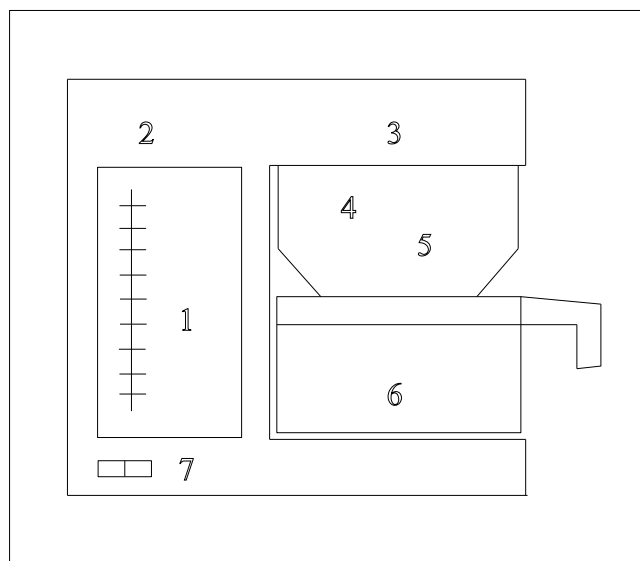


# CMS 1000

The brandnew coffee-machine-system CMS 1000 offers unrivaled performance for the modern analytical laboratory [1]. At last the high standards of today's mass spectrometers have been transferred to the device that is the most used tool of research groups all around the world [2]. The fully integrated benchtop system has been designed to easily provide superior effectivity and outstanding reproducibility for even the most demanding coffee acquisition. It combines the power of complete computer control with high aroma resolution and all-time ultra level sensitivity [3].

## **Standard Features:**

- 1 – all glass heated reservoir system providing pure water for up to 10 cups of coffee
- 2 – well proven cradle [4] vacuum system maintaining a pressure of  $1 \times 10^5$  Pa
- 3 – continuous-flow thermospray interface producing a dynamic hot water jet [5]
- 4 – state of the art pour-in coffee source for use with different coffee-brands
- 5 – pyramidal quadrucotton mass filter of easy to handle just-throw-away design
- 6 – heatable coffee-trap detector [6] capable of storing the results after aquisition
- 7 – powerful bits and pieces workstation [7] for auto-tuning and parameter control



## **Options:**

- + – autosampler interface connecting the reservoir system to the water-pipe
- + – enhanced four sector gold mass filter (not of just-throw-away design)
- + – MIST [8] computer library containing over 5.000 different coffee-brands
- + – build it stereo radio [9] ready to enhance the atmosphere at work

## **Performance:**

Mass Range: up to 100 g coffee/aquisition  
 Scan Rate: up to 50 cups/hour  
 Resolution: 10.000 FAHC [10]  
 Sensitivity: 5 mg/l coffee, S/N 10:1 [11]

## **Installation:**

Power: 0.22 kV, 50 Hz, 10 A  
 Water: 5 l/hour

## **References:**

- [1] H. Blitz, *Mass spectrometer and other household utensils*, Stiftung Warentest, Sonderheft **31**, 12 (1990).
- [2] E. Duscho, *Useless Invest.* **65**, 2234 (1965).
- [3] H. Bunsenbrenner, *Muppet Laboratory Publ.* **43**, 71 (1990).
- [4] Brothers Grimm, *Snowywhite and the seven Dwarfs*, Household Tales, Göttingen 1812.
- [5] H. Dampf, *Abgew. Chemie* **76**, 554 (1986).
- [6] Schach-MAT, *Mass. Spec. Ion. Tiriac* **12**, 658 (1987).
- [7] Krokus-Analytical, *Anal Chem.* **4**, 7 (1991).
- [8] MIST: Ministry for Irreproducible Standards and Technologies.
- [9] BeeGee Instruments, *HiFi & Stereo* **21**, 78 (1974).
- [10] FAHC: Full Aroma at Half Cup
- [11] S/N: Sleep stimulation/Narcotic effect

**Scrap Systems: Greinstraße 4, D-5000 Köln, Tel: yes, Telex: yes, Telefaxen: oh yes**

*Do you ever find that some of your target compounds just will not work well with electrospray and laser desorption no matter what solvents and matrices you try? Then it's time for two new revolutionary ionisation techniques called „EI“ and „CI“!*

# EI

„EI“ stands for VANRMECEISDEI (vacuum assisted non resonant multi electron continuous extraction in source decay electron impact ionisation) and provides an extremely efficient and sensitive way to analyse volatile molecules without need for derivatisation, while producing library searchable spectra at the same time!

# CI

Although the fragmentation is one of the greatest benefits of EI, it is also possible to modify the method to gain more molecular ion information by just adding a gas. This technique is called „CI“ which stands for GAPTCEMLISDCI (gas assisted proton transfer continuous extraction much less in source decay chemical ionisation)!

Advantages of both unique methods:

- vacuum or gas assisted: no need for messy solvents or matrices
- non resonant multi electron or proton transfer: via a simple filament
- continuous extraction: readily connected to unpulsed mass analyzers
- in source decay: no additional collision induced dissociation necessary

EI and CI can easily be applied to all types of mass spectrometers with only slight modifications to their ion source region. This includes sector field, time of flight, quadrupole, ion trap, orbi trap and ion cyclotron resonance instruments. EI and CI are also compatible to a variety of inlet systems and chromatographic methods!

Inlet systems:

- blindprobe
- direkteinlauf
- line of sight coupling to GC
- particle beam in the face to LC

**New! New!**  
**Matrix assisted fast atom/ion impact  
desorption and ionisation (FAB/FIB)**  
**New! New!**

*So forget about outdated routine methods like electrospray and laser desorption and move on into the bright future of modern mass spectrometry with EI and CI!*

**Scrap Systems: Butenandtstraße 5-13, D-81377 München, Tel: yes, Fax: yes, email: yes, http: yes**