



## ***MAXIMA***

Ultra-Pure Water  
Purification Systems

# MAXIMA – High purity water for laboratories

ELGA's Maxima systems offer the ultimate in water purification for laboratories. They provide peak quality ultra-pure water for the most demanding applications, from HPLC to Atomic Absorption Spectrophotometry. Unique system design and advanced micro-processor monitoring technology ensure that maximum water quality is maintained at all times, with purity levels displayed on an easy-to-read LCD panel.

## A CHOICE OF UNITS

There are four different models in the Maxima range, each developed to supply optimal water quality for a specific range of applications:

### **Maxima Analytical**

For analytical applications such as ICP-MS and CF-AAS

### **Maxima Life Science**

For applications such as Tissue Culture and Molecular Biology

### **Maxima HPLC**

For applications such as HPLC, GC-MS and TOC analysis

### **Maxima Scientific**

For applications such as Ion Chromatography, AAS and ICP-ES analysis





#### EASY-TO-USE DISPENSER

Maxima systems feature a specially designed dispenser, extendable from the unit to facilitate easier use. A fingertip control gives greater dispensing flowrate accuracy, and a latch mechanism allows large volume dispensing.

If required, a timed-dispense feature can be utilized to dispense water for a defined period, thus providing users with the flexibility to focus on other tasks.

#### TWIN-PACK TECHNOLOGY

Maxima's unique twin-cartridge purification packs produce 18.2M $\Omega$ -cm water at all times. The twin-pack technology ensures that there is no risk of contamination; as the primary cartridge becomes exhausted, the second (polishing) cartridge, which has hardly been used, will remove any contaminants which may have leaked through. This unique design also has the added benefit of providing a more efficient use of the ion exchange resins, so there is less wastage and lower running costs.



#### MICROPROCESSOR CONTROL SYSTEM

Microprocessor-based management provides total control over the Maxima system's status as well as constantly monitoring the water purity. A range of performance parameters are displayed on an LCD read-out, including intermediate water quality (product water which has passed through the primary cartridge) and final water quality. A quick glance at the intermediate water quality level will allow the user to identify when the primary cartridge is becoming exhausted, as the purity figure will decrease.



In addition, there are temperature and TOC level<sup>1</sup> displays. An audio-visual alarm system prevents the possibility of accidentally dispensing out-of-specification water. Sanitization and cartridge/filter exchange reminders ensure that optimum performance is maintained at all times.

#### RS232 PRINTER INTERFACE

A serial (RS232) port offers the facility to provide hard copy data on unit performance and operating status, in accordance with the requirements of Good Laboratory Practice (GLP).

#### ECONOMICAL AND EASY TO USE

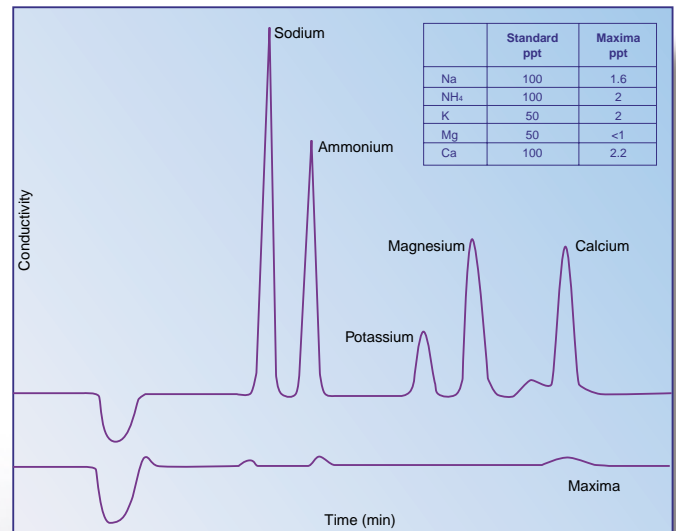
The very effective use of purification media and low energy requirements make Maxima systems extremely economical to operate, helping to reduce laboratory running costs.

