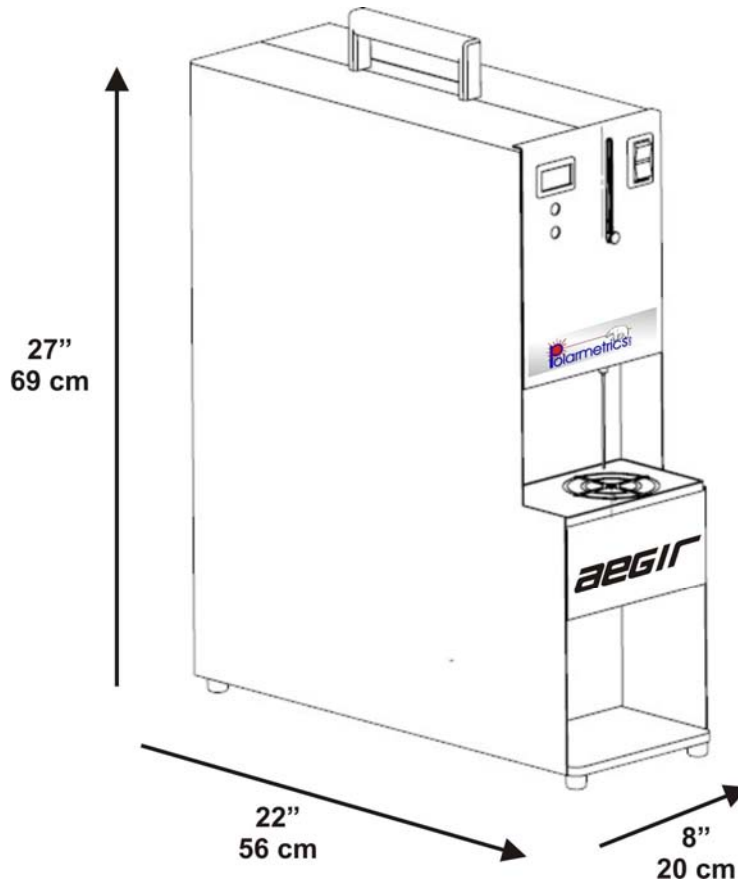


Aegir © Liquids Analyzer



Preliminary Specifications

Rev. 090401

AEGIR © PRELIMINARY SPECIFICATIONS Rev. 090401
PROPRIETARY & CONFIDENTIAL INFORMATION

Copyright © 2009 Polarmetrics Corporation. All Rights Reserved.

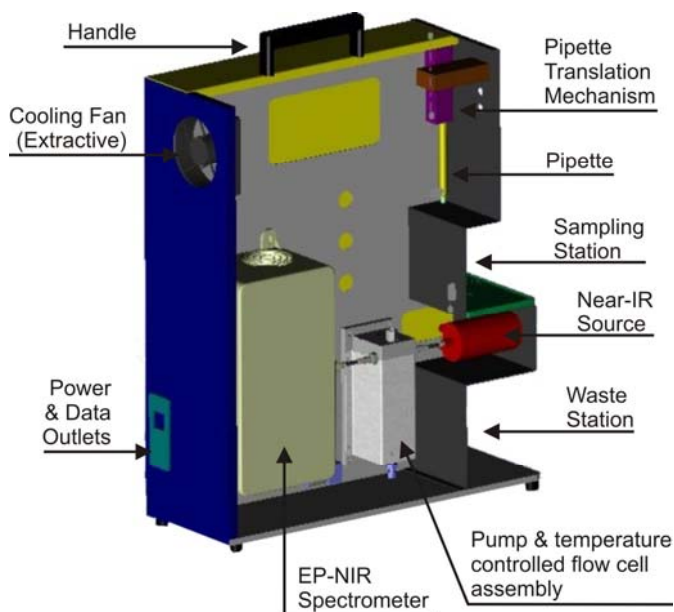
Description

The Aegir © Liquids Analyzer is designed for ease of operation for routine analysis of chemicals in aqueous or non-aqueous solution.

