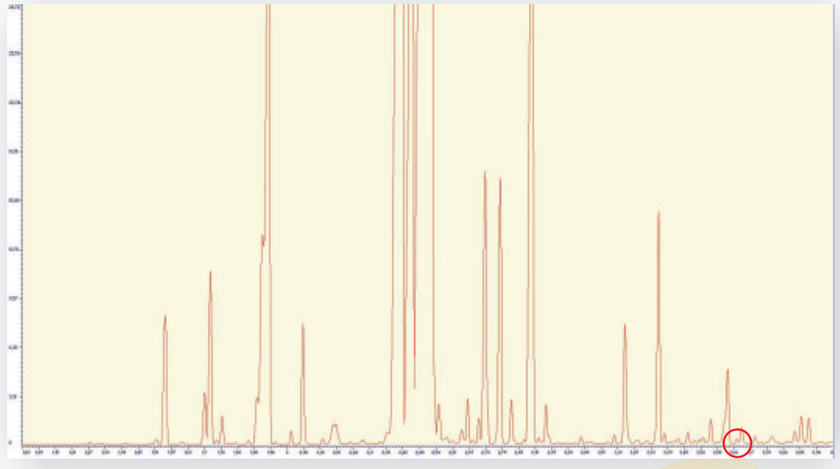
Fragrance materials are composed of a wide range of compounds blended to create sophisticated perfumes. As it is well known, the use of modern analytical methods boosted the acquisition of higher perfumery raw material knowledge and GC has been widely employed in perfumery industries. In the F&F application field faster analysis, rapid and reliable peak assignment are continuously required. The MASTER TOF GC/MS system fulfills these productivity requirements.



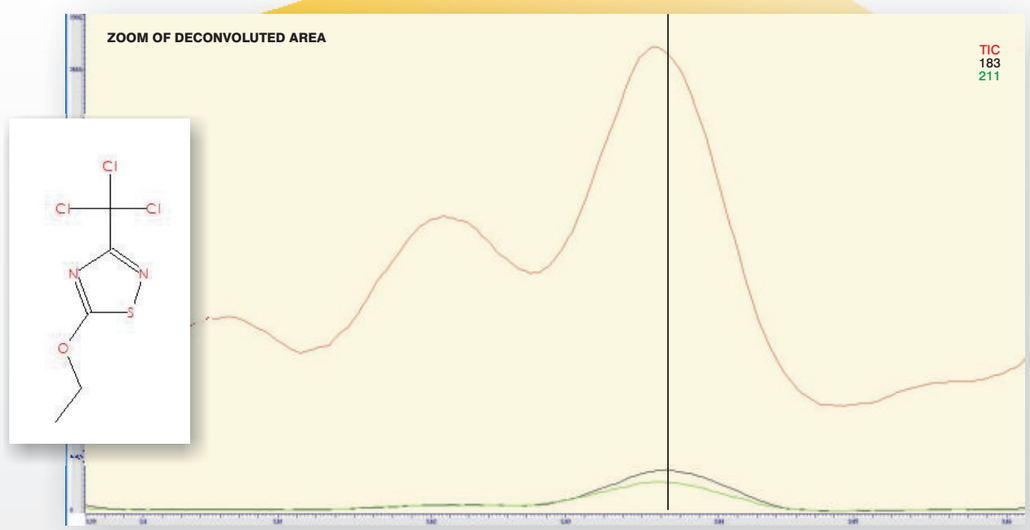
The TIC chromatogram obtained from the Fast GC analysis of a perfumery raw material shows several co-eluting peaks. The constant ion abundance ratios across the chromatographic peak, the high acquisition rates, and the unskewed mass spectra are uniquely produced by the MASTER TOF-MS and support the deconvolution algorithm for the peak picking of the components. Productivity and accurate peak identification are obtained simultaneously.

Agriculture

Pesticide residues analyses in agricultural products are generally carried out by using GC in combination with selective detectors, such as Nitrogen-Phosphorous Detector (NPD) or Electron Capture Detector (ECD). Fast GC drastically reduces analysis time and spectra deconvolution permits reliable compound identification. The use of the MASTER TOF-MS detector is unprecedented for precise peak assignment and structural elucidation.



