

SPECTROPHOTOMETERS

Visible and UV-Visible



The Manufacturer

ONDA Spectrophotometers are manufactured by a company with over than ten years of experience in development of UV/Vis instruments, Single beam and Double beam, with PC remote control and Fixed or Variable Bandwidth. The company has the certificate of ISO-9001 Quality System and all products have CE certificate and the CE2006/95/EC safety certification. The collaboration with analytical operators specialized in photometric measurements, has simplified the instrument/operator interface, making the control and the use of **ONDA Spectrophotometers** easy and intuitive.

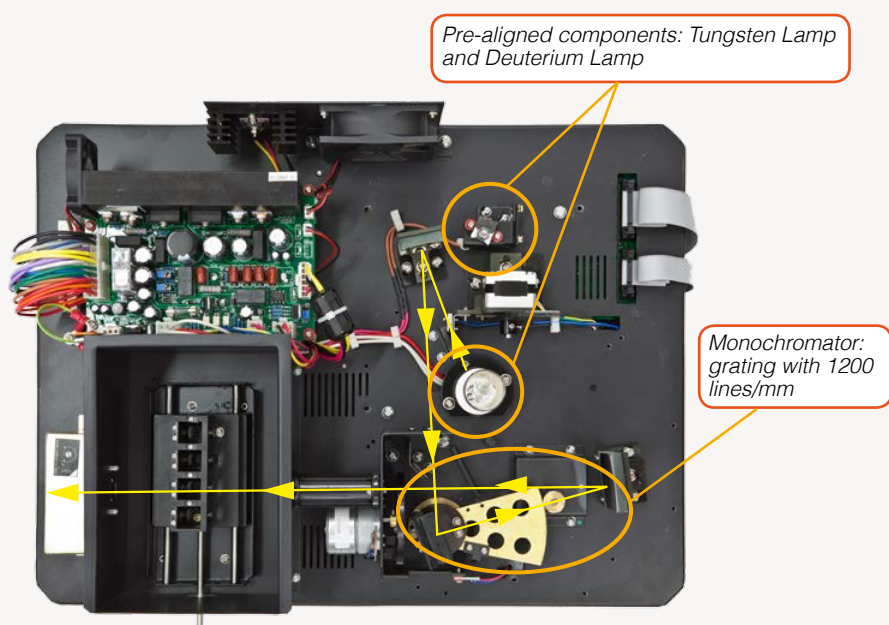
Ultraviolet-Visible spectroscopy

The study of absorbed radiation and the absorption intensity of the substances allows the absorption spectrophotometry to perform rapid and accurate qualitative and quantitative analysis.

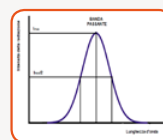
Since every substance has a typical and characteristic absorption, the observation of the spectrum can be useful to identify a chemical substance (for direct comparison with known samples or via database) or to control its degree of purity.

Monochromatic rays, consisting of a single frequency radiation, are used to perform quantitative analysis. Due to the difficulty of having rays with this property, radiation beams with a very narrow spectrum band are used in practice, almost monochromatic rays.

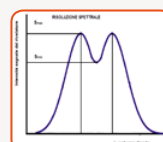
Quantitative determinations are based on the proportionality between the intensity of absorbed beam and the concentration of the analyzed substance, known as Lambert-Beer law.



Two parameters define the quality of an instrument:



The bandwidth: it is the range of wavelength coming out from the monochromator with an energy higher than 50% of the incoming beam, and it is expressed in nanometers.



The resolution: it is the ability of the monochromator to separate two different wavelengths. In practice is the minimum distance (in nm) between two wavelengths which can be separated by the 80% of the respective energy.

All instruments are checked and validated by our Technical Service, and supplied with a Test Certificate with traceability to DKD Standards.

TEST CERTIFICATE

ONDA Spectrophotometer Model: UV-30 SCAN S/N: UEG1303027

Certified Transmittance Density Values for SRM 930D, Set Identification Number 934, traceable DKD

Wavelength (nm) Maximum Spectral Band-pass, nm)	Filter Number - Set Identification					
	1-934		2-934		3-934	
	S.V.	T.R.	S.V.	T.R.	S.V.	T.R.
440,0 (2,2)	1,0344 ± 0,0024	1,035	0,7173 ± 0,0023	0,717	0,5358 ± 0,0023	0,535
465,0 (2,7)	0,9589 ± 0,0024	0,960	0,6660 ± 0,0023	0,666	0,4980 ± 0,0023	0,497
546,1 (6,5)	0,9879 ± 0,0024	0,987	0,6845 ± 0,0023	0,683	0,5258 ± 0,0023	0,524
590,0 (5,4)	1,0329 ± 0,0024	1,031	0,7142 ± 0,0023	0,713	0,5623 ± 0,0023	0,564
635,0 (6,0)	0,9842 ± 0,0024	0,983	0,6808 ± 0,0023	0,679	0,5571 ± 0,0023	0,559