Analytical Features Extended range Near-IR (includes access to chemical information rich recombination band region between 2.0 and 2.5 microns)
Military-grade rugged EP-NIR technology.
Pre-Calibrated for ease of routine operations.
Upgradable with new calibration databases at will.
Sensitivity and accuracy as low as 0.01% (100 ppm vol; 1 sigma; analyte dependent)

Design Features: Small footprint (176 sq.in; 11.2 dm²) for the crowded quality control lab.
Stainless Steel and finished sheet metal.
Ease of sampling (accommodates sample containers as large as a 500 mL beaker)
Fundamental physical separation between power supplies and electronics and analytical and flow sub-assemblies.
Waste container for ease of disposal.
Portable.

Analytical modules EPNIR spectrometer
Temperature controlled pump and transmission flow cell with built-in sample pre-heater for instrument's analytical reproducibility enhancement.
Field replaceable Near-IR source.



**AEGIR © PRELIMINARY SPECIFICATIONS Rev. 090401
PROPRIETARY & CONFIDENTIAL INFORMATION**

Copyright © 2009 Polarmetrics Corporation. All Rights Reserved.

Sampling Module: Independent power switches for NearIR source and main Flow circuit and flow cell temperature control and display

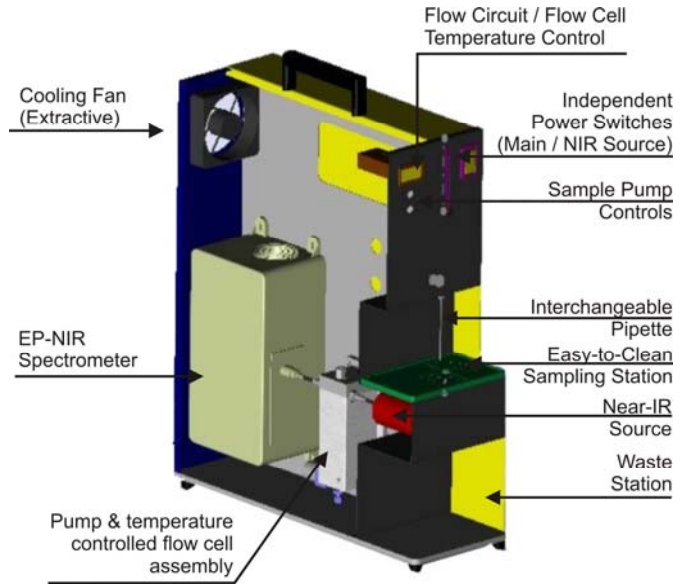
Pump control button (pre-set pumping times of 15, 30, 45 and 60 seconds)

Interchangeable and field replaceable pipette nozzle.

Large sampling station (can accommodate containers as large as a 500 mL beaker)

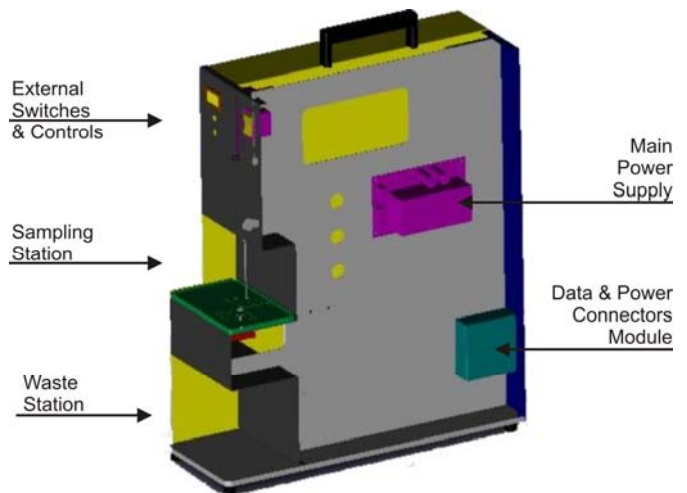
Easy to clean sampling station with built-in drain to the waste station.

Waste station with easy-to-replace sealed container.



Contained Electrical Power supplies and electronics are placed in a separate container of the instrument. For added safety, they are above all flow circuit elements.

Despite careful design and engineering, there exist a potential for flow circuit failure points are at the pump's flow connecting points. These are placed at the lowest possible point in the instrument.



Pre-Installation

Purpose

Use this guide to prepare for the arrival of your new Aegir © Liquids Analyzer to guarantee an easy and accurate installation. It describes the required and optional accessories, physical dimensions, power requirements, and cabling requirements for the analyzer's installation. Refer to the integrator guide for details on system integration. This guide covers the requirements for the Aegir © Liquids Analyzer and external computer.