In a mint oil sample, the deconvolution has allowed the identification of Etridiazole. The pesticide, that is present only in traces, looks as a small baseline deviation in the TIC chromatogram.



Further Application Areas

- Petrochemical, Fuels, and Energy
- Environmental Monitoring
- Food and Beverages
- Security and Forensics
- Material Science

DANI
A Scent Of Future

Master DHS

Dynamic Head Space Sampler

A Dynamic Approach to High Sensitivity Headspace Analysis

The DANI MASTER DHS provides you with the most versatile, state-of-the-art system for headspace analysis. It combines the high sensitivity of the Dynamic Headspace technique with the productivity, ease of use, and flexibility of a completely automated solution.

As in static headspace analysis, liquid or solid samples are placed in sealed vials and thermostatted in a temperature-controlled oven. Shaking of the vials is also available to speed up the extraction step and increase its efficiency.
The use of a precise flow of inert gas through an original dual-needle enables the volatiles to be swept from the sample headspace and focused in a sorbent packed trap.
Analytes are then rapidly thermally desorbed and introduced into the gas chromatographic column.
The highest recovery of the volatiles and the optimal injection result therefore in an unmatched sensitivity.
In addition, the MASTER DHS can process liquid samples in purging mode thus further lowering the detection limits and featuring the capabilities of a Purge and Trap system.

The accurate and precise control of the entire sampling process ensures superior analysis performance thus fulfilling the requirements of both routine analyses and research applications over a wide range of sample types such as water and soils, food and beverages, polymers, and pharmaceuticals.

The MASTER DHS can be also combined with the MASTER AS Automatic Sampler to increase the sample capacity and optimize the vial processing for the maximum system productivity. Moreover, MASTER AS further increases the analytical precision through an extremely flexible handling of standard solutions.
A smart intuitive touchscreen user interface or an exclusive control software easily manage all the operating parameters and analytical conditions.

UNMATCHED SENSITIVITY

NO CROSS-CONTAMINATION

HIGHEST PRODUCTIVITY, RELIABILITY, AND EASE OF USE

INCREASED ANALYTICAL PERFORMANCE

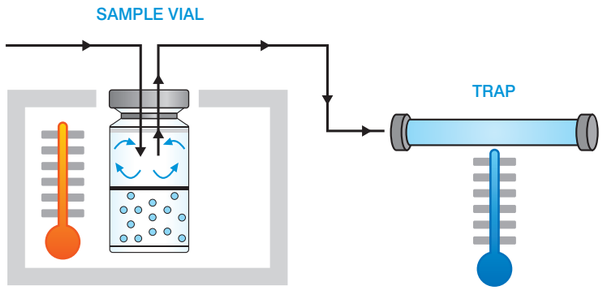
Unmatched Sensitivity

Superior sensitivity is obtained through the constant sweeping of the thermostatted sample, promoting the enrichment of the volatile compounds on the sorbent trap.

Using selected sorbent materials and temperature settings, the efficient concentration of trace level analytes is achievable over a wide range of volatility.

The MASTER DHS offers up to a 100-fold increase in sensitivity over conventional headspace techniques and assures detection limits beyond the capability of SPME.

Sensitivity can be further increased by using selective and specific detection systems, such as Electron Capture Detector (ECD), Photoionisation Detector (PID), and Mass Spectrometers (MS).



No Cross-contamination

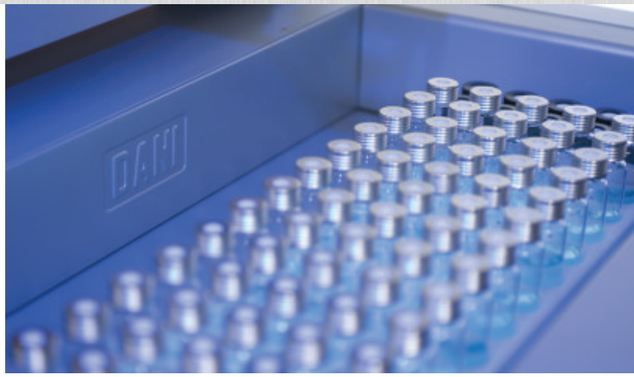
The DHS sampling technique is based on the injection of gas vapors only, therefore ensuring a totally clean procedure, a long analytical column life-time, and highly reliable analytical results.

