

## TERM OF REFERENCE (TOR) BARANG



No. PR: CBT/PR-26/INV/0411

### 1. TUJUAN PENGADAAN

Sebagai alat untuk pengujian logam dalam sampel Lingkungan dan Kimia Umum. \*)

Kebutuhan pengadaan untuk kegiatan portofolio **SBU Laboratorium**.

### 2. SPESIFIKASI TEKNIS

Nama barang <sup>a)</sup>	ICP-OES
Merk	Agilent
Type	5800 VDV (VERTICAL DUAL VIEW) SYSTEM
Persyaratan tambahan	<p><b>SIMULTANEOUS ICP-OES WITH 5 CHANNEL PERISTALTIC PUMP 1 unit AGILENT 5800 VDV (VERTICAL DUAL VIEW) SYSTEM</b></p> <p>The Agilent 5800 ICP-OES instruments are designed for busy labs wanting to reclaim wasted time. The 5800 are embedded with an ecosystem of sensors—powerful processors with smart algorithms and diagnostics designed to automate troubleshooting, preempt maintenance, and identify problems that could impact results. This provides the user with insight into their samples and instrument health to reduce remeasurement and downtime, giving more confidence in results.</p> <p>Designed to run samples faster, using less gas, without compromising performance on toughest samples. Innovative and unique technologies, and vertical torch on all configurations, enable uncompromised robustness for axial and radial measurements at the same time. Intelligent hardware and software take the guess work out of method development ensuring stable, accurate, and reproducible performance.</p> <p>The Agilent 5800 ICP-OES Vertical Dual View (VDV), which offers deep insights from the use of smart tools and is also upgradable on-site to the Synchronous Vertical Dual View (SVDV) configuration if lab throughput demands increase.</p> <p>The 5800 ICP-OES are true simultaneous systems with analysis for Axial and/or Radial mode(s) in a single run/method.</p> <p>The 5800 configurations feature the unique 3rd generation detection system, that delivers fast simultaneous measurement over the full 167 to 785 nm wavelength range. They also include the vertical torch and a new optical design that includes Freeform optical technology which enhances sensitivity and resolution.</p> <p><b>Sample introduction</b> One-piece quartz tube, polymer base, plug and play vertical torch on all instrument configurations. The simple and effective torch loader mechanism automatically aligns the torch and connects gases for fast start up and reproducible performance. Once the torch is loaded, no further alignment or adjustment is required.</p>

Glass concentric nebulizer, and glass cyclonic double pass spraychamber with 'ball and socket' connection to the bottom of the torch injector for easy setup and maintenance.

Fully PC-controlled Five channels peristaltic pump with variable speed from 0–80 rpm for sample, drain, internal standard/ ionization buffer, and MSIS vapor generation solution. 5 Channel Peristaltic Pump will run routine sample and Hydride Samples Simultaneously with optional MSIS Accessories. Save cost for Argon consumption and time.

**RF generator**

27 MHz Solid State, maintenance free, water cooled RF generator. Power output of 750-1500 W in 10 W increments. Robust free running design rapidly reacts to changes in plasma load, providing stable and consistent power supply into the plasma when switching between samples of high or varying matrix. Coupling efficiency of more than 75%.

**Optical system**

Vertical dual view pre-optics allow axial and radial plasma viewing from the vertical torch. Unique Dichroic Spectral Combiner (DSC) technology allows you to run axial and radial view analysis at the same time in SVDV mode, for the fastest analysis and lowest gas usage. Cooled Cone Interface (CCI) prevents the cooler plasma tail from being viewed by the optics when viewing axially, reducing interferences and increasing linear dynamic range.

**CCD detector**

The Agilent 5800 ICP-OES are true simultaneous ICP-OES systems that feature the VistaChip III detector. This is a high speed, continuous wavelength coverage CCD detector with anti blooming protection on every pixel. It is a zero gas consumption design and enables fast warmup, high throughput, high sensitivity and the largest dynamic range.