This document contains a helpful checklist you can use during the installation to verify the process is correctly done. You will be able to keep this document and the checklist in your process certification records for future reference or to satisfy GLP, IQ, or ISO, DIN requirements.

Basic Requirements

For a correct installation and proper operation, you should have the following accessories available as specified in the following tables.

- External PC with network connection (optional)
- Installation and verification kit (optional) – Method dependent.
- Level surface for the Source and Bench, away from direct exposure to sunlight or other heat sources.

Disclaimer

The information in this publication is provided for reference only. All information contained in this publication is believed to be correct and complete. Polarmetrics Corporation shall not be liable for errors contained herein, nor for incidental or consequential damages in conjunction with the furnishing, performance, or use of this material. All product specifications, as well as the information contained in this manual are subject to change without notice.

The publication may contain or reference information and products protected by copyrights or patents and does not convey any license under the patent rights of Polarmetrics Corporation nor the rights of others. Polarmetrics Corporation does not assume any liabilities arising out of any infringements of patents or other rights of third parties.

Polarmetrics Corporation makes no warranty of any kind with regard to this material, including, but not limited to the implied warranties of merchantability and fitness for a particular purpose.

The reproduction, transmission in any kind either print or electronic or use of this document or its contents is not permitted without express written authority. Offenders will be liable for damages. All rights reserved.

We have checked the contents of this manual for agreement with the hardware and software described. Since deviations can not be precluded entirely, we cannot guarantee full agreement, however, the data in this manual are reviewed regularly and any necessary corrections are included in subsequent editions. Contact Polarmetrics Corporation directly to obtain the latest revision or use the website to download a copy.

Suggestions for improvement are welcome and should be directed by email or fax to Polarmetrics Corporation.

AEGIR © PRELIMINARY SPECIFICATIONS Rev. 090401
PROPRIETARY & CONFIDENTIAL INFORMATION

Copyright © 2009 Polarmetrics Corporation. All Rights Reserved.

Environmental Specs

Operating Range	32-104 deg F (0-40 deg C)
Optimal Range	63-86 F +/- 2F (17-30 C +/- 1C)
Temperature-induced analytical response drift	Minimum (application dependent) due to the use of the built-in sample temperature stabilization module.
Humidity	20-80% non-condensing
Heat dissipation to air from unit and power supplies	< 300 W

Power Requirements

The analyzer is shipped with built-in standard multi-voltage switchable power supply. The external computer (optional) also needs power connections. Use an appropriate fused power strip with an indicator light. If the local line voltage is susceptible to variations and brown outs, a transient voltage suppressor with stabilizer should be used. Suppressor/stabilizer specifications should account for all connected system devices.

Networking

The Aegir © Liquids Analyzer must be connected to an external computer via either the provided local area network (LAN) or a direct connection. An RJ-45 Ethernet CAT5 crosslink cable (10 feet/3 meter length) is provided with the unit. A directly connected PC should be equipped with a dual network card to provide access to your LAN. It is imperative that the installation be performed by someone with local administrative privileges on the external PC.

Direct/Crosslink Connection/LAN

The initial setup (and recommended routine operation) is done via crosslink (crossover) cable. Subsequently, you can configure the MC 5x00 for LAN communication. To do so, obtain the following information from your IT administration. Please check your applicable company policies.

Networking requirements	
User privileges	local administrator
Direct connection (Crosslink)	Crosslink cable provided with instrument 10 feet/ 3 m
LAN connection Instrument	Ethernet cable provided with instrument 10 feet/ 3 m Fixed IP Address for Instrument Gateway Address for Internet Gateway Host IP address (external PC)
LAN connection external PC	Ethernet cable not provided DHCP settings or fixed IP Address Gateway Address DNS Addresses if not automatic WINS Addresses if nor automatic Subnet mask

External PC

An external PC is necessary to control and operate the system.

