

## ExIS Newsletter, February 2010

### **Dekati DEED new golden standard in PMP**

A Volatile Particle Remover (VPR) system based on the Dekati Engine Emission Diluter (DEED) has been announced to be the “golden” standard for the UN-ECE Particulate Measurement Programme (PMP) VPR calibration. The calibration study will consist of round robin measurements at several test laboratories in Europe.

At this stage, limited documentation is available about the VPR calibration test round in the PMP programme and reasons for made choices are not disclosed. The low particle losses of the DEED in comparison to all other dilution systems is certainly a significant advantage for VPR calibration. A summary of the VPR test results is provided by ExIS in a separate document, accessible below and in addition, a link to the draft heavy-duty PMP report is also provided. Further information on this topic is also found under the heading below.

The Dekati DEED used in the Golden VPR system measurement is based on twin Dekati Diluters combined with a PMP-specified evaporation chamber and an electronic control system with AK protocol available for data communication with the host computer. The DEED system is used both as an integrated measurement system in the RS-PMP instrument from Ecomasure and as a stand-alone dilution system in combination with other instruments, such as e.g. the Dekati ELPI and DMM instruments. The latter option enables simultaneous real-time number and mass measurements.



[ExIS summary of VPR results](#)

[Draft HD PMP report](#)

### **Draft report from the UN-ECE phase 3 PMP measurements**

Phase 3 of the UN-ECE PMP programme (see above) comprises an inter-laboratory correlation exercise. Besides mass and particle number measurements, two additional instruments, the AVL Micro Soot Sensor (MSS) and the Dekati DMM, were used to characterize particle emissions. Since MSS measures soot mass and DMM solid particle mass, the results are complementary and provide new insights in characterizing particle emissions.

The results in the draft heavy-duty PMP report show that, over the cold start WHTC test cycles, both instruments measured mass concentrations at ~10% of those determined gravimetrically. This fraction was similar to that determined for cold NEDC tests during the light-duty inter-laboratory correlation exercise. In the hot start test cycles, DMM shows that the contribution of solid particles was only 0,5% of the gravimetrically determined PM, i.e. volatile particle mass contributed to total PM by ~99,5%. The MSS instrument showed much higher soot content of the PM, which was not substantiated by any other measurement method, indicating that measurements were made below the detection level or that there was some interference from gaseous components.

For more details we refer to the draft report and the summary of DMM tests compiled by ExIS. Links to the mentioned documents are provided below.

[ExIS summary of DMM results](#)

[Draft HD PMP report](#)

## Soot free exhaust for improved climate

Recently, there has been much focus on the impact of black carbon, i.e. soot, on climate change. The use of diesel particulate filters (DPFs) can reduce those emissions to negligible levels. This could have a substantial impact on the contribution by soot on climate change. Now, information on this topic is even provided on the popular Internet site of YouTube. In contrast to many other clips on this site, the links below provide access to relevant and adequate information also for the layman and it is presented by distinguished experts in this field. In addition, this information is readily accessible to anyone. Enjoy viewing these clips!

Sources: <http://www.youtube.com/watch?v=ddSMBCwU8pc>  
<http://www.youtube.com/watch?v=9t4XkmGM2Rk&feature=related>

## Services

We at ExIS continuously develop our services. In 2009, an ELPI instrument was acquired for demonstration and leasing. In February 2010, we have also an optical particle counters (OPC, model # 1.109) from Grimm available for demo, leasing and other purpose. The Grimm OPC and EDM (Environmental Dust Monitors) instruments have unique features regarding measurements of particle mass and number in areas such as, e.g. working environment, occupational health assessment and ambient air quality.



Another field for future development will be the use of Pegasor instruments for on-board measurements on vehicles and in various combustion applications.

Read more about services at our web page:

[ExIS Services](#)

## Conferences, exhibitions and workshops

### Seminar: Particles and Health – small particles, great problems

Ecotrafic and the Swedish Road Administration organize a seminar about particles and health on March 25. The seminar will be held at Högloftet at Skansen in Stockholm. The presentations at the seminar will mostly be held in Swedish.

At the seminar, an exhibition will be held where ExIS will participate with some of our instruments. We will provide more information on this topic later.

More information is provided at the home page of Ecotraffic: [www.ecotraffic.se](http://www.ecotraffic.se). The seminar programme can be downloaded using the link below:

[Seminar programme \(in Swedish\)](#)

**Topas customer seminar on April 13 in Stockholm**

ExIS invites you to a customer seminar with Topas on 13 April, 2010 in Stockholm. The experienced Christian Peters will be lecturer from Topas. Among the instruments and equipment under discussion for hands-on display will be:

- Particle counter LAP340
- Diluters, e.g. DIL554
- Aerosol generators, e.g. ATM226
- Aerosol distribution and dilution system ADD536 (for, e.g., operating rooms)
- Dust disperser SAG410/U

Some of the topics will be filter testing, clean room applications and hospitals. Please contact us if you have specific interests in some field.

We will provide more information on this seminar later but those of you who already want to register can do so by using the link below:

[Registration to the Topas seminar](#)

**Grimm customer seminar on April 27 in Stockholm**

Our yearly customer seminar with Grimm is to be held on April 27 in Stockholm. In case of unexpectedly many participants we will also lecture on April 28.

Grimm has a strong position on the market and technically leading and versatile instruments for the measuring of particles in air and other gases in the environment, in work places and for research. With the nano instruments, the measuring range is extended to below 3 nm in real time.

The seminar will cover all these areas with Dr. Friedhelm Schneider as lecturer and instruments will be demonstrated. Case studies will be presented by users. Instruments that will be presented are among others #180 for the environment, #1.108 and #1.109 for internal air quality and complements for the registration of weather data (#365), for PAH, for biologically active substances and for nano particles (SMPS+E and WRAS).

A detailed program will be issued well before the seminar. There is no seminar fee. Questions could be mailed or communicated on phone +46-8 6474599.

[Registration to the Grimm seminar](#)

### **Dekati customer seminars 2010**

Our yearly customer seminars with Dekati will be held in May on the following locations/dates:

- Gothenburg: May 25
- Stockholm: May 26

We will provide more information on this seminar later but those of you who already want to register can do so by using the link below:

[Registration to the Dekati seminars](#)

### **ELPI Training/workshop**

We are investigating the interest for training/workshop of the mostly used instruments we represent, e.g. the ELPI. This training would be held in Stockholm in the spring 2010 (mainly) by experts from Dekati but also with contribution from experienced users. Some customers we have been in contact with have already expressed interest in participating in this kind of training. If you are also interested, please contact us using the e-mail address in the link below.



[ELPI training 2010](#)

### **Grimm workshops in 2010**

The schedule for the Grimm workshops in 2010 has now been posted on the Grimm website. More information on the content of these workshops will be provided later.

It is also of interest for you to note that if you have purchased a Grimm instrument during the last year, you are entitled to one day of training at Grimm premises in Germany (Ainring or Pouch). This training is free of charge. Hotels can be booked with Grimm's discount.

[Grimm workshops, schedule](#)

[Grimm training](#)

**More information**

If you do not want to receive our newsletter in the future, just send an e-mail with the heading “unsubscribe” to the e-mail address you find [here](#).

Do you have questions or comments? Send an e-mail to: [info@exisab.com](mailto:info@exisab.com) or phone +46-8-647 45 99

You are always welcome with questions and we are happy to send you our newsletter.

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Best regards,  
Peter Ahlvik and Staffan Larsson

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