

Markets and Applications for Labomed Spectrophotometers				
INDUSTRY	FUNCTION	TYPICAL APPLICATION	TYPE OF SPECTRO	LABOMED INSTRUMENT TO LEAD WITH
ACADEMIA (HIGH SCHOOLS, UNIVERSITIES)	Teaching	Basic quantitative and qualitative analysis in all types of applications, including water analysis, biotech applications, foods, etc.	Low cost, rugged easy for students to use	For High Schools: Spectro SC , Spectro 23 and 23 RS For Universities: The entire low end of the Labomed product line: Spectro SC , Spectro 23 and 23 RS , Spectro UV-Vis , Spectro 2000 and Spectro UV-Vis Auto .
	Research	Simple to sophisticated applications, mostly in biotech, molecular biology and foods.	Any kind of spectro can be used, but versatility is often important. UV/Vis scanning spectros with versatile software and sample handling are needed here.	Depending on the type of research being done, this could be any instrument in the Labomed product line, but the most versatile are: Spectro UV-Vis Auto , Spectro UV-Vis Dual Beam PC , UV-Vis Double PC 8 Auto Cell and the Spectro UV-Vis Double Beam Research Spectro
AGRICULTURE/FOOD	Quality control	Animal feeds, cereals, beverage (e.g., wine, soft drinks, juices, beer, distillates). Enzymatic measurement of various nutrients.	A good, basic single beam. Many of the beverage analyses require 10nm SBW. Enzymatic testing requires 10nm SBW and kinetics software.	Most of these routine tests can be done using the Spectro SC , the Spectro 23 , the Spectro UV-Vis RS or the Spectro 2000 . For enzymatic testing: The Spectro UV-Vis Auto with basic scanning, 5nm SBW or less, with kinetics and quantitative analysis (standard curve) software. Multiple cell holder is often useful
ANALYTICAL TESTING LABS	Method development	Enzyme analysis, ELISA tesing (see pharmaceutical, biotech method development)	Basic scanning, 5nm SBW or less, and quantitative analysis (standard curve) software. Multiple cell holder is often useful	Method development can be done using any Labomed scanning spectro from the Spectro UV-Vis Auto upwards. These all have quant and kinetics software.
BIOTECH	Research	Simple to sophisticated applications	Any kind of spectro can be used, but versatility is often important. UV/Vis scanning spectros with good software and sample handling are needed here	Depending on the type of research being done, this could be any instrument in the Labomed product line, but the most versatile are: Spectro UV-Vis Auto , Spectro UV-Vis Dual Beam PC , UV-Vis Double PC 8 Auto Cell and the Spectro UV-Vis Double Beam Research Spectro
	Method development	Enzyme analysis, enzymatic measurement of metabolites, ELISA tesing	Basic scanning, 5nm SBW or less, and quantitative analysis (standard curve) software. Multiple cell holder is often useful	Method development can be done using any Labomed scanning spectro from the Spectro UV-Vis Auto upwards. These all have quant and kinetics software.