Minimum Requirements:

Windows XP Pro SP2 (32-bit)		Windows Vista (32 bit)	
CPU:	P4 or above; Atom	CPU:	P4 or above; Atom
Speed	1.5 Ghz minimum	Speed	1.5 Ghz minimum
RAM	1 GB SDDR2 minimum	RAM	2 GB SDDR2 minimum
HD	120 GB minimum (EIDE or better)	HD	120 GB minimum (EIDE or better)
Network	Ethernet with RJ45 100 Mbit	Network	Ethernet with RJ45 100 Mbit
Administrator privileges Required		Administrator Privileges Required	

Installation

System Delivery

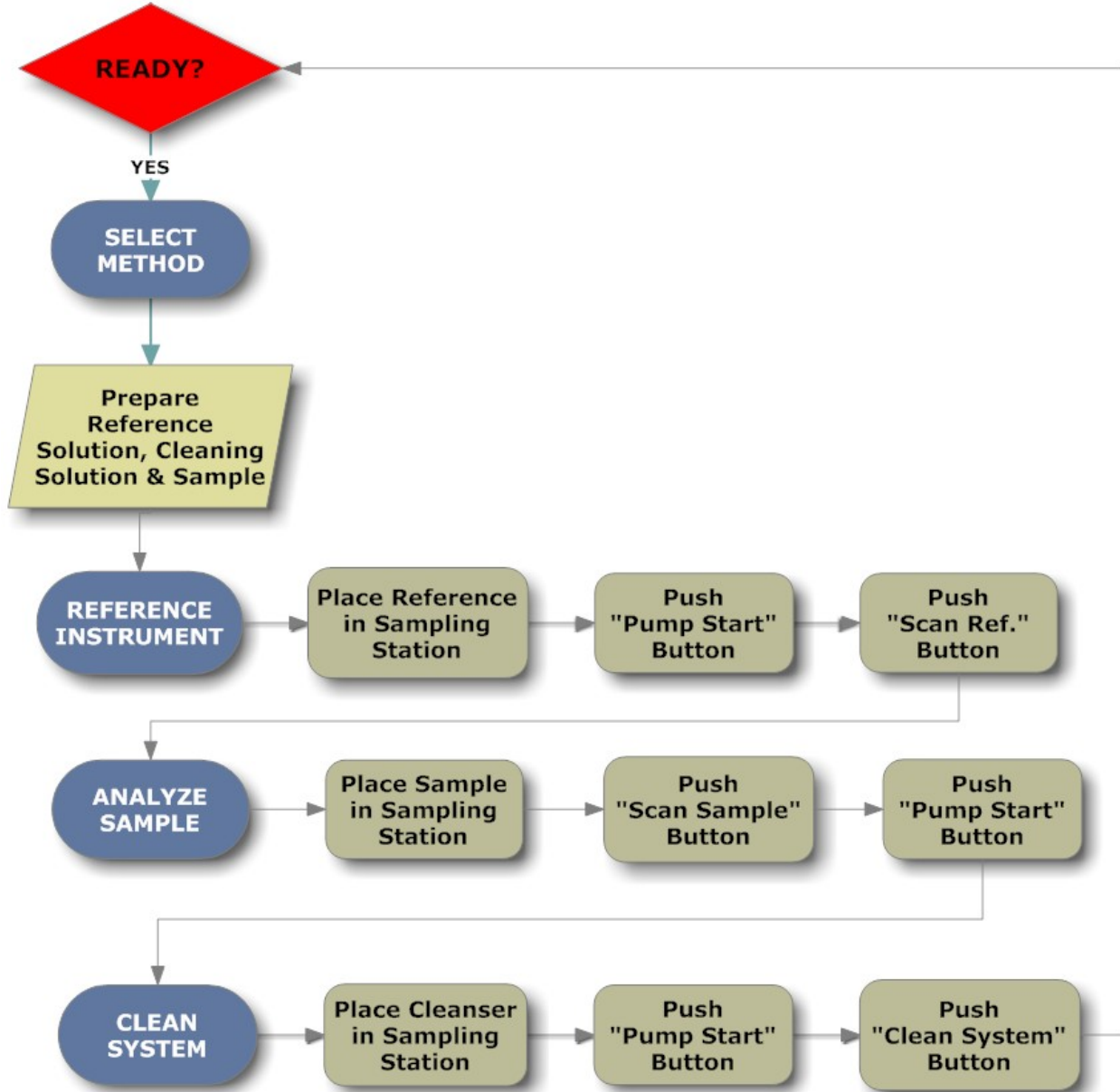
When your system arrives, please have your receiving agent check the cartons for damage while in the delivery driver's presence. If damage is detected, contact the carrier's office and DOCUMENT the damage according to the applicable procedures. Compare the packing list to your order and inform the sales office of any discrepancy. Complete and file the shipment checklist if required by IQOQ or CFR compliance. Transport the boxes to the site of the installation and unpack carefully. Locate the installation manual and follow the documented installation procedure. For CFR or IQOQPQ documentation, please contact the Support or Sales department. The IQO-QPC booklet is not part of the standard delivery. Save all packaging until the acceptance test is successfully conducted.

