



GERSTEL

MAESTRO

Software



Type	Method	Tray
1	Blank	MPS-HS-OVP26.M
2	Calibration	MPS-HS-OVP26.M
3	Sample	MPS-HS-OVP26.M
4	Sample	MPS-HS-OVP26.M
5	Sample	MPS-HS-OVP26.M
6	Sample	MPS-HS-OVP26.M
7	Sample	MPS-HS-OVP26.M
8	Sample	MPS-HS-OVP26.M
9	Sample	MPS-HS-OVP26.M
10	Sample	MPS-HS-OVP26.M

Unparalleled productivity and ease of use
 Comprehensive sample preparation
 Full integration into Agilent ChemStation
 Unique graphical sequence scheduler



GERSTEL MAESTRO Software

The MAESTRO software provides a comprehensive and efficient solution for the modern laboratory. All GERSTEL modules and systems are operated in a simple, efficient and transparent manner using the MAESTRO software in stand-alone mode or fully integrated with Agilent Technologies ChemStation software. Just one method and one sequence table runs the complete system from sample preparation and sample introduction to GC/MS or LC/MS analysis. MAESTRO is designed for simple and efficient laboratory operation – day in and day out.



Easy and convenient operation

- “Sample Prep by Mouse-Click” using the PrepBuilder functions
- Graphical Sequence Scheduler for easy method optimization and planning
- Just one method and one sequence table runs the complete system from sample prep to GC/MS or LC/MS

Efficient and productive

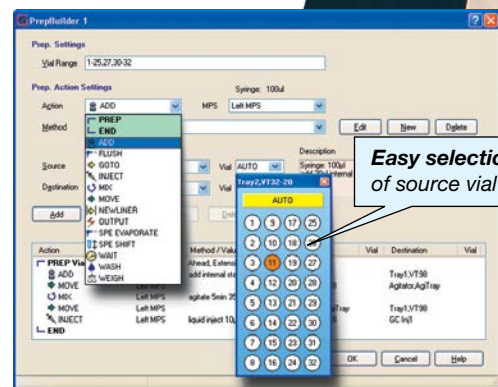
- PrepAhead / Multiple Sample Overlap: Automated overlapping of sample preparation and analysis for maximum throughput
- Control of up to 4 autosamplers from one PC

Highly flexible

- Priority samples can be added to the system at any point in the analysis sequence
- Automated plugin integration of new accessories

Reliable and fully traceable

- LOG file and Service LOG file functions ensure traceability and easy trouble-shooting
- Automated e-mail notification, in case the sequence stops prematurely, enables prompt intervention to ensure that your samples are analyzed as planned
- Real-time monitoring of all modules and parameters
- Selectable maintenance function reminds you to change consumable parts or perform regular maintenance tasks whenever a user-defined number of injections has been reached













Easy selection of source vial

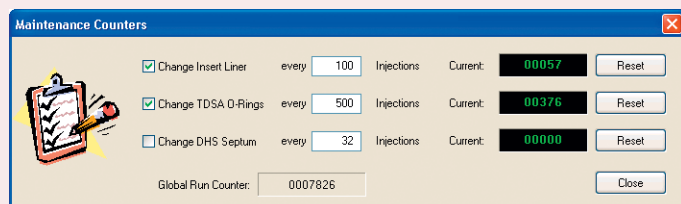
Sample Prep by Mouse-Click

The GERSTEL MultiPurpose Sampler (MPS) is a fully automated sample preparation and sample introduction robot for GC (GC/MS) and LC (LC/MS). Sample preparation is performed in a controlled, highly accurate and reproducible manner for best possible results.

PrepBuilder

The PrepBuilder function helps you automate all sample prep steps by mouse-click:

- | | |
|---|---|
|  Standard addition Derivatization | Liner Exchange |
|  Sample transfer |  Weighing |
|  Washing |  Solid Phase Extraction |
|  Dilution |  Evaporation |
|  Incubation and Agitation |  Sample Introduction |
|  Extraction Mixing Conditioning | |





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Context sensitive help

Help for the topic at hand is always at your fingertips in the MAESTRO software.

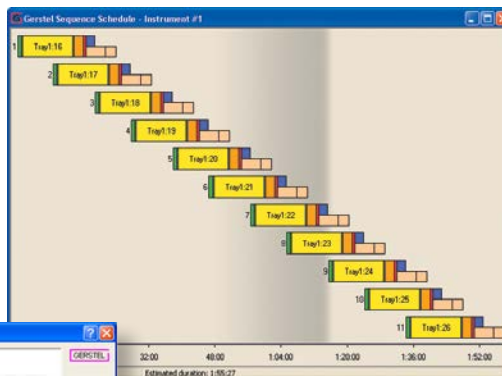
Activate the help function for a single field of interest with a mouse-click or press the help button to display the on-line user manual with extensive help on the software screen in question.