Every sample is placed in a disposable 20-mL headspace vial thus eliminating any risk of carry-over effect. Foaming samples can be processed in the Dynamic Headspace mode to prevent the system from contamination.
No additional workload of cleaning glassware or time-consuming line purging are requested.
Nevertheless, the entire sample flow path, including the dual-needle, undergoes an automated cleaning cycle during the baking phase.

In addition, the inert material of the entire sample flow path prevents carry-over effects, corrosion, and sample loss caused by adsorption and reactivity.

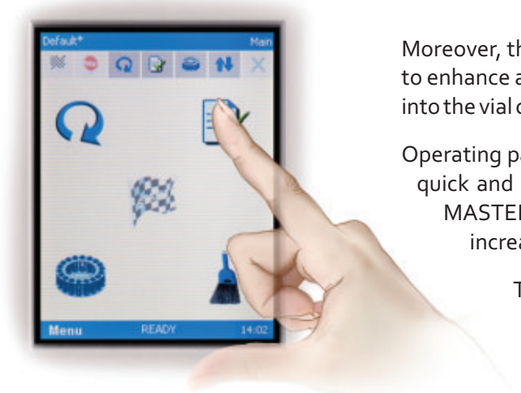
The MASTER DHS unit can be easily hyphenated to the MASTER GC and the MASTER TOF Time of Flight GC/MS as well as the most common commercially available GC and GC/MS systems.

Highest Productivity, Reliability, and Ease of Use



Unlike conventional Purge and Trap systems, the MASTER DHS maximizes productivity through the overlapped sample thermostatting capability, the shorter baking phase, and the use of disposable vials.

In combination with the MASTER AS automatic sampler, the MASTER DHS allows sample overlapping with constant incubation time increasing laboratory productivity and sample throughput: the system automatically controls that the next sample is thermostatted during the GC analysis of the previous one.



Moreover, the system delivers the complete automation of the standard addition to enhance analytical precision: the addition of up to 6 standard solutions directly into the vial can be programmed by the user.

Operating parameters are set and controlled through a touchscreen display for a quick and easy set up. A remote communication between MASTER DHS and MASTER GC enables high synchronization for safe and fast working cycles increasing laboratory productivity and profitability.

The minimal sample handling and the complete automation of all process steps ensure highly reliable and reproducible results even with unexperienced operators.

Increased Analytical Performance

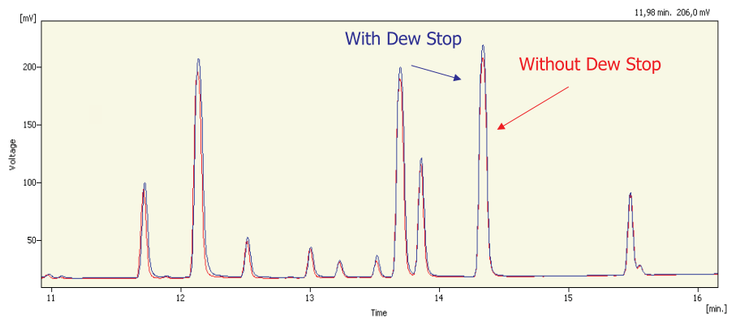
When introduced into the GC in large amount, water may seriously affect separation and detection, compromising the overall quality of the analytical results.

MASTER DHS incorporates an innovative, ingenious Dew Stop device which efficiently removes water regardless of the analytes, maintaining volatile compounds recovery unaffected. For extra convenience, the MASTER DHS built-in water elimination device is programmable.

Unlike other techniques, there is no need for solvents, avoiding the possible masking of peaks of interest by the solvent peak and the introduction of impurities into the GC system. In addition, the technique prevents hazardous effects on the environment, protects the operators' health, and eliminates considerable solvent disposal and costs.