S.V.: Standard Value T.R.: Test Result

The UV-Visible spectrophotometers can be used both for qualitative analysis and quantitative analysis (respectively): operating a wavelength scanning the instrument provides the absorption spectrum of the molecular species in question; instead operating a measurement at a specific wavelength, the instrument provides the concentration of the sample.

V-10 Visible Spectrophotometer

The **V-10** is the basic Visible spectrophotometer for the general analysis and routine measurements, widely used in clinical and veterinary laboratories and in high schools and colleges. It is the only model with **manually wavelength setting**, whose precise design and high quality components ensures excellent performance.

Features

- AutoZero and Blank
- Wavelength read out directly from the screen
- Basic Mode: Absorbance, Transmittance, Concentration
- Quantitative: Standard Curve, Coefficient Methods
- Basic PC software expand the applications to Standard Curve and Kinetics
- High quality silicon photometric diode detector and 1200 lines/mm grating ensure high accuracy and precision
- Large sample compartment, suitable 5-100mm path length cuvettes (with optional holders)
- Large LCD Screen (128x64 Dots)
- USB port for PC remote control
- Pre-aligned design ensures the user change lamp conveniently



Ideal for:

- Clinical/veterinary Laboratories
- High schools/colleges
- General analysis
- Routine measurements

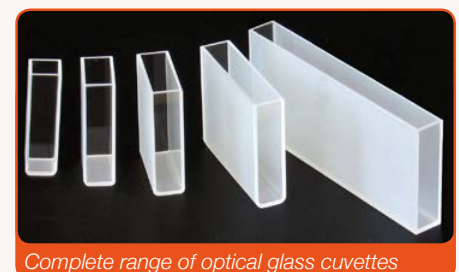
Technical Data	V-10
Wavelength Range	325 - 1000 nm
Spectral Bandwidth	4 nm
Optical System	Single Beam, Grating 1200 lines/mm
Wavelength Accuracy	± 2 nm
Wavelength Repeatability	± 1 nm
Wavelength Resolution	0,5 nm
Photometric Accuracy	± 0,5% T or ±0,004 Abs @ 1 Abs
Photometric Repeatability	± 0,3% T
Photometric Range	0...200 %T , -0,3...3 A, 0...1999 Conc
Stray Light	0,3 %T
Stability	±0,004 A/h @ 500 nm
Display	Graphic LCD (128x64 Pixels)
Photometric Mode	%T, Abs, Conc, Factor
Detector	Silicon Photodiode
Standard Cell Holder	4-position 10mm cell changer
Sample Compartment	Standard 10mm path-length cells
Light Source	Tungsten lamp
Output	USB Port for external PC control
Power Requirement	AC 85V~265V 50/60Hz
Dimensions (W*D*H)	440x360x180 mm
Weight	8 kg



Monochromator: grating with 1200 lines/mm

Part No.	Description
11000012	V-10 Spectrophotometer , including: 4 optical glass cells, 4-position cell holder, power cable with EU plug, Basic PC software, dust cover. Complete with Test Certificate referable to DKD Standard

V-10 Accessories	
Part No.	Description
11000212	4-cell holder for up to 50mm square cuvette
11000222	4-cell holder for up to 100mm square cuvette
11000252	Square cuvettes, optical glass, 10mm. Set of 4 pcs
11000262	Square cuvettes, optical glass, 20mm. Set of 4 pcs
11000272	Square cuvettes, optical glass, 30mm. Set of 4 pcs
11000282	Square cuvettes, optical glass, 50mm. Set of 4 pcs
11000292	Square cuvettes, optical glass, 100mm. Set of 4 pcs



Complete range of optical glass cuvettes

UV-20 Spectrophotometer

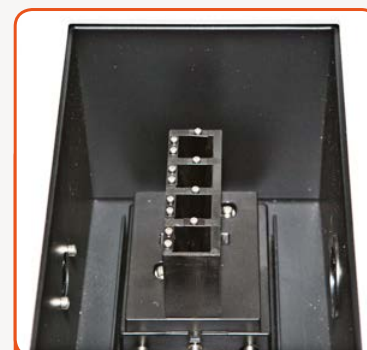
The **UV-20** is the **UV/Vis** spectrophotometer for QC requirement and education, in process control and teaching laboratories. It is widely used in **food industry, water analysis, vinery** and in **high schools and colleges**.