<sup>1</sup>(HPLC model only)

## MAXIMA ANALYTICAL

- Delivers ultra-pure water for critical analysis applications using ICP-MS, Atomic Absorption Spectrophotometry and Ion Chromatography
- Up to 1.8 liters per minute dispense rate

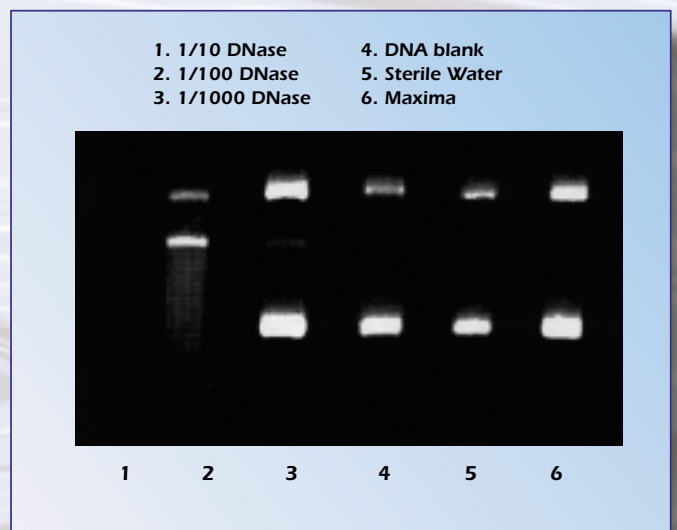
### ULTRA-TRACE CATION ANALYSIS



## MAXIMA LIFE SCIENCE

- Delivers ultra-pure, apyrogenic water for mammalian cell culture, in-vitro fertilization, monoclonal antibody production and DNA research; water produced is essentially free of RNase/DNase activity
- Up to 1.2 liters per minute dispense rate

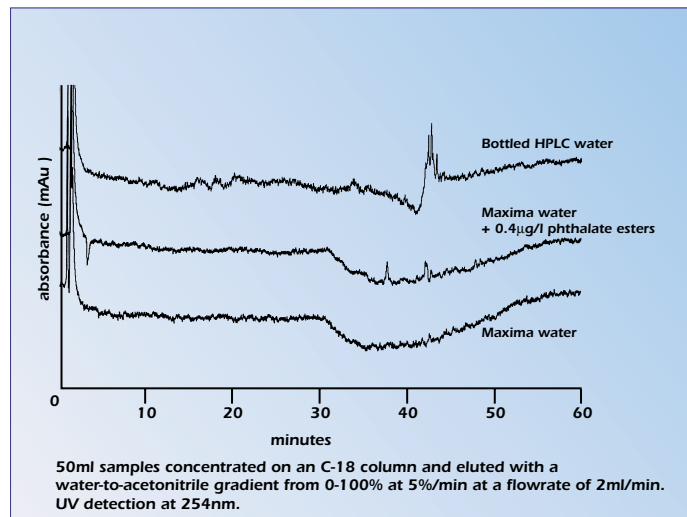
### ASSAY OF DNASE IN WATER



## MAXIMA HPLC

- Delivers ultra-pure water for the most demanding HPLC, GC-MS and other ultra-trace organic applications
- Unique TOC monitor provides a continuous read-out of organic water quality
- Up to 1.8 liters per minute dispense rate

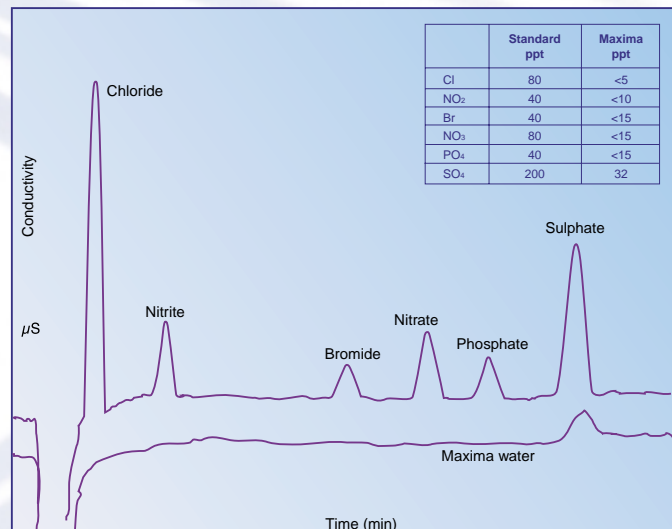
## HPLC



## MAXIMA SCIENTIFIC

- Delivers ultra-pure water for critical analytical applications such as Ion Chromatography, Mass Spectrometry and Atomic Absorption Spectrophotometry
- Up to 1.8 liters per minute dispense rate