Additionally, whenever the mouse cursor is placed over a parameter field, a short explanation showing the valid range for that parameter pops up to make it as easy as possible to generate the method.

Initial Temp
This is the starting temperature of the CIS. When the CIS has reached this temperature, the sample can be injected into the CIS. For many applications, a starting temperature, which is approx. 10° C to 20° C below the boiling point of the solvent, is recommended.

Use Cryo Cooling
Check this box, in order to use an installed cryo cooling. If the initial temperature of the CIS is below the initial temperature of the oven, the cryo cooling must always be used.

Actual Temp (°C): 120.0
Heater Mode: Standard
Initial Temp (°C): 120.0
Equalize Time (min): 0.00
Initial Time (min): 1.00
Rate (°C/a): 0.00
End Temp (°C): 300.0
Hold Time (min): 1.00



Scheduler

The MAESTRO Scheduler provides an at-a-glance graphical overview of all sample preparation steps, the GC/MS or LC/MS analysis times and the total analysis time for the entire batch of samples. Based on the scheduler overview, sample preparation and analysis times are easily optimized for highest throughput. When the method is changed, the effect on productivity is immediately seen on the display, the sequence is checked for errors before the run to ensure that all samples are analyzed as planned.

Intelligent sequence editor

The sequence editor has intelligent fill-down functions that let you generate new sequences extremely easily and quickly. Very little effort is required to create the sequence table that runs your daily samples.

Sample Name	Method	Tray	Vial	Volume	Inj/Vial	Sample Info	Filename
1 blank	MPS HS 1HL_M	Tray2a, VT32-20	1	500.0	1	blank	blank001
2 blank	MPS HS 1HL_M	Tray2a, VT32-20	2	500.0	1	blank	blank002
3 Calibration Std1	MPS HS 1HL_M	Tray2a, VT32-20	3	500.0	1	Calibration Std1	Std1_001
4 Calibration Std1	MPS HS 1HL_M	Tray2a, VT32-20	4	500.0	1	Calibration Std1	Std1_002
5 Calibration Std1	MPS HS 1HL_M	Tray2a, VT32-20	5	500.0	1	Calibration Std1	Std1_003

GERSTEL Repeat 3 times Increment Vial/Data File

◀ **New sequence table** generated by simple repeat function of first line

Intelligent fill-down function with "Increment Vial/Datafile" option

Sample Name	Method	Tray	Vial	Volume	Inj/Vial	Sample Info	Filename
1 blank	MPS HS 1HL_M	Tray2a, VT32-20	1	1000	1	blank	blank001
2 blank	MPS HS 1HL_M	Tray2a, VT32-20	2	1000	1	blank	blank002
3 Calibration Std1	MPS HS 1HL_M	Tray2a, VT32-20	3	1000	1	Calibration Std1	Std1_001
4 Calibration Std1	MPS HS 1HL_M	Tray2a, VT32-20	4	1000	1	Calibration Std1	Std1_002
5 Calibration Std1	MPS HS 1HL_M	Tray2a, VT32-20	5	1000	1	Calibration Std1	Std1_003

GERSTEL Repeat 5 times Increment Vial/Data File

◀ **New sequence table** generated by modifying an existing table. Trays, injectors or methods are easily replaced by highlighting one cell and pushing repeat button.

Sample Name	Method	Tray	Vial	Volume	Inj/Vial	Sample Info	Filename
1 blank	MPS HS 1HL_M	Tray2a, VT32-20	1	1000	1	blank	blank001
2 blank	MPS HS 1HL_M	Tray2a, VT32-20	2	1000	1	blank	blank002
3 Calibration Std1	MPS HS 1HL_M	Tray2a, VT32-20	3	1000	1	Calibration Std1	Std1_001
4 Calibration Std1	MPS HS 1HL_M	Tray2a, VT32-20	4	1000	1	Calibration Std1	Std1_002
5 Calibration Std1	MPS HS 1HL_M	Tray2a, VT32-20	5	1000	1	Calibration Std1	Std1_003
6 blank	MPS HS 1HL_M	Tray2a, VT32-20	1	1000	1	blank	blank001
7 blank	MPS HS 1HL_M	Tray2a, VT32-20	2	1000	1	blank	blank002

