Solar GI
Intelligent Gastrointestinal Manometry

- Complete GI Motility testing
- Ease of use for hospitals and clinics
- Customized manometry solutions
Solar GI Highlights

- Digital plug-and-play system measuring more than 60 channels including pressures, Impedance, swallow & respiration, pH and EMG
- Complete measurement and analysis of gastrointestinal (GI) tract motility disorders
- High Resolution Manometry and High Resolution Impedance (HRIM) capabilities
- Customized results, reports and standardized letters
- Quick and easy access to extensive patient data
- Solar GI software available in more than 15 languages
- Fully upgradeable with neurology, video (Swallow studies & Defecography) and networking
- Expandable for research studies such as TMPD, Barostat and colonic manometry

Introducing the Solar GI: Complete GI motility testing

Versatile even in standard versions
Laborie offers the complete solution for stationary motility testing. Solar GI is a state-of-the-art system offering all of the tools needed for modern manometry examinations. The plug-and-play design, developed in close co-operation with leading university hospitals, provides incomparable flexibility in configuring a system to meet all of your specific diagnostic needs.

Extended database
An extensive patient database enables easy entry and retrieval of patient demographics. Filter and query options facilitate the selection of patient groups for statistical analysis. For example, groups can be made by examination type, gender, date of birth and examination parameters.

Diagnosis and comment functions can be used to generate memos. All patient information is stored in one location, so there is no need for other text editor programs. Raw data, patient demographics and examination parameters can be selected and exported quickly and easily to other text editor and database programs.
Esophageal Manometry

The esophageal manometry study is used to assess the function of the eso-
(LES) and the Upper Esophageal Sphincter (UES). Esophageal motility
 disorders such as achalasia, diffuse esophageal spasm and nutcracker
esophagus can be diagnosed, as well as disorders caused by reflux or
scleroderma.

The post procedure analysis software provides automatic analysis of all
esophageal contractions, containing peak and mean pressures, areas, slopes,
duration, velocity and propagation. To prepare for a pH study, you can
easily locate the LES and measure the LES length.

Anorectal Manometry

The anorectal manometry study is used to objectively assess the function
of the rectum and the anal sphincter. You can easily perform resting,
squeeze, cough and push tests, as well as determine the functional length
of the anal canal, rectal sensitivity, inhibitory reflex, and rectal capacity and
compliance.

High Resolution Manometry (HRM)

More detailed esophageal information can be obtained from HRM Clouse
contour plots™. This unique method consists of measuring multiple pressures
simultaneously and presents the results in a visual way. LES and UES
resting pressures and LES residual pressure are automatically marked.
Esophageal manometry has never been so easy. Combined with Impedance
channels, Solar GI provides information of esophageal contractions and bolus
presence in one simple test.

Biofeedback

Pelvic floor training

The Solar GI can include Biofeedback in which signals from the pelvic
floor are displayed in real-time to the patient as a friendly, patient-responsive
animation. Biofeedback training helps to develop beneficial and conscious control
over body functions. Several scenes and animations are available.

24 Hour Impedance-pH monitoring

Laborie offers two ambulatory pH recording units. The Ohmega pH recorder measures
gastro-esophageal acidic reflexes. The Ohmega Impedance-pH recorder monitors
acidic, weakly acidic and non-acidic reflexes with pH and Impedance channels. Pressure
channels can be added to determine chronic cough. The Ohmega is a very easy tool to use
in order to diagnose Gastro Esophageal Reflux Diseases (GERD).

The Virtual Instructor Program™ (VIP) of the Ohmega, guides users through the calibration
and recording procedure.

As a result, GERD monitoring can be completed even with minimal training.
Bluetooth® capabilities provide online view of recorded data. Intermediate
review gives the possibility to check and review the data during an examination.

Ohmega total esophageal reflux monitor.
**Extended Functionality**

**Video Manometry**

Advanced image digitizing (X-ray) in combination with the Solar GI, facilitates the diagnosis of swallow and defecation disorders. Single video images or cine loops are digitized in real-time and are synchronized with the pressure/impedance tracings.

**GI Research Studies**

MMS has many years of experience offering customized solutions in the GI research field. Well known university hospitals located all over the world use the Laborie GI Systems for various functions, such as:

- Stationary pH studies
- Small bowel (Antroduodenal) manometry
- Sphincter of Oddi manometry
- Colon manometry
- TMPD
- Barostat
- EGG

The Solar GI software platform offers additional functions for statistical analysis and presentations, such as:

- Extensive filter and query options
- Easy sorting and selection of patient groups for statistical analysis
- Patient demographics and examination data that can be exported to a text editor, spreadsheet or database software
- Graphs that can be exported to PDF as well as to JPEG and BMP images
- Easy integration of graphs and results for Microsoft® PowerPoint presentations

**Neuro GI**

The Neuro Module allows to study the motor innervations of the sphincters and the pelvic floor, as well as the sensory innervations of the pelvic structure. A number of measurement programs are available as the Neuro Module can easily be added to the Solar GI.

