

Technická univerzita v Liberci
Studentská 2
461 17 Liberec

Zastoupená: prof. Ing. Petrem Loudou, CSc.
děkanem Fakulty strojní TU v Liberci

Věc: Výzva k podání nabídky

Vážení,

obracíme se na Vás s žádostí o zaslání nabídky ve smyslu § 7 odst. (3) a § 18 odst. (3) zákona č. 137/2006 Sb., o veřejných zakázkách, v platném znění.

Máme zájem o koupi:

klasifikátoru/spektrometru pevných částic obsažených ve výfukových plynech spalovacích motorů

těchto parametrů:

specifikace přiložena

Do nabídky uveďte, prosím, tyto údaje:

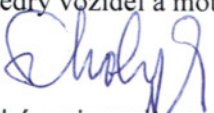
1. **cenu dodávky bez DPH včetně nákladů souvisejících**
2. **DPH + cenu celkem jako cenu konečnou**
3. **dodací lhůtu**
4. **záruční lhůtu**
5. **servisní podmínky**
6. **příp. další údaje, kterými můžete Vaši nabídku rozšířit**

Nabídku zašlete do 8. října 2009 na adresu: Technická univerzita v Liberci
Katedra vozidel a motorů
Doc. Ing. Celestýn Scholz, CSc.
Studentská 2
461 17 Liberec

V Liberci dne 25. září 2009

Za pracoviště Fakulty strojní

doc. Ing. Celestýn Scholz, CSc.
vedoucí Katedry vozidel a motorů


Technická univerzita v Liberci
FAKULTA STROJNÍ
Katedra vozidel a motorů
Studentská 2
461 17 LIBEREC


Za Technickou univerzitu v Liberci

prof. Ing. Petr Louda, CSc.
děkan Fakulty strojní TU v Liberci



Request for bids – engine exhaust particulate matter measurement instrumentation

The Internal Combustion Engine Laboratory, Department of Vehicles and Engines, Faculty of Mechanical Engineering, Technical University of Liberec, Czech Republic, is seeking to procure instrumentation for measurement of particulate matter emissions from internal combustion engines.

The laboratory houses one light-duty vehicle chassis dynamometer with a CVS system, and eight engine dynamometer test cells (not equipped with CVS) housing spark and compression ignition vehicular and stationary engines powered by hydrogen, natural gas, biogas, alcohols, ethers, biodiesel, vegetable oils, and other alternative as well as classical fuels in the power range from 40 to 600 kW. The laboratory is frequented by students pursuing Bachelor's, Master's and Doctorate degrees in Mechanical Engineering, and to a lesser extent in Mechatronics and other related fields. The laboratory serves academic courses and facilitates experimental work for Senior projects, M.S. and Ph.D. theses, and basic and applied research projects carried on by the departmental faculty. The laboratory cooperates and runs joint research projects with several other academic institutions in Czech Republic.

The following instrumentation, listed in the order of preference in which it will be acquired depending on the total amount of funding available, is sought:

* **Particle sizer** allowing dynamic measurement of internal combustion engine exhaust particulate matter concentrations simultaneously in different size bins.

- The measured size range must cover the size range of fine particles from internal combustion engines, generally from 5 nm to at least 500 nm
- The time resolution should be about 1 Hz or better.
- The exhaust sample conditioning requirements must be stated. All auxiliary components needed to operate the system (sample pumps, dilution systems, sample conditioning systems, compressed air, etc.) must be specified. If applicable, such components should be offered as optional equipment, so that only the particle sizer, or the particle sizer with some or all of the components, can be purchased.
- The instrument readings should have a demonstrated correlation with both particle number and with total particulate mass measurements.
- The typical measurement range must be specified.
- An estimate of the total cost of ownership (operating costs, maintenance, service and calibration requirements) for a period of at least five years should be given.

One set of particle measurement instrumentation is currently sought, which should be movable and configurable to service any of the test stands. A mobile solution which would allow the system to be transported off-site for measurement on large stationary engines, or to be used on-board of a traveling vehicle, will be strongly considered.

Some preference will be also given to configurations and components which can be alternately used as parts of a **Particle number measurement system**, per European Particle Measurement Programme requirements, and as parts of a **proportional gravimetric PM sampler** per U.S. EPA and EU vehicle emissions measurement regulations.

Vendors are encouraged to offer demonstrations of their systems at the laboratory, or invite departmental faculty and staff to a demonstration of their instrumentation off-site.

Vendors are also encouraged to submit papers (or references to papers) published in peer-reviewed journals and publications and in publications by major regulatory bodies (such as: European Commission, U.S. EPA, California Air Resources Board), which describe the qualities of the instruments, their application, and comparison with other measurement methods.

Formal offers and quotations will be accepted until October 8, 2009. The award is anticipated by October 15. The offers should be valid until October 31, 2009, for delivery of all components including installation and training (if applicable) by November 30, 2009, or no more than six weeks after receiving the award. Where applicable, the offers should be itemized, should allow for purchase of some or all of the listed

items, and should contain different options or configurations. Accessories, shipping, taxes, and any other costs needed to provide a ready-to-use instrument at the laboratory must be included in the quote; no additional payments of any kind will be allowed.

If available, financing options (payment plan, lease, and other options to distribute the payment over up to three years) should be given.

The university reserves the right to make no award.

Bids should be delivered to: doc. ing. Celestýn Scholz, Department chair, Department of Vehicles and Engines, Faculty of Mechanical Engineering, Technical University of Liberec, Studentska 2, 461 17 Liberec, Czech Republic, or via fax +420 485 353 139, or via e-mail to celestyn.scholz(at)tul.cz, so that they are received no later than on October 8, 2009.

For more information, contact: Michal Vojtíšek, KVM FS TUL, Studentská 2, 461 17 Liberec, Czech Republic, e-mail: michal.vojtisek(at)tul.cz, fax (+420) 485 353 139