

# Kinematic Viscosity Analysis

*Koehler carries a full line of instruments for kinematic viscosity analysis*



Many models conform to the specifications of ASTM D445, D2170, D6074, D6158:IP 71, 319; ISO 3104; DIN 51550; FTM 791-305; NF T 60-100, and all related specifications for kinematic viscosity testing.

Digital kinematic viscosity baths are available with the following optional features:

- Constant temperature
- High temperature (232°C)
- Refrigerated (-70°C)
- Automated
- Full line of glass capillary viscometers (see p. 13)



K23700 Constant Temperature Kinematic Viscosity Bath (KV3000)



# Viscosity Reference Standards

*Conforming to ASTM Standards*

For more information (and pricing) please contact Technical Support at 1-888-883-3636 or email [techsupp@mandel.ca](mailto:techsupp@mandel.ca)

**Features & Benefits**

- Manufactured and certified according to ASTM D2162
- Supplied with an ISO/IEC 17025 Certification Report
- Fully compliant to ASTM and related test procedures
- Custom standards available
- Calibrated at a minimum of 5 temperatures to a precision of ±0.2% for viscosity and kinematic viscosity



Cat. No.	Viscosity Standard	Approximate Kinematic Viscosity in mm <sup>2</sup> /s (Centistokes)								Saybolt Viscosity		
		20°C 68°F	25°C 77°F	37.8°C 100°F	40°C 104°F	50°C 122°F	60°C 140°F	98.9°C 210°F	100°C 212°F	SUS 100°F	SUS 210°F	SFS 122°F
KO-355-004-004	N.4	0.47	0.45	0.41	0.40	—	—	—	—	—	—	—
KO-355-004-008	N.8	0.95	0.89	0.77	0.75	—	—	—	—	—	—	—
KO-355-004-001	N1.0	1.3	1.2	1.0	0.97	—	—	—	—	—	—	—
KO-355-002-003	S3	4.6	4.0	3.0	2.9	2.4	—	1.2	1.2	—	—	—
KO-355-003-005	D5	7.0	6.1	—	4.2	3.4	—	—	1.5	—	—	—
KO-355-002-006	S6	10	8.7	6.0	5.7	4.5	—	1.9	1.9	—	—	—
KO-355-003-010	D10	14	12	8.0	7.5	5.8	—	2.3	2.3	—	—	—
KO-355-004-010	N10	21	17	11	10	7.3	—	2.7	2.7	—	—	—
KO-355-002-020	S20	43	34	20	18	13	—	4.0	3.9	96.6	—	—
KO-355-004-035	N35	77	59	35	29	20	—	5.3	5.2	152.1	—	—
KO-355-002-060	S60	165	121	60	54	35	—	7.7	7.5	281	—	—
KO-355-004-100	N100	372	268	128	114	70	—	13	13	592	—	—
KO-355-002-200	S200	672	468	200	181	107	—	18	17	955	88.2	—
KO-355-003-500	D500	825	578	—	226	133	—	—	21	—	—	—
KO-355-004-350	N350	1,255	865	371	324	186	—	28	27	—	131.5	—
KO-355-003-103	D1000	1,689	1,151	—	418	236	—	—	32	—	—	—
KO-355-002-600	S600	2,184	1,472	600	518	286	—	37	36	—	174	135.2
KO-355-004-103	N1000	4,678	3,089	—	1020	542	350	—	57	—	—	—
KO-355-002-203	S2000	8,323	5,422	2,000	1,719	889	—	87	83.3	—	405	—
KO-355-003-503	D5000	8,800	5,700	2,150	1,850	950	—	—	88	—	—	—
KO-355-003-752	D7500	13,296	8,609	2,681	—	1,365	—	—	118	—	—	—
KO-355-004-403	N4000	17,889	11,470	—	3,448	1,720	850	—	137	—	—	—
KO-355-002-803	S8000	34,931	22,383	8,000	6,710	3,317	—	—	242	—	—	—
KO-355-004-153	N15000	79,423	49,714	—	13,994	6,650	3,000	—	406	—	—	—
KO-355-002-304	S30000	—	84,687	28,079	23,570	11,058	—	—	628	—	—	—

# PETROCHEMICAL ANALYZERS

## Calibrated Glass Capillary Kinematic Viscometers

Mandel offers a full selection of Koehler glass capillary viscometers for measuring kinematic viscosity of liquid petroleum products in accordance with ASTM D 445 and related standard test methods.



Cannon®-Fenske Routine

Ubbelohde

Cannon®-Fenske Opaque

- Cannon-Fenske Routine Viscometers
- Reverse Flow Viscometers
- Small Volume Viscometers

- Ubbelohde Viscometers
- Dilution Viscometers
- Vacuum Viscometers



## K13500 Automated Colorimeter

This colorimeter provides photometric colour measurements required for purity and quality control testing that are objective, accurate, and consistent over a wide variety of samples.

- Microprocessor-based unit features a modern optical system with reference beam path (RST-technology) and measures samples in comparison to 15 possible colour ranges.
- Custom configured to user specifications, the K13500 colorimeter easily performs single, multi-measurement, colour difference, and colour strength tests.
- Optional barcode reader provides easy sample and user identification.
- Tests take less than one minute to complete and results can be displayed either on LCD screen or sent to an external printer.
- Conforms to ASTM D 145, D 1500 and related specifications.
- Spectral range for colour measurement: 340 to 900nm.