- Free run EMG
- Pudendal nerve stimulation
- Motor nerve conduction
- Sacral reflex
- Sensory threshold*  
  *not available in the USA

**Networking and HIS-links**

A diagnostic system hardly ever stands alone. It needs links with other hospital departments as well as the outside world. Besides extensive networking capabilities, Laborie offers proven connectivity to the Hospital Information System (HIS). Retrieving patient demographics from the HIS and sending reports in PDF to the patient’s EMR. Watching an examination in real-time from another room is made possible by remote monitoring.
**Solar Customized System Solutions**

**Solar GI Compact**

Solar GI Compact is a cost-effective system offering all of the tools needed for esophageal and anorectal manometry measuring up to 4 pressures. The plug-and-play concept provides unrivalled flexibility in configuring a system to meet your specific needs. Solar GI Compact is also compatible with easy-to-use air-charged catheters.

**Solar GI**

Solar GI is a state-of-the-art manometry system offering all of the GI diagnostic tools needed for today's medical professionals. Solar GI provides functional testing for the complete gastro-intestinal tract, measuring from 4 to 36 pressure channels. Solar GI can easily be adapted to both your current situation and your future requirements such as HRM, Impedance and Neuro-GI tests.

**Solar GI HRM**

Solar GI HRM (High Resolution Manometry) measures from 16 to 36 pressures in the esophagus simultaneously. HRM means easy placement of the catheter, a quicker procedure and detailed assessment of all relevant data for the entire esophagus. Rapid data interpretation can be established by Clouse contour plots™.

**Solar GI HRIM**

Solar GI HRIM (High Resolution Impedance Manometry) measures up to 16 Multi-channel Intraluminal Impedance (MII) channels combined with multiple pressures. Impedance is a method to see the presence of bolus transit. Unlike Barium swallows, there is no radiation exposure. With Solar GI HRIM you can concurrently assess muscular activity & bolus transit from a single probe in one simple test.

**Solar Perfusion Pump**

The Laborie Solar Perfusion Pump (MPP) is a water-perfused manometric pump. Together with the Solar GI, you can create a system that can be used for manometric studies of the gastro-intestinal tract.

The Solar Perfusion Pump (MPP) will provide all of the functions regarding the perfusion of water and measuring pressures in a patient's body.

The MPP can be mounted to an accessory rail on the Solar Trolley. It can measure up to 36 pressures. The MPP is very easy to clean and without a doubt the most cost-efficient and silent perfusion pump on the market.

**Customized solutions**

Solar GI offers a broad range of possibilities to customize a complete system to suit your needs.

- The modular plug-and-play design allows you to easily upgrade the system
- Pre-defined and user-definable examinations protocols save time
- Extended catheter library shortens setup time
- Flexible report generator allows user to define and customize personal reports
- User-definable templates determine the contents and layout of standard letters
- Patient database fields are user-definable
- Studies can be saved as PDF, which makes it extremely easy to archive on a hospital network
Solar GI Technical Specifications

Channels
- 1-36 Pressure channels
- 1-16 Impedance channels
- 1-4 pH
- Swallow and respiration channel
- Multiple EMG channels
- High frequency EMG channels
- Neuro Stimulation
- TMPD
- Barostat input

Examinations
- UES, Esophageal body, LES, Sphincter of Oddi, Antroduodenal (small bowel), Colon, Anorectal (3D-VVP), Biofeedback

Solar software
- Extensive patient database
- Includes up to 9 investigation protocols
- Displaying and printing curves, results and reports
- User-configurable reports (MMS Reporter)
- Easy archiving, PDF (backup)

Hardware Diagnostics
- Simplifies maintenance because of automatic testing of hardware modules

Operation
- Infrared remote control and PC keyboard

Complete range of catheters
The Solar GI can be used in combination with a complete range of catheters and accessories, for adult and pediatric studies. Because of the extended catheter library and measurement protocols, all catheters are automatically configured at the start of the study.

- A variety of water perfused pressure catheters
- Single-use and multi-use water perfused catheters
- Solid state pressure catheters
- Air-charged catheters
- Pressure/Impedance catheters
- Customized catheters for research and clinical use
- Swallowing and respiration sensors
- Disposable and reusable needle/surface electrodes
- Stimulation electrodes for Solar GI Neuro module

Laborie is offering a broad range of catheters.