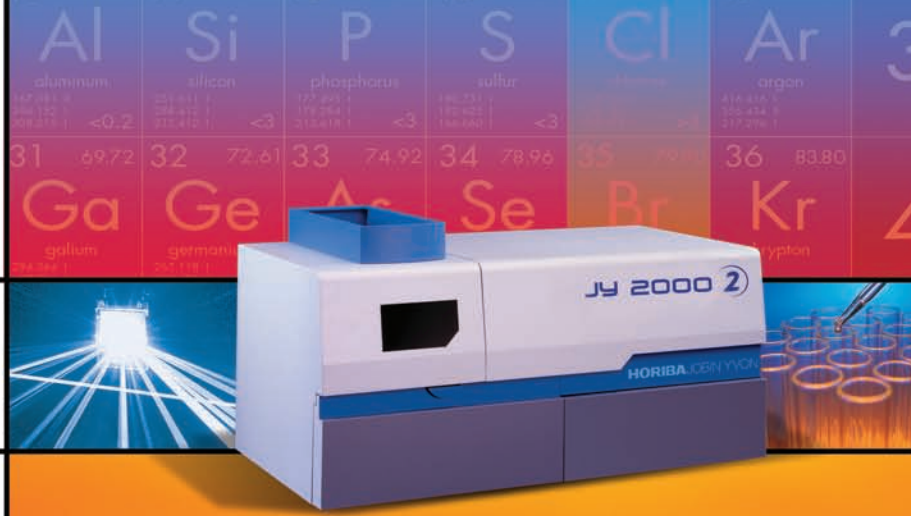


HORIBA JOBIN YVON



***High-Performance and Low-Cost
in a Platform for the Future™***

JY 2000-2 ICP OPTICAL
EMISSION SPECTROMETER

Excellence in Spectroscopy

186 years of HORIBA Jobin Yvon optical experience

The expertise of HORIBA Jobin Yvon manufacturing

JY 2000 2

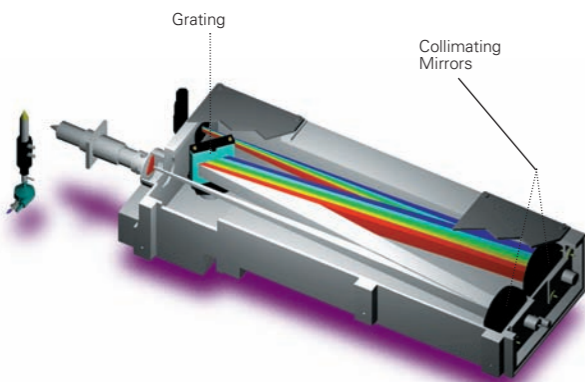
JY 2000-2 ICP OPTICAL EMISSION SPECTROMETER

High-Performance and Low-Cost in A Platform for the Future™

The new JY 2000-2 delivers affordable high-performance and reliability that will increase the productivity of your laboratory. The modestly priced JY 2000-2 delivers performance better than competitive radial ICP spectrometers at far higher prices. The proven design has been updated to incorporate many innovative design features of the ULTIMA 2, resulting in the JY 2000-2.

Quality optics for quality analysis

At the heart of every HORIBA Jobin Yvon spectrometer are unique, quality optics. The size of the grating is a critical factor in the spectrometer that is often ignored. A large, 80 x 100 mm holographic grating provides increased luminosity and improved resolution.



The large surface area of the grating allows for the collection of more light and the illumination of more grooves, thus improving resolution. The JY 2000-2 utilizes a classic Czerny-Turner design with only two reflective surfaces in addition to the grating. This low number combined with the high light throughput provided by the large, holographic grating means that more signal is reaching the detector when compared to systems using up to as many as 10 to 13 reflective surfaces. This increase in light efficiency results in improved signal-to-background ratios and thus, lowers detection limits and improves stability.

A comparison of the JY 2000-2 radial detection limit (see table) with competitive radial detection limits confirms the difference quality optics make in the performance.

Typical Detection Limits in ppb at 3 sigma			
Element	Detection Limit	Element	Detection Limit
Al	1.5	Mg	0.06
As	5	Mn	0.3
B	2	Mo	1.0
Ba	0.2	Na	1.5
Be	0.2	Ni	0.7
Br	100	P	5
Ca	0.03	Pb	5
Cd	0.35	Sb	5
Cl	200	Se	5
Co	0.6	Sn	7
Cr	0.5	Te	7
Cu	0.6	Ti	0.45
Fe	0.5	Tl	3
Hg	5	V	1.5
K	5	Zn	0.3
Li	2		

*Using 2400 gr/mm grating, radial plasma

Low-cost and high-performance

The JY 2000-2 Sequential ICP makes ICP OES an affordable alternative to analysts choosing an elemental analysis technique. The JY 2000-2 provides high-speed analysis with outstanding reproducibility, superior detection limits and accurate results, as well as very good optical resolution.

Grating selection is determined from the resolution requirements. The standard 2400 gr/mm holographic, ion-etched grating is used for routine applications in matrices without high concentrations of interfering elements. It supplies full wavelength coverage from 160 – 800 nm. As an option this can be extended to 120 nm to include the analysis of the halogen elements. An alternate 4320 gr/mm holographic, ion-etched grating is available for applications that require higher resolution.

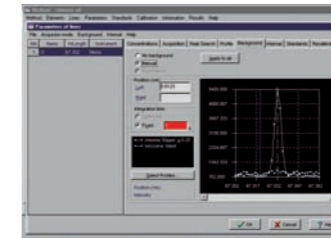


"In recognition of your holographic diffraction gratings for the 'Cosmic Origin Spectrograph' instrument that will enable a new generation of scientific exploration for the Hubble Space Telescope, the astronomers of the world and every person who looks to the sky in wonder."