Ideal for:

- High school and College
- Food Industry
- Water analysis
- Vinery



Technical Data	UV-20
Wavelength Range	200 - 1000 nm
Spectral Bandwidth	4 nm
Optical System	Single Beam, Grating 1200 lines/mm
Wavelength Accuracy	± 1 nm
Wavelength Repeatability	± 0,5 nm
Wavelength Resolution	0,1 nm
Photometric Accuracy	± 0,5% T or ±0,004 Abs @ 1 Abs
Photometric Repeatability	± 0,3% T
Photometric Range	0...200 %T, -0,3...3 A, 0...9999 Conc
Stray Light	≤ 0,2%T
Stability	±0,002 A/h @ 500 nm
Display	Graphic LCD (128x64 Pixels)
Photometric Mode	%T, Abs, Energy
Detector	Silicon Photodiode
Standard Cell Holder	4-position 10mm cell changer
Sample Compartment	Standard 10mm path-length cells
Light Source	Tungsten and Deuterium lamps
Output	USB Port for external PC control
Power Requirement	AC 110V~220V 50/60Hz
Dimensions (W*D*H)	440x387x180 mm
Weight	14 kg



Large sample compartment:
4-position cell holder for 10mm
square cuvettes

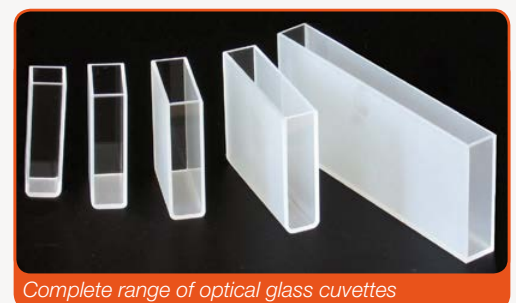


USB port for PC connection

Part No.	Description
11000022	UV-20 Spectrophotometer , including: 4 optical glass cells, 2 optical quartz cells, 4-position cell holder, power cable with EU plug, Basic PC software, dust cover. Complete with Test Certificate referable to DKD Standard

Features

- Auto setting wavelength
- Tungsten lamp & Deuterium lamp turning on/off individually to extend lifetime
- Basic Mode: Absorbance, Transmittance, Concentration
- Quantitative: Standard Curve, Coefficient Methods
- Display standard curve and curve equation
- Display total 50 groups of data, 3 groups per screen
- System also saves the test results (total 200 groups of data and 200 standard curves); it is convenient for check and reload
- Data restoration after a sudden power cut
- Large LCD screen (128x64 Dots)
- Large sample compartment: accommodation of 5-100mm path length cells with optional holders
- Pre-aligned design makes it convenient to change lamps
- A variety of optional accessories are available



UV-20 Accessories

Part No.	Description
11000212	4-cell holder for up to 50mm square cuvette
11000222	4-cell holder for up to 100mm square cuvette
11000252	Square cuvettes, optical glass, 10mm. Set of 4 pcs
11000262	Square cuvettes, optical glass, 20mm. Set of 4 pcs
11000272	Square cuvettes, optical glass, 30mm. Set of 4 pcs
11000282	Square cuvettes, optical glass, 50mm. Set of 4 pcs
11000292	Square cuvettes, optical glass, 100mm. Set of 4 pcs
11000302	Square cuvettes, quartz, 10mm. Set of 2 pcs
11000312	Square cuvettes, quartz, 20mm. Set of 2 pcs
11000322	Square cuvettes, quartz, 30mm. Set of 2 pcs
11000332	Square cuvettes, quartz, 50mm. Set of 2 pcs
11000342	Square cuvettes, quartz, 100mm. Set of 2 pcs

UV-30 SCAN Spectrophotometer

The **UV-30 SCAN** is the fully scanning UV/Vis spectrophotometer with advanced performance for quality control. **The automatic blank subtraction allows to perform scanning of the whole wavelength range.**

The application software offers all the important methods for quantitative and qualitative analysis which make this instrument widely suitable for the **food industry, water analysis, vinery, R&D, and pharmaceutical industry.**

