

EQUIPNET

Equipment Expertise eBook

Popular Lab Equipment Purchasing Guide



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Introduction

There are many questions to ask before deciding to purchase a piece of laboratory equipment to ensure the ideal option for your lab needs. Here is a list of popular lab equipment, along with various questions to ask before making a purchasing decision.

Who We Are

EquipNet is a global leader of surplus asset management solutions. We're recognized for our proprietary asset management platform, our revolutionary industrial equipment marketplace, and our results-driven project management services. Our diverse roster of clients include Fortune 500 multi-national corporations, leading regional manufacturers, financial institutions, and corporate renewal professionals.

EquipNet solutions deliver maximized financial return while improving our client's corporate image, adhering to their safety standards, and contributing to their sustainability initiatives.

Questions to Ask: Centrifuges

1 What style rotors?

A rotor is a device into which samples are loaded. There are two styles of rotors:

- Bucket Rotors
- Fixed Rotors

2 What type?

There are two types:

- Floor Model - higher speed and more output
- Table Top - research and development; slower speeds and less output

3 What manufacturer & model?

Major Manufacturers:

- Beckman-Coulter
- Eppendorf
- Sorvall

There are various popular models from each company; the most important factor is what size rotors come with the centrifuge.

Questions to Ask: Fume/Flow Hoods

- 1 Is the user manual included?
- 2 What is the serial and/or model number?
- 3 Is the unit calibrated?
- 4 Is the unit certified?
- 5 What size do you need? (Usually 4', 6' or 8')
- 6 Does it come with an exhaust motor or is it recirculating?

Questions to Ask: Refrigeration & Freezers

- ① What are the dimensions?
- ② How much does it weigh?
- ③ What is the temperature range?
- ④ Has it been recently tested?
- ⑤ Is shelving included?
- ⑥ Is it on wheels?

Questions to Ask: Gas Chromatographs (GCs)

- 1 Does it have an auto sampler?
- 2 Does it have an injection tower?
- 3 Does it have detectors?

Detectors collect data on sample components as they move through the column.

- ECD – Electron Capture Detector
- FID - Flame Ionization Detector
- FPD – Flame Photometric Detector
- TC – Total Carbon
- MS – Mass Spectrometer
- Head Space

Questions to Ask:

Gas Chromatographs (continued)

1 Does it include software?

Interface Cards – Used to communicate between a computer & equipment.

- NIC, Network Interface Card
- HPIB, Hewlett Packard Interface Card
- GPIB, General Purpose Interface Card

2 What is the condition of the equipment?

3 What manufacturer and model?

Major Manufacturers:

Agilent	Shimadzu	Perkin Elmer
- 5890	- GC-8A	- PE 8310
- 6890	- GC-14A	- PE 8500
- 6890N	- GC-17A	- Autosystem XL GC
	- GC-2010	- Clarus 400
	- GC-2014	- Clarus 500

Questions to Ask: Glassware Washers

- 1 Does it come with shelving?
- 2 What are the overall dimensions?
- 3 What is the make/model?

Major Manufacturers:

- Labconco
- SterilGuard

Questions to Ask: HPLC/UPLC Systems

1 Does it include all components?

- Autosampler
- Solvent Pump
- Degasser
- Column Heater
- Detectors
- Fraction Collectors
- Interface Cards

2 What type of solvent pump?

- Isocratic – One type of mobile phase can be used
- Binary – Two types of mobile phase can be used
- Ternary - Three types of mobile phase can be used
- Quaternary - Four types of mobile phase can be used

Questions to Ask: HPLC/UPLC Systems (continued)

- 3 What type of detectors?
- MWD – Multi Wavelength Detector
 - UV/VIS – Ultraviolet Index Spectrometer
 - DAD – Photo Diode Array Detector
 - FL – Fluorescence Detector

- 4 Does it include software?
- Interface Cards – Used to communicate between a computer & equipment
- NIC, Network Interface Card
 - HPIB, Hewlett Packard Interface Card
 - GPIB, General Purpose Interface Card

- 5 What software revisions are needed?

- 6 What is the configuration?

Questions to Ask: HPLC/UPLC Systems

(continued)

3 What manufacturer and model?

Major Manufacturers:

- **Agilent – most popular**
 - 1090
 - 1050
 - 1100
 - 1200
- **Waters**
 - Component Systems:
 - 717 + Autosampler + 600E Controller + 484 Detector +515 Pump (older unit, not much value)
 - Box Systems:
 - 2690
 - 2695
 - 2790 – newer model
 - UPLC – most recent
- **Dionex**
 - DX-300
 - DX-500
 - ICS-3000
 - Clarus 400
 - Clarus 500
- **Shimadzu**
 - 10A
 - 10AVP
 - 10ADVP

Questions to Ask: LC/MS Mass Spectrometers

- ① What type of LC/MS?
- ② Does it have a front-end (HPLC or LC) with it?
- ③ What software is included and what revisions will be needed?

Questions to Ask: LC/MS Mass Spectrometers (continued)

4 What manufacturer and model?

- **AB Sciex - most popular**
 - 365 (oldest)
 - 1000
 - 2000
 - 3000
 - 4000
 - 5000 (newest and most popular)
- **Waters**
 - Q-TOF
 - LCQ
 - ZMD
 - Quattro
- **Agilent**
 - 5971
 - 5972
 - 5973
 - 1100MSD

Questions to Ask: ICP/MS Mass Spectrometers

- 1 What type of ICP/MS?
- 2 What software is included and what revisions are needed?
- 3 What manufacturer and model?

Major Manufacturers:

- Agilent
- 7700
- Perkin Elmer
- ELAN DRC-e
- Thermo Scientific
- XSERIES II

Questions to Ask: Microplate Readers

1 Does it include:

Stackers?

Software?

Computer?

2 What manufacturer and model?

Major Manufacturers:

- **BioTek**
 - Synergy
 - ELX808
- **Perkin Elmer**
 - EnVision
 - EnSpire
- **Molecular Devices**
 - VersaMax

Questions to Ask: Microscopes

1 What type and style is it?

Major Types:

- Fluorescence
- Imaging
- Inverted
- Binocular
- Trinocular
- Teaching Microscope

2 What magnification objectives does it have?

3 Does it include:

A camera with housing?

Light source?

Laser?

Questions to Ask: Microscopes (continued)

1 What manufacturer and model?

Major Manufacturers:

- **Nikon**
 - Synergy
 - Eclipse TE2000
- **Olympus**
 - AX70
 - SZ-PT
- **Leica**
 - DMRBE
 - DMLS
- **Zeiss**
 - Axiophot
 - Axioskop
 - Axiovert

2 Is the computer and software included?

3 Does it have a mobile or set stage?

Questions to Ask: Spectrophotometer

- ① **What type is it?**
 - UV/Ultraviolet
 - Fluorescence
 - VIS/Visible Index Spectrum
- ② **What is the temperature range?**
- ③ **What is the wavelength range?**
- ④ **Does it include a detection plate?**
- ⑤ **Does it include software?**

Questions to Ask: Spectrophotometer

(continued)

⑥ Is the user manual included?

⑦ What manufacturer and model?

Major Manufacturers:

- **Agilent**
 - 8543
- **Beckman Coulter**
 - DU 800
 - DU 650
- **Shimadzu**
 - UEDEX-1200
 - UV-2700
- **Perkin Elmer**
 - Spectrum 1 FTIR
 - Lambda

Questions to Ask: Spectrophotometer

- ① What is the model?
- ② What is the voltage/electrical requirement?
- ③ Does it have an enclosure?

To learn more about purchasing lab equipment and what to look for, please contact your local EquipNet representative:

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