## ULTRA-TRACE ANION ANALYSIS



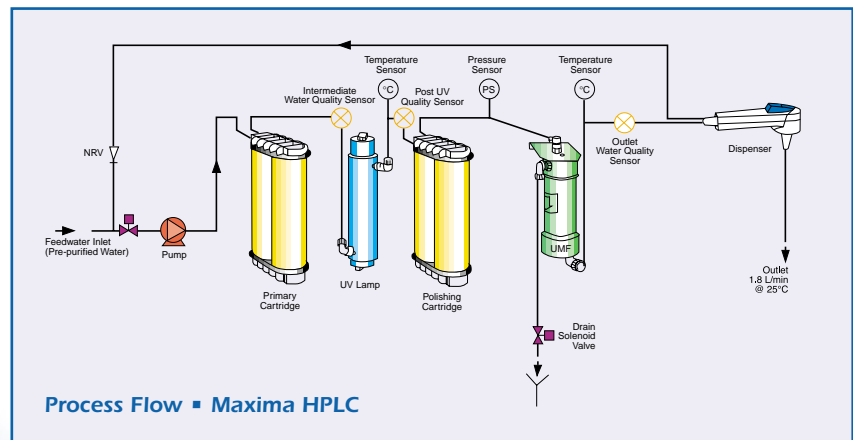
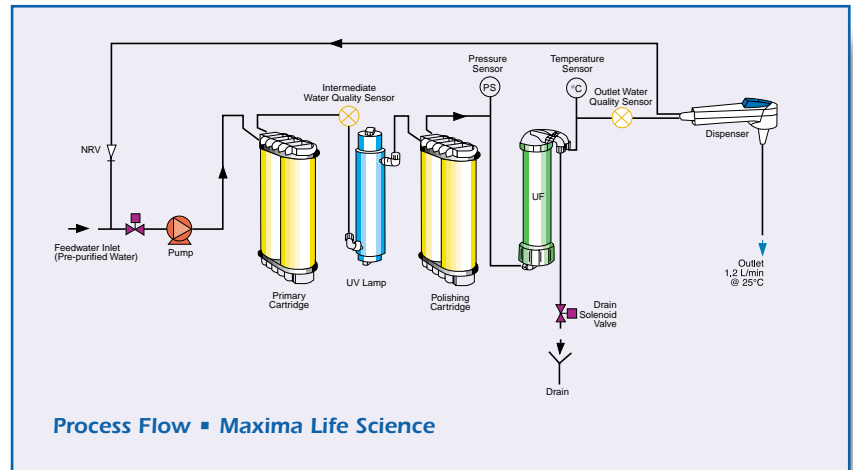
MULTIPLE PURIFICATION TECHNOLOGIES



Maxima systems operate on previously purified feedwater, ideally processed by one of ELGA's water purification systems; deionized or distilled feeds could also be used. ELGA's multi-media approach works like a full size process plant, providing multi-stage removal of impurities.

Top-quality ion exchange resins purify the water to 18.2MΩ-cm, whilst highly efficient adsorption media scavenge the widest spectrum of organic impurities. Three of the Maxima models also enhance these processes with a short wavelength UV photochemical reactor cell that provides continuous disinfection and photo-oxidation, resulting in low bacteria and TOC levels.

The Maxima Analytical and HPLC models are fitted with a hygienic hollow fiber 0.05 micron ultra-microfilter to eliminate particles and bacteria. The Life Science model features a 5,000 molecular weight cut-off ultrafiltration membrane, allowing the production of apyrogenic water. The Scientific model is fitted with an autoclavable 0.2 micron filter, which is also available as a security enhancement option on the other models.



