## EPR SPECTROMETER CMS 8400



BENCH-TOP RESEARCH GRADE **ELECTION** PARAMAGNETIC RESONANCE SPECTROMETER



# Modern technology of the ESR system

ADANI's CMS 8400 is small, compact and easy to handle and maintain EPR Spectrometer.

The CMS 8400 model is intended for EPR spectra registration in liquid or solid phases to detect paramagnetic species or free radicals.

The main distinctive features of CMS 8400 are a compact electromagnet, a microwave bridge. The instrument's high sensitivity and resolution can only be bettered by systems many times its price and size.

The CMS 8400 ESR is provided with a fully computer controlled system including a comprehensive software package. Built-in frequency meter, magnetic field and temperature sensors, g-factor calculation and a broad dynamic range on the amplifier and the AD converter increase competitive advantages of the CMS 8400 and give unique solution for scientific and technological purposes.

#### **Highlights:**

Built-in frequency counter, magnetic field and temperature sensors



Computer controlled g-value measurement



Optimized magnet field: accuracy, stability and homogeneity



Broad dynamic range of amplifier and AD



User-friendly software EPR Commander 6.0



Online technical support

#### **EPR SPECTROMETER CMS 8400**





### **Application**

Chemistry: oxidation and reduction processes, kinetics of radical reactions, spin trapping, organometallic complex, catalysis and reaction of polymerization, petrol chemistry

Physics: magnetic susceptibility, magneto-optic properties, transition metal, conduction electrons in conductors and semiconductors, defects in crystals, recombination at low temperature, nanostructure

Life sciences: free radicals and antioxidants, enzyme reactions, photosynthesis, metalloprotein, photochemical generation of radicals, NO in biological systems

Industrial Research: degradation effects, polymer properties, defects in diamond and optical fibers, Impurities/defects in semiconductors

Food dosimetry: oil & gas water quality control, brewery lag time, processing control, alanine and EPR dosimetry

# CMS 8400

#### 1 µM TEMPOL in water



8 • 1013 spins/T Sensitivity 0,006 mT Resolution Maximum magnetic field 0,7 T Sweep width 10<sup>-4</sup> - 0,65T **Operating Frequency** X-band 0,01 - 200 mW Microwave power Microwave tuning Automatic Cavity TE102 Q unloaded 5000 **Dimensions** 530 x 420 x 350mm Weight

# For your ESR research needs:

56 kg

- ▶ Variable temperature control systems for wide temperature range
- Automatic sample changer
- Continuous-flow system
- Different X-band accessories (capillaries, tubes etc.)