For more information on Koehler products, contact Mandel Technical Support at 1-888-883-3636 or [techsupp@mandel.ca](mailto:techsupp@mandel.ca)

## Flash Point Testing

Automatic and manual, open and closed cup models for the following methods:

- Pensky-Martens
- Abel
- Tag
- Cleveland



K16200 Pensky-Martens flash tester with K16220 accessory stirrer meter

## General Test Equipment

Mandel is your source for quality instrumentation and technical support for your research and testing laboratories. As representative of Koehler Instrument Company, a leading producer and supplier of petroleum and petrochemical instrumentation, our technical representatives can help you choose the appropriate combination of products for your specific requirements and provide you with technical support before, during and after your purchase. Our Koehler products include:

- viscosity baths
- colorimeters
- refractometers
- distillation equipment
- foaming characteristics
- water separability testers
- wear testing equipment
- cloud and pour point test equipment and others...



K93500 Pin-On-Disc Machine, 115V 60Hz



## Order your Koehler Petroleum Testing Equipment Catalogue

Koehler is a leading producer of petroleum and petrochemical instrumentation, standards and accessories, backed by Mandel's Koehler-trained sales and service representatives.

- Viscosity
- Penetration
- Flash Point
- General Test Equipment
- Certified Petroleum Standards
- ASTM Thermometers, Test Specimens, Glassware
- Fuels
- Lubricating Oils
- ... and more!

Contact the Literature Department at:  
[literature@mandel.ca](mailto:literature@mandel.ca)  
 1-888-883-3636

# Portable Octane Analyzer

*Measures all grades of unleaded gasoline*

The Portable Octane Analyzer measures the octane number with near-infrared (NIR) transmission spectroscopy utilizing 14 NIR-emitting diodes with narrow bandpass filters, a silicon detector system, and a fully integrated microprocessor. The analyzer is pre-calibrated for unleaded gasoline and ethanol-blended fuels, and can be calibrated for up to eight additional fuel types.

The analyzer is small, lightweight, and operates on "AA" batteries or AC. Before each reading, the unit standardizes itself to assure accuracy. The octane number is printed with time and date on the built-in printer. All data can be downloaded via the RS232 port to an external computer.

The following accessories are included: IBM-compatible software, RS232 cable, aluminum carrying case, 5 rolls of paper, 3 sample holders, light cover, 6 AA batteries, 6 sample holder labels.



K88600

**Specifications**

Accuracy and repeatability:	Equivalent to ASTM approved CFR engines test methods (ASTM D2699, D2700)
Sample holder:	Sealed, cubical glass container (75mm optical path length)
Sample volume:	225mL

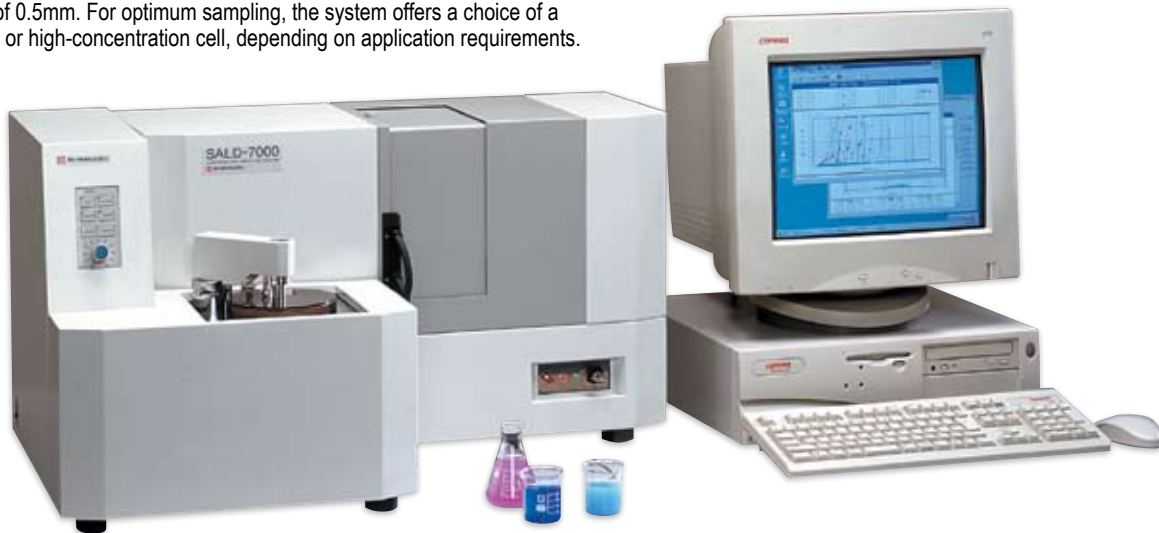
*For more information, please contact Mandel Technical Support at 1-888-883-3636 or techsupp@mandel.ca*

# Shimadzu SALD-7001 Particle Size Analyzer

*Superfine particle analysis down to 0.015µm*

A single light source of violet laser combined with a single optical system allows for the accurate determination of the size of particles from 15nm to 500µm by laser diffraction method. A single seamless measurement links distribution of superfine particle size to mid-size particles of 0.5mm. For optimum sampling, the system offers a choice of a flow cell, batch cell or high-concentration cell, depending on application requirements.

*Other particle size analyzers are also available. For more information, please contact Mandel Technical Support at 1-888-883-3636 or techsupp@mandel.ca*



**SALDI-7001 is equipped with three key technologies for the measurement of superfine particles:**

- Violet semiconductor laser (405nm-wavelength)
- High-sensitivity sensing elements on the violet laser for reaching the lower limit of 15nm
- High-sensitivity, strategically placed photosensors that can detect up to a 60-degree angle of light scattering for greater resolution in the sub-micrometer range.