- Utilizing Image Mapping Technology (I-MAP), the photosensitive pixels are arranged to exactly match the image from the echelle optics. This provides full wavelength coverage from 167–785 nm on a single detector, from a single entrance slit.
- Adaptive Integration Technology (AIT) allows intense and trace signals to be measured simultaneously at the optimum signal to noise ratio.

**Built-in**

**MSIS Multi-Mode Sample Introduction System**

The MSIS is a sample introduction system for the determination of Hg and the hydride-forming elements such as As, Se and Sb at the sub- $\mu\text{g/L}$  levels as well as be able to sensitively measure the non-hydride forming elements (performance is chemistry dependant). It can be operated with any model of Agilent ICP-OES spectrometer provided they are fitted with a 5-channel peristaltic pump if on-line addition of internal standard is required.

**Software**

ICP Expert v7 software has a familiar worksheet interface, easy method development and software applets that include pre-set method templates, saving you time. Completed with PC and Printer.

**Power requirement**

2.9 kVA, single phase mains input voltage of between 200-240 VAC (50-60 Hz), drawing a maximum of 15 amps.

	<p><b>ACCESSORIES FOR OPERATION :</b>  1x ICP Exhaust System Kit (Blower and ducting system)  1x Recirculating refrigerated water cooler system  1x Argon Regulator  1x ICP-OES Wavelength Calibration Standard  1x Spare one –piece, quartz torch  1x PVC peristaltic pump tube, white (sample channel) (12/pk)  1x PVC peristaltic pump tube, blue (drain channel) (12/pk)  1x UPS 6 KVA  1x IT Trafo 6 KVA  10m Standard tubing for Argon Gas</p> <p><b>Complete with :</b>  <b>1x SPS-4 AUTOSAMPLER</b>  ➢ Sample capacity : 4 rack support 360 samples  ➢ Flexible rack configuration enables wide range of sample capacities  ➢ Integrated environmental enclosure option protects your samples and your laboratory environment  ➢ Dual-wash reservoir option eliminates potential carryover  ➢ Three-channel peristaltic pump for ultimate flow-through rinse flexibility  ➢ Multiple probe size options for a diverse range of applications  ➢ Complete with : Integrated Cover Kit &amp; Extraction Duct Housing.</p> <p><b>1x Argon Humidifier Accessory</b>  The Agilent Argon Humidifier Accessory is used when running high concentrations of Total Dissolved Solids (TDS) to prevent blockage of the nebulizer. Concentrations of around 3% TDS and greater will benefit from the use of the AHA.</p>
Jumlah	1 Unit

**. SYARAT-SYARAT UMUM BAGI PENYEDIA EKSTERNAL \*\*\*)**

**.1 Keagenan**

Penyedia Eksternal merupakan distributor/dealer/agen yang ditunjuk resmi oleh pabrik atau pemegang hak cipta untuk pemasaran di Indonesia yang dibuktikan dengan surat resmi penunjukan dari distributor tunggal.

**.2 Pengalaman Implementasi**

Penyedia Eksternal berpengalaman dalam instalasi dan implementasi dengan melampirkan referensi-referensi dari perusahaan lain yang menggunakan alat tersebut.

**.3 Pelayanan Purna Jual/ Maintenance**

Penyedia Eksternal harus memberikan garansi selama 12 bulan/1 tahun sejak dibuatnya Berita Acara Uji Coba.

Yang dimaksud dengan garansi adalah:

- Garansi suku cadang selama 12 bulan/1 tahun dan service selama 12 bulan/1 tahun;
- Tersedianya suku cadang;
- Tersedianya teknisi yang berpengalaman dan tercatat sebagai pegawai tetap, untuk perbaikan alat dan sanggup datang segera jika diperlukan;
- Selama masa garansi bila perbaikan-perbaikan dilakukan diluar SUCOFINDO dalam jangka waktu yang cukup lama, maka pemasok berkewajiban untuk meminjamkan peralatan pengganti, supaya operasional SUCOFINDO tidak terganggu.