TECHNICAL  
SPECIFICATIONS

| Maxima model                                       | Analytical  | Life Science  | HPLC   | Scientific                    |
|--|---|---|--|-------------------------------|
| <b>Performance Specifications</b>                  |   |   |  |                               |
| <b>Inorganics</b>                                  | 18.2MΩ-cm resistivity at 25°C   | 18.2MΩ-cm resistivity at 25°C <sup>1</sup>  | 18.2MΩ-cm resistivity at 25°C                                    | 18.2MΩ-cm resistivity at 25°C |
|  | ← (sub ppb levels of trace contaminants) →  |   |  |                               |
| <b>TOC</b>   | <5 ppb with RO pre-treatment  | <5 ppb with RO pre-treatment  | <3 ppb with RO pre-treatment                                     | <15 ppb with RO pre-treatment |
| <b>Bacteria</b>                                    | <1 CFU/ml   | <1 CFU/ml   | <1 CFU/ml  | <1 CFU/ml                     |
| <b>Bacterial Endotoxin</b>                         | –   | <0.02 EU/ml   | –  | –                             |
| <b>Particles</b>                                   | 0.05μm absolute filter<br>0.2μm point of use filter <sup>2</sup>  | 5,000 molecular weight cut off ultra-filter<br>0.2μm point of use filter <sup>2</sup> | 0.05μm absolute filter<br>0.2μm point of use filter <sup>2</sup> | 0.2μm point of use filter     |
| <b>Product Specifications</b>                      |   |   |  |                               |
| <b>Dimensions</b>                                  | ← Height: 530mm<br>Width: 315mm<br>Depth: 370mm<br>Weight: 21kg (operational) →   |   |  |                               |
| <b>Status Displays – Soft key Selectable</b>       | ← Power on<br>Process on, Intermittent or Continuous operation<br>Clean cycle<br>Depressurize/fit blocks/recirculate/<br>rinse/replace DI packs/system pressure (bar) →   |   |  |                               |
| <b>Safety Features</b>                             | ← Low-level feed shut-off, Low feed pressure shut-off<br>High feed pressure shut-off, Audible alarm warning<br>Power fail-safe, Cartridge interlock →   |   |  |                               |
| <b>System Monitoring/ Indication</b>               | ← Resistivity at 25°C<br>Water temperature<br>UV lamp change reminder<br>Cartridge pack change reminder<br>Intermediate quality monitoring<br>TOC monitor (HPLC model only)<br>UMF change reminder (Analytical and HPLC models only)<br>UF change reminder (Life Science model only)<br>Sanitization reminder → |   |  |                               |
| <b>Dispense Flow-rate</b>                          | 1.8 L/min   | 1.2 L/min   | 1.8 L/min  | 1.8 L/min                     |
|  | ← Continuous and instantaneous →  |   |  |                               |
| <b>Power Requirements</b>                          | Voltage: 85-265V<br>Power: 65VA<br>Fuses (Power inlet model): 2 x 3 amp   |   |  |                               |
| <b>Capacity (per single cartridge pack change)</b> | ← 56,000 liters<br>> 18.2 MΩ-cm<br>μS/cm at pH 7.0 →  |   |  |                               |
| <b>Drain</b>                                       | ← Gravity flow to drain during disinfection/rinse of 1 L/min, Standard air gap required. →  |   |  |                               |
| <b>Special Features</b>                            | ← Restart on power interrupt<br>RS232 printer connection →  |   |  |                               |
| <b>Installation</b>                                | ← Bench or wall mounted (kit available) →   |   |  |                               |
| <b>Feedwater Specification</b>                     |   |   |  |                               |
| <b>Feedwater</b>                                   | ← i. Reverse osmosis water<br>ii. Deionized water (from a strong mixed bed ion exchange unit)<br>iii. Distilled water (single or double distilled)<br>iv. Electrically deionized water (as supplied by a PURELAB Option-E unit) →   |   |  |                               |
| <b>Inlet</b>                                       | ← i. Tank feed – positive flooded suction – 1 psi (0.07 Bar) minimum<br>ii. Pressure feed – 10 psi (0.7) bar maximum (A pressure relief valve can be supplied for higher pressures) →   |   |  |                               |
| <b>Inlet Water Temperature</b>                     | ← 1-35°C →  |   |  |                               |

Conforms to ASTM, CAP, NCCLS – Type 1 and ISO 3696:1987 specification

<sup>1</sup> After suitable rinse time    <sup>2</sup> Optional

THE SINGLE SOURCE SOLUTION

Maxima systems are part of the complete range of ELGA water purification systems designed to meet the pure water requirements of today's laboratories.

From glassware washing to molecular biology, every ELGA system has been carefully designed to give you uncompromising water quality in a cost-effective, convenient, and easy to use package.

With a network of over 600 service centers worldwide, ELGA provides an unrivalled package of service and support for its range of pure water

systems. Whatever support you require, ELGA's team of water treatment experts will respond quickly to ensure your total satisfaction with our products and services, guaranteed.

With our wide range of technologies, products and services, we can provide the right solution tailored to your own specific pure water needs.

Contact us today for further information on the water purification systems featured in this brochure or for details on other models in the range.



For more information on ELGA LabWater products and services contact:

**UK Sales Enquiries**

Vivendi Water Systems  
ELGA LabWater UK Sales  
High Street, Lane End  
High Wycombe  
Bucks HP14 3JH  
Tel +44 (0) 1494 887 897  
Fax +44 (0) 1494 887 837

**UK Service Enquiries**

Vivendi Water Systems  
Service  
High Street, Lane End  
High Wycombe  
Bucks HP14 3JH  
Tel +44 (0) 1494 887 766  
Fax +44 (0) 1494 887 780

**Ireland Sales and Service Enquiries**

Vivendi Water Systems  
Dublin Road  
Celbridge  
Co. Kildare  
Ireland  
Tel +353 (0) 1 630 3333  
Fax +353 (0) 1 630 3344

**International Enquiries**

Tel +44 (0) 1494 887 500  
Fax +44 (0) 1494 887 505

Visit our website at [www.elgalabwater.com](http://www.elgalabwater.com) E-mail us on [sales.uk@vivendiwater.com](mailto:sales.uk@vivendiwater.com)

Owing to a policy of continual improvement, we reserve the right to amend the specifications given in this brochure.