A sophisticated control of all parameters and the highly precise electronic regulation of the purging gas flow-rate feature an unmatched repeatability and accuracy of the analytical results.

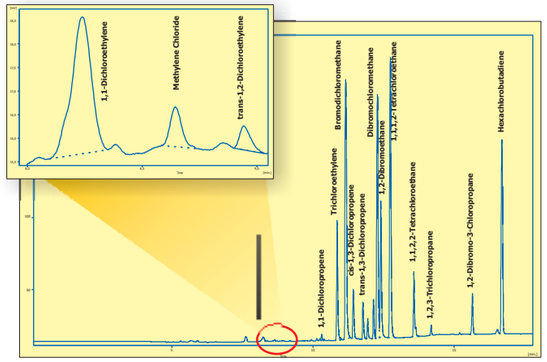
"Dew Stop" removes water maintaining the recovery of Chlorinated Hydrocarbons unaffected.

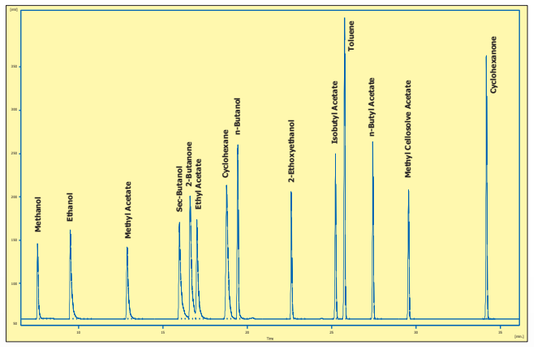


Unprecedented Sensitivity over a Wide Range of Applications

Determination of Chlorinated VOCs in Water

The determination of low concentrations of Chlorinated Volatile Organic Compounds (VOCs) is of utmost importance when assessing the quality of drinking and raw source water.
The concentration efficiency of the MASTER DHS can be combined to the high sensitivity and selectivity of the ECD, achieving minimum detectable levels well below currently recommended limits (EPA Method 502.2).



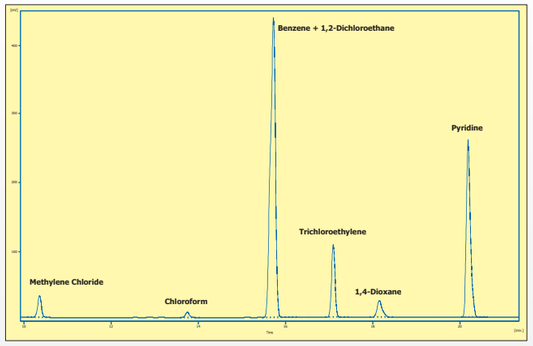


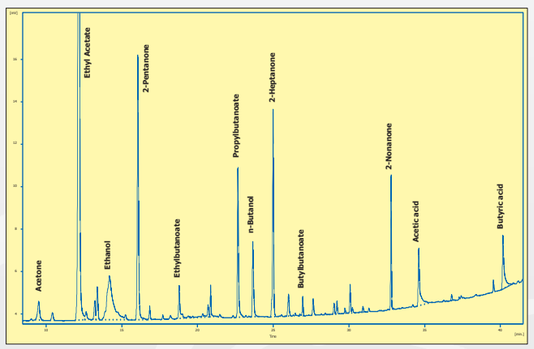
Food Packaging Material Analyses

As it is well-known, packaging materials may represent a source of contamination of the food they are intended to protect. Two approaches are usually addressed: the control of the packaging production process and the control of the migration of chemicals into foodstuffs.
The chromatogram shows the outstanding system performance of the MASTER DHS in the determination of residual solvents used in the manufacturing process. A sensitivity higher than theone described in the EN 13628-2: 2002 norm, based on staticheadspace sampling, is achieved.

Pharmaceutical Field: Tracing Residual Solvents in Pharmaceuticals

In the latest revision of the USP 467 chapter, stricter regulatory requirements were implemented for the quantitative analysis of residual solvents in pharmaceuticals. The MASTER DHS hyphenated to the MASTER GC provides high sensitivity analysis, exceeding the requirements of the USP method.