GERSTEL COPY... PASTE Repeat 3 times Increment Vial/Data File

◀ **Copy/paste function** with clear indication of destination

Vial	Method	Volume	Tray	Injector	Sample Name
3	liquid inject 10µl.mth	10.0	Tray1,VT98	GC Inj1	calibrate2
4	liquid inject 10µl.mth	10.0	Tray1,VT98	GC Inj1	Sample1
5	liquid inject 10µl.mth	10.0	Tray1,VT98	GC Inj1	Sample2
6	liquid inject 10µl.mth	10.0	Tray1,VT98	GC Inj1	Sample3
7	liquid inject 10µl.mth	10.0	Tray1,VT98	GC Inj1	Sample4
8	liquid inject 10µl.mth	10.0	Tray1,VT98	GC Inj1	Sample5
9	liquid inject 10µl.mth	10.0	Tray1,VT98	GC Inj1	Sample32
10	liquid inject 10µl.mth	10.0	Tray1,VT98	ALX11	Sample6
11	liquid inject 10µl.mth	10.0	Tray1,VT98	GC Inj2	Sample7
12	liquid inject 10µl.mth	10.0	Tray1,VT98	TDU1	Sample8
13	liquid inject 10µl.mth	10.0	Tray1,VT98	Waste2	Sample9
14	liquid inject 10µl.mth	10.0	Tray1,VT98	GC Inj1	Sample10

▲ **Priority samples can be added** to the system at any point in the analysis sequence.

Methods, trays and injectors can be selected directly from pull-down menus. Only those methods that are configured with the selected syringe are displayed. This makes method selection easier and reduces the risk of error. The same applies to trays and injectors: It is only possible to select those that fit the method listed in the sequence line.



MAESTRO supported techniques

Liquid handling

- Sample introduction
- Standard addition
- Derivatization
- Extraction and dilution
- Automated weighing option
- Heating, conditioning and mixing



Extraction and concentration

- Solid Phase Extraction (SPE)
- Solid Phase Micro Extraction (SPME)
- Twister: Stir Bar Sorptive Extraction (SBSE) and thermal desorption
- Liquid / liquid extraction (LLE)
- Twister Back Extraction (TBE)
- Membrane Assisted Solvent Extraction (MASE)

Gas phase extraction

- Dynamic Headspace (DHS)
- Headspace GC (HS)
- Headspace Solid Phase Micro Extraction (HS-SPME)

Thermal Desorption

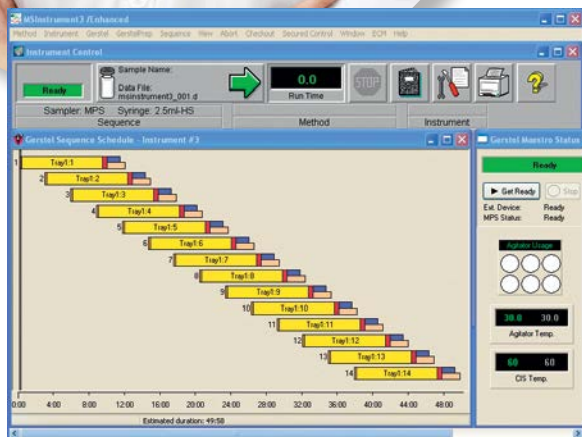
- Thermal desorption of adsorbent tubes (TDS, TDU)
- Direct thermal extraction (TDS, TDU)
- Automated TDU liner EXchange with micro-vials (ATEX)
- Dynamic Headspace with adsorbent trapping (DHS)

Matrix Elimination

- Solid Phase Extraction (SPE)
- Automated Liner EXchange (ALEX)
- Automated TDU liner EXchange with micro-vials (ATEX)

Optimizing / Accelerating Separation

- Multidimensional GC
- Modular Accelerated Column Heating (MACH)
- Temperature Programmed Liquid Chromatography (Polaratherm)
- Preparative Fraction Collector (PFC)



The screenshot shows the 'MAESTRO Sequence Table 1' window. It contains a table with columns for Type, Method, Trap, Vial, Volume, Data File, Sample Name/Keyword, and Misc Info.

Type	Method	Trap	Vial	Volume	Data File	Sample Name/Keyword	Misc Info
Blank	NPS-HS-ORPOLM	Trap1.VT30-20	1	1000.0	Blank_01	Blank	
Calibration	NPS-HS-ORPOLM	Trap1.VT30-20	2	1000.0	Calibration	Calibration	
Sample	NPS-HS-ORPOLM	Trap1.VT30-20	3	1000.0	Sample_01	Sample 1	
Sample	NPS-HS-ORPOLM	Trap1.VT30-20	4	1000.0	Sample_02	Sample 2	
Sample	NPS-HS-ORPOLM	Trap1.VT30-20	5	1000.0	Sample_03	Sample 3	
Sample	NPS-HS-ORPOLM	Trap1.VT30-20	6	1000.0	Sample_04	Sample 4	
Sample	NPS-HS-ORPOLM	Trap1.VT30-20	7	1000.0	Sample_05	Sample 5	
Sample	NPS-HS-ORPOLM	Trap1.VT30-20	8	1000.0	Sample_06	Sample 6	
Blank	NPS-HS-ORPOLM	Trap1.VT30-20	9	1000.0	Blank_02	Blank	

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