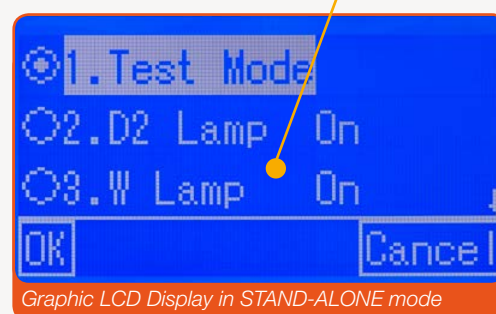
Ideal for:

- Quality Control
- Food Industry
- Water analysis
- Vinery
- Pharmaceutical Industry
- R&D Laboratories



Technical Data	UV-30 SCAN
Wavelength Range	190 - 1100 nm
Spectral Bandwidth	2 nm
Optical System	Single Beam, Grating 1200 lines/mm
Wavelength Accuracy	± 0,5 nm
Wavelength Repeatability	± 0,3 nm
Wavelength Resolution	0,1 nm
Photometric Accuracy	± 0,3% T
Photometric Repeatability	± 0,2% T
Photometric Range	0...200 %T, -0,3...3 A, 0...9999 Conc
Stray Light	≤ 0,05%T @ 320, 360nm
Stability	±0,002 A/h @ 500 nm
Display	Graphic LCD (128x64 Pixels)
Photometric Mode	%T, Abs, Energy
Detector	Silicon Photodiode
Standard Cell Holder	4-position 10mm cell changer
Sample Compartment	Standard 10mm path-length cells
Light Source	Tungsten and Deuterium lamps
Output	USB Port for external PC control
Power Requirement	AC 110V~220V 50/60Hz
Dimensions (W*D*H)	440x387x180 mm
Weight	14 kg