			A dedicated DNA/RNA/protein analyzers is sometimes used because they are lower cost and easier to use, but often a full featured spectro that can also do absorbance ratios and quantitative analysis is used because of its versatility	A UV-Vis spectro with a 5nm SBW and software for ratios, quant for protein concentrations, such as the Spectro UV-Vis Auto or the Spectro Dual Beam PC.
CHEMICALS	Routine analysis Quality control	Protein concentrations, DNA/RNA ratios, DNA concentration Spectral analysis	High resolution scanning spectro	A High resolution (i.e., SBW down to 0.1nm) is recommended - Spectro UV Double Beam Research Spectro
ENVIRONMENTAL TESTING	Quality control	Water quality tests (see above), soil tests, tests done on plants.	Test protocols are well established (Standard methods, EPA, etc.) so only routine analyzers are needed. Most testing is done using low cost, easy to use spectros, but there are one or two water analysis tests that require a uv spectro.	A lower end spectro is usually used for these applications: Spectro SC , Spectro 23 and 23 RS , Spectro UV-Vis , Spectro 2000 and Spectro UV-Vis Auto .
GOVERNMENT	Research	applications. Areas most highly regulated by the government are	often important. UV/Vis scanning spectros with good software and sample handling are needed	molecular biology work done by government agencies, depending on the type of research being done, this could be any instrument in the Labomed product line, but the most versatile are: Spectro UV-Vis Auto , Spectro UV-Vis Dual Beam PC , UV-Vis Double PC 8 Auto Cell and
	Method development	Enzyme analysis, ELISA tesing	Basic scanning, 5nm SBW or less, and quantitative analysis (standard curve) software. Multiple cell holder is often useful	Method development can be done using any Labomed scanning spectro from the Spectro UV-Vis Auto upwards. These all have quant and kinetics software.
	Routine testing	All types of analyses	Highly automated instruments are often used, but sometimes (as in clinical labs), a test which is not highly automated, but requires good optics and software requires a mid-performance spectrophotometer with a 5nm SBW or better.	Once developed, these tests, if not highly automated, can be done using any Labomed scanning spectro from the Spectro UV-Vis Auto upwards. These all have quant and kinetics software.
				A UV-Vis spectro with a 5nm SBW and software for ratios, quant for protein concentrations, such as the Spectro UV-Vis Auto or the Spectro Dual Beam PC.
HOSPITAL/CLINICAL AND VETERINARY	Molecular biology research	ELISA testing, enzyme activity, protein concentrations, DNA/RNA measurements	There is some ELISA testing done in Hospital research labs that is not highly automated. While ELISA testing can be done with a 10nm SBW instrument, to do ELISA testing, enzyme activity, protein concentrations and DNA/RNA measurements, a basic scanning instrument with 5nm SBW or less, and quantitative analysis (standard curve) software is useful. Multiple cell holder is often useful.	Depending on the type of research being done, this could be any instrument in the Labomed product line, but the most versatile are: Spectro UV-Vis Auto , Spectro UV-Vis Dual Beam PC , UV-Vis Double PC 8 Auto Cell and the Spectro UV-Vis Double Beam Research Spectro
OTHER (GENERAL INDUSTRIAL)	Method development	Numerous applications in petrochemistry, paper manufacturing (tannins and lignins), plating bath analysis and maintenance, glass manufacture, etc.	Basic scanning, 5nm SBW or less, and quantitative analysis (standard curve) software. Multiple cell holder is often useful	Could be any of the Labomed Spectros

		Numerous applications in petrochemistry, paper manufacturing (tannins and lignins), plating bath analysis and maintenance, glass manufacture, etc.	Quality control needs in the various "other" industries are too numerous to categorize. The manufacturing process that needs to be monitored must be evaluated before the right spectro can be recommended.	
	Quality control			
	Quality control	Mostly, tablet dissolution. Some enzymatic testing and assay of tablet component concentrations	Large, modular tablet dissolution system made up of 8 vessel dissolution bath, 8 channel peristaltic pump, spectro with automatic 8 cell holder and dedicated tablet dissolution software is used. Extensive validation and qualification is needed to install and maintain the instrument in a highly regulated laboratory environment.	Lower end instruments do fine for these applications: Spectro SC , Spectro 23 , Spectro UV-Vis , Spectro 2000 and Spectro UV-Vis Auto .
UTILITIES	Quality control	Water analysis done by municipalities on wastewater and drinking water. Also, many industrial plants who need to test their industrial wastewater effluent	Test protocols are well established (Standard methods, EPA, etc.) so only routine analyzers are needed. Most testing is done using low cost, easy to use spectros, but there are one or two water analysis tests that require a uv spectro.	
				Method development can be done using any Labomed scanning spectro from the Spectro UV-Vis Auto upwards. These all have quant and kinetics software.
	Method development	Enzyme analysis, metabolites, nutrients, ELISA testing (on body fluids)	Basic scanning, 5nm SBW or less, and quantitative analysis (standard curve) software. Multiple cell holder is often useful	Once developed, these tests, if not highly automated, can be done using any Labomed scanning spectro from the Spectro UV-Vis Auto upwards. These all have quant and kinetics software.
	Routine testing	Clinical tests that are not highly automated and that require high quality optics, e.g., Bilirubin	5 nm SBW or less, uv/vis scanning. (Only the larger clinical chemistry labs would buy these)	Method development can be done using any Labomed scanning spectro from the Spectro UV-Vis Auto upwards. These all have quant and kinetics software.