Over 186 years of HORIBA Jobin Yvon optical experience provides the platform for NASA projects. This same quality is at the heart of every JY 2000-2.

Far UV analysis

Determination of Cl at 134.664 nm and Br at 154.064 nm, as well as the use of alternative wavelengths is available when the JY 2000-2 is configured with the far UV kit. The kit includes a detector optimized for deep UV analysis and a modification of the optical interface. Elements such as Ga at 141.444 nm and Pb at 168.215 nm provide the capability of total analysis for samples previously requiring multiple analytical techniques.



A blank and 50 ppm of 10% oil in Kerosene profiled at the second order line of 134.664 nm.

Unique sample introduction

HORIBA Jobin Yvon utilizes a unique quick-release torch design and spacious sample compartment. Each individual, pre-aligned assembly features a completely demountable torch, a sheath gas attachment, a spray chamber and nebulizer optimized for your application. Kits are available for a variety of applications including aqueous, oils and other organics, high salt or dissolved solids, slurry and HF acid.



The JY 2000-2 offers complete automation with an optional autosampler, resulting in fast, unattended analysis. Additional sample introduction accessories are available to further extend the flexibility of the instrument. An ultrasonic nebulizer or hydride generator can decrease detection limits while spark ablation provides analysis of conductive solid samples.

The unique sheath gas feature originally patented by HORIBA Jobin Yvon, enhances performance and stability by providing a laminar flow of argon around the sample aerosol prior to the injector tube. This minimizes contact of the sample with the injector wall and eliminates crystallization at the injector tip. The injector's large 3 mm bore also contributes to the ability to handle high solids such as slurries, and serves to improve detection limits by increasing the residence time of atoms in the plasma. An optional argon humidifier provides moisture to the nebulization gas to minimize clogging of the nebulizer, which can occur with high dissolved solids.

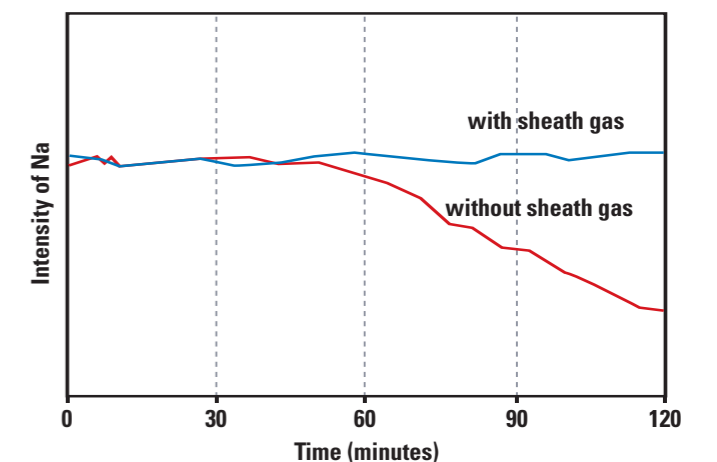
Stability for productivity

The JY 2000-2 is designed to provide a rapid start-up and excellent short and long-term stability. Stability and low detection limits in difficult matrices lead to an improvement in productivity for routine analysis. The 40.68 MHz solid state generator used in the JY 2000-2 allows the instrument to stabilize after ignition in less than 15 minutes. It offers frequency stabilization, automatic ignition of the ICP and reflected power regulation. A 12-roller, dual-head peristaltic pump allows the nebulizer and spray chamber drain to be pumped to assure minimal pulsation and noise. Thermoregulation of the optics and wavelength referencing prior to each scan provide typical short term stability better than 0.9% and long term stability of less than 1.5% RSD over one hour. Addition of the optional simultaneous internal standard monochromator can improve stability and accuracy for demanding major element analysis.

Analyst™ software

The Analyst MS Windows® 95/98/2000/NT software provides step-by-step assistance in the creation of new methods. Powerful databases are provided on matrices and standards to assist the new or inexperienced user and speed up method development. All data is stored and the vast choice of export formats is ideal for LIMS, especially as Analyst can import data from LIMS systems to further automate data management. The reporting provides for audit trailing as required for 21 CFR Part 11 (FDA), including all current analytical conditions at the start and finish of the analysis. Using Analyst with the optional Win-IMAGE provides full wavelength coverage in 2 minutes for quantitative and/or semi-quantitative analysis.

30% NaCl over two hours



Aspiration of 30% NaCl without the sheath gas shows a slow build-up of salt on the injector causing a decrease in intensity.

A Platform of Support

ALLIANCE is an affiliation, a partnership, a connection... our connection with you. An extension of HORIBA Jobin Yvon to your company, an association, where your goals become our goals through our commitment to the continued successful operation of your instrument and the support to your operators. ALLIANCE online offers HORIBA Jobin Yvon worldwide users a parts and accessories catalog as well as WorldLink, a forum for continuous communication with HORIBA Jobin Yvon users, application chemists and service engineers around the world.



- Training programs around the world
- Comprehensive partnership agreements for service maintenance
- Remote diagnostics for service and applications support via modem*
- Supplies, accessories and upgrades for the future growth of your instrument
- User Group Meetings and WorldLink provide continuous communication
- Made-to-measure instruments customized for radiological and mobile environments

* In countries where available

Specifications subject to change without notice.

The ALLIANCE Mission

HORIBA Jobin Yvon is committed to a full service philosophy dedicated to professional expertise in all aspects of instrument service and support with the assurance of excellence in serving the changing needs of our local, national and international customers.

Your local representative