Option of switching off the lamps in order to preserve the lifetime

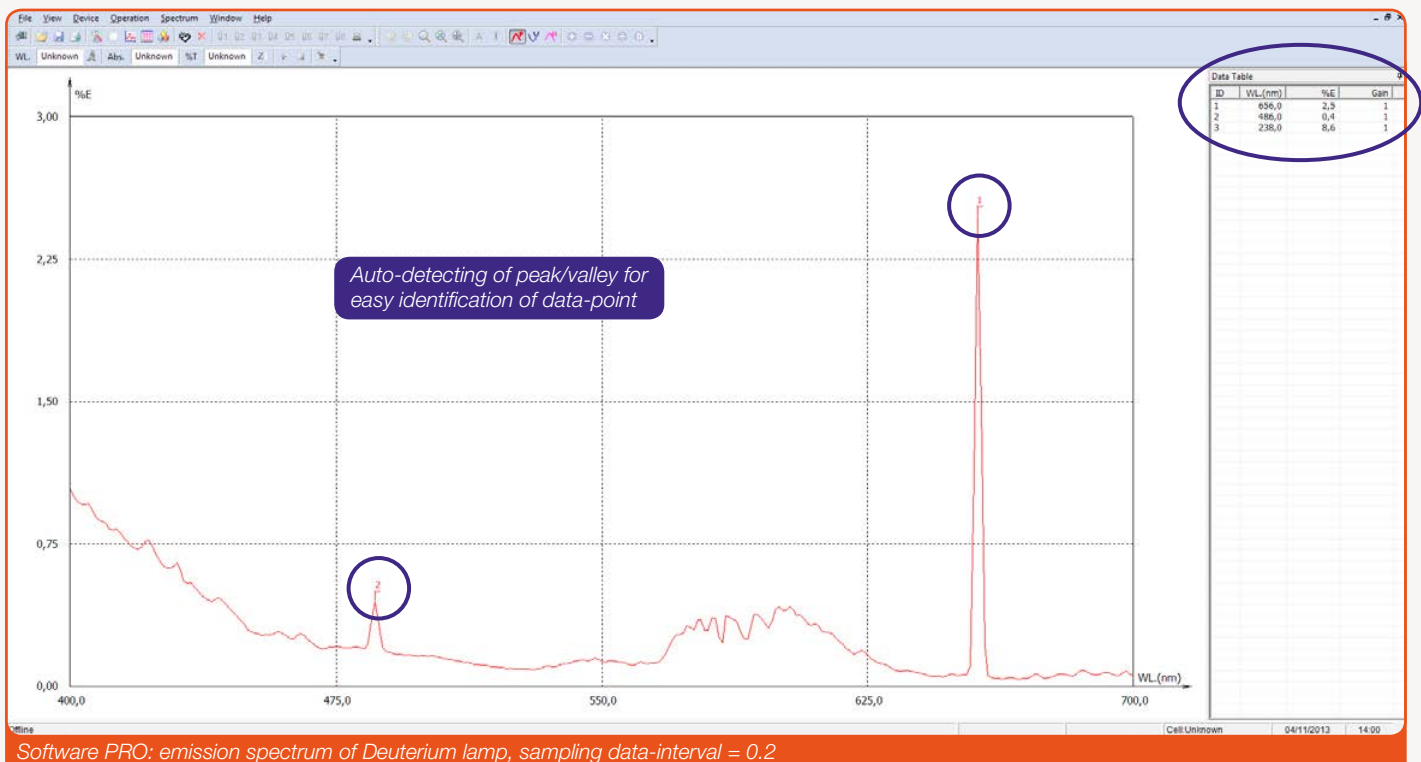


Graphic LCD Display in STAND-ALONE mode

Part No.	Description
11000032	UV-30 SCAN Spectrophotometer, including: 4 optical glass cells, 2 optical quartz cells, 4-position cell holder, power cable with EU plug, Professional PC software, USB cable, dust cover. Complete with Test Certificate referable to DKD Standard

Features

- Auto-setting wavelength
- Tungsten lamp & Deuterium lamp turning on/off individually to extend lifetime
- Function: Quantitative, Kinetics, Wavelength Scan, Multi-wavelength & DNA/Protein Test
- Interval data point setting in Wavelength Scanning
- Quantitative: Standard Curve, Coefficient Methods
- System saving of the test results (total 200 groups of data and 200 standard curves) convenient for check and reload
- Data restoration after a sudden power cut
- The Professional PC software supplied provides complete control of the spectrophotometer from the computer, widening the functionality to spectrum analysis, auto-detecting of peak/valley, spectrum calculation and data exporting to spreadsheets
- Large sample compartment, for accommodation of 5-100mm path length cuvettes with optional holders
- Pre-aligned design makes convenient lamp replacement
- A variety of optional accessories are available



UV-30 SCAN Accessories



4-position cell holder for up to 50mm square cuvettes



4-position cell holder for up to 100mm square cuvettes



Cell holder for micro-cells (central beam height: 15mm)



8-position auto cell changer for 10mm square cuvettes



A-100 Peltier/Sipper System, constant-Temperature Sipper System (Holder beam height: 15mm)



Complete range of cuvettes (in optical glass and quartz)



Micro-cell, quartz, light-path of 10mm



Flow cell, 10mm, (central beam height: 15mm)

Part No.	Description
Cell Holders	
11000212	4-cell holder for up to 50mm square cuvette
11000222	4-cell holder for up to 100mm square cuvette
11000232	Cell holder for micro-cells (central beam height: 15mm)
11000242	8-position auto cell changer for 10mm square cuvette
Optical glass cells (Visible)	
11000252	Square cuvettes, optical glass, 10mm. Set of 4 pcs
11000262	Square cuvettes, optical glass, 20mm. Set of 4 pcs
11000272	Square cuvettes, optical glass, 30mm. Set of 4 pcs
11000282	Square cuvettes, optical glass, 50mm. Set of 4 pcs
11000292	Square cuvettes, optical glass, 100mm. Set of 4 pcs
Optical quartz cells (UV)	
11000302	Square cuvettes, quartz, 10mm. Set of 2 pcs
11000312	Square cuvettes, quartz, 20mm. Set of 2 pcs
11000322	Square cuvettes, quartz, 30mm. Set of 2 pcs
11000332	Square cuvettes, quartz, 50mm. Set of 2 pcs
11000342	Square cuvettes, quartz, 100mm. Set of 2 pcs
Micro-cells	
11000352	Micro-cell 100 μ l, quartz, 10mm
11000362	Micro-cell 200 μ l, quartz, 10mm
11000372	Micro-cell 500 μ l, quartz, 10mm
Flow-cells	
11000492	Flow cell, 10mm, optical glass (central beam height: 15mm)
11000502	Flow cell, 10mm, optical quartz (central beam height: 15mm)
Sipper and Peltier Systems	
11000462	A-101 Sipper System, Holder beam height: 15mm
11000472	A-102 Peltier System, constant-Temperature (Holder beam height: 15mm)
11000482	A-100 Peltier/Sipper System (Holder beam height: 15mm)
IQ-OQ Validation	
11000192	IQ-OQ Manual for UV-20 and UV-30 SCAN spectrophotometers