Quick Reference

1. Verify that all items on packing list are present.
2. Verify that all pre-installation requirements are met
3. Unpack Aegir © Liquids Analyzer
4. Unpack Software packages. Connect external PC to . Load SW packages on external PC (if not provided by Polarmetrics Corporation)
5. Power Up Aegir © Liquids Analyzer. When ready, perform Installation Qualification protocols as per manufacturers' documentation.
6. If the analyzer was purchase pre-calibrated for a given application, perform Installation Qualification for analytical performance as per manufacturers' documentation.

Routine Use

Routine Use Logic Chart



AE G I R © PRELIMINARY SPECIFICATIONS Rev. 090401
PROPRIETARY & CONFIDENTIAL INFORMATION

Copyright © 2009 Polarmetrics Corporation. All Rights Reserved.

Specifications

Dimensions: Width x Depth x Height
 8.120 x 22.060 x 27.065 in.
 206.25 x 560.32 x 687.45 mm

Weight ~ 50 Lbs (~ 22.7 kg)

Power Supply 100-250 VAC - 50-60Hz
 < 300 W power consumption

Spectrometer Encoded Photometrics Near Infrared (EP-NIR) MC 2750

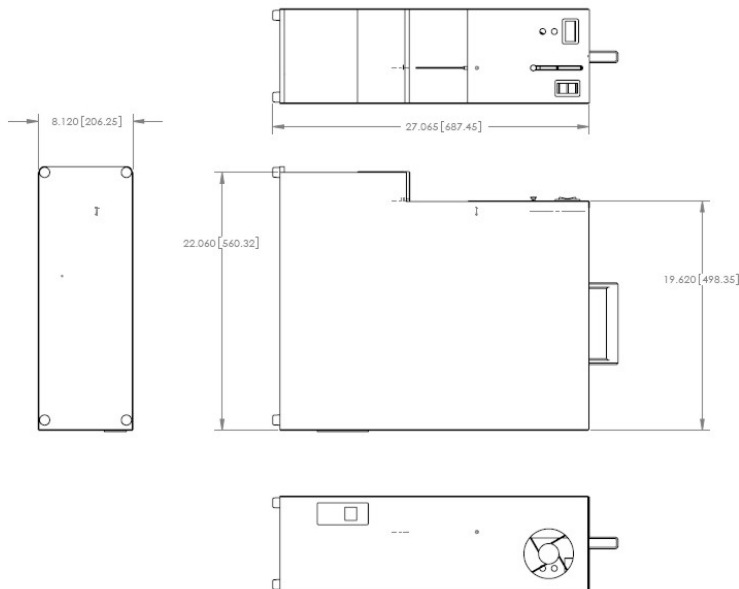
Software Commander and Commander Express for EPNIR data collection (direct)
 LQA-IQPredict for chemometrics application.
 Optional Grams AI 8 for methods development.

Computer optional
 CPU : Intel Atom 1.5 GHz (minimum)
 RAM: 512 Mb SDDR2 (minimum)
 Operating system: Windows XP / Windows Vista 32-bit (requiring administrator privileges)

Flow Circuit **Flow Cell** (Adjustable pathlength 0.5 to 10 mm)
Pump (flow rate of xx mL / min (TBD))
Sampling needle (stainless steel; field replaceable)
Tubing (teflon and stainless steel)

Temperature User & application defined (room to 60 Celsius)

Front Panel Temperature control and display
 Pump Start / Stop (15, 30, 45 and 60 sec. pre-set pumping times)
 Sampling pipette Up / Down lever
 Power switches (NearIR source and main; independent)



**AEGIR © PRELIMINARY SPECIFICATIONS Rev. 090401
 PROPRIETARY & CONFIDENTIAL INFORMATION**

Copyright © 2009 Polarmetrics Corporation. All Rights Reserved.