Unveiling Trace Level Compounds in Flavor and Fragrance Matrices

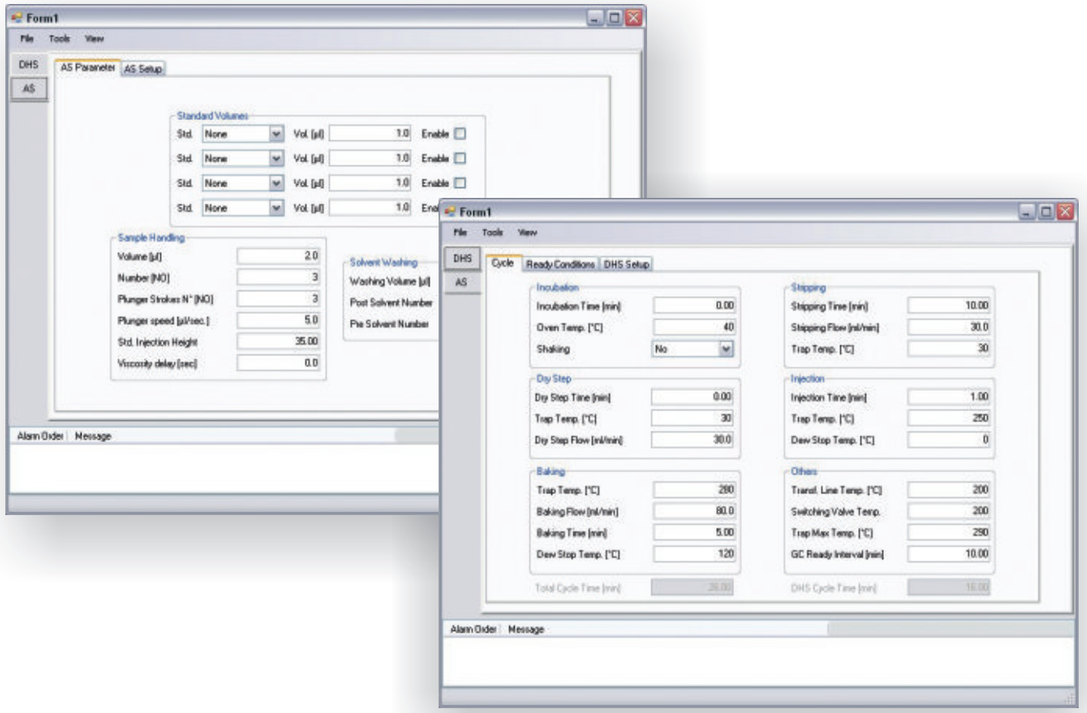
The multi-skilled MASTER DHS is an advantageous sampling tool in the investigation of trace compounds in F&F matrices.

This high concentration capacity sampling technique permits to extend the analyte volatility range, yielding a more representative flavor profile. Moreover, its inert sample pathway prevents eventual breakdown and adsorption of odor impact compounds.

Complete MASTER DHS Control

The MASTER DHS can be fully controlled by installing the driver of the CLARITY™ Chromatography Station or by using the standalone software, DHS Manager.

Both system control modes offer a straightforward method and sequence set up enabling automated analysis. Methods and sequences can be easily edited, stored, and uploaded to the instrument.



KEY TECHNICAL POINTS	
MASTER DHS	**MASTER AS**
The unit is equipped with a built-in 18-position carousel	65-position vial tray
Standard 20-mL vial with crimped or screwed cap	Standard 5-500 µL microsyringe for the addition of standard solutions
Original "Dual-needle" design (for headspace or liquid purging)	Up to 6 vials for standard solutions (surrogates, spiking solutions, reagents)
Electronic flow control of purging gas	2 solvent wash and 2 waste vials
High temperature oven, valve and transfer line	Permits sample overlapping with constant incubation time
Vial shaking capability	
Packed focusing trap with backflush desorption	
Optional electrical cooling of the trap	
Programmable "Dew Stop" device for humidity removal	
Inert sample flow path	
Compatibility with most of the commercially available GC and GC/MS systems	
Several trap sorbent materials are available	