



TORONTECH

PORTABLE KINEMATIC VISCOMETER



Portable Kinematic Viscometer

A Portable Kinematic Viscometer is designed to measure the flow behavior of oils under controlled temperature, then report kinematic viscosity in cSt for fast field decisions.

The two ToronPKV™ models in this category are positioned for on-site lubricant testing, but they use different measurement architectures: ToronPKV™ 2200 is based on a capillary tube type platform with automated measurement and cleaning, while ToronPKV™ 350 is based on a split-cell capillary platform optimized for very small samples and dirty oil testing without pretreatment.

A Portable Kinematic Viscometer measures the time-based flow of a liquid under controlled conditions, which is the basis of kinematic viscosity testing. ASTM D445 and ISO 3104 describe kinematic viscosity as the flow of a liquid through a calibrated glass capillary viscometer under gravity, while ASTM D7279 covers automated Houillon-type measurement of transparent and opaque liquids.

What makes a portable kinematic viscometer different from a regular viscometer is both the property being measured and the intended workflow. A regular viscometer may measure dynamic or apparent viscosity using rotational, vibrational, or other methods, while a portable kinematic viscometer is focused on kinematic viscosity and is built for field use with compact form factors, integrated temperature control, and quick result reporting.

ToronPKV™ 2200 is suited to users who want broader viscosity coverage, a larger sample compatibility window, and a more automated workflow with built-in cleaning and drying. ToronPKV™ 350 is suited to users who prioritize very low sample volume, easy split-cell cleaning, and testing of dark or heavily contaminated oils without sample pretreatment.

Table Comparison

Category	Wide Range Portable Kinematics Viscometer - ToronPKV™ 2200	Compact Portable Kinematics Viscometer - ToronPKV™ 350
Measurement design	Capillary tube type	Split-cell capillary sample chamber

Category	<u>Wide Range Portable Kinematics Viscometer - ToronPKV™ 2200</u>	Compact Portable Kinematics Viscometer - ToronPKV™ 350
Standard alignment	ASTM D7279, ASTM D445	ASTM D8092
Viscosity range	2 to 2000 mm ² /s (cSt)	10 to 350 cSt at 40°C
Sample volume	0.3 to 1 mL	60 µL
Measurement temperatures	40 to 100°C	40°C / 100°C with stated temperature control
Temperature control accuracy	±0.1%	
Repeatability	≤ 1%	≤ ±3%
Speed	Fastest result within 1 minute; generally within 3 minutes; full cycle typically within 5 minutes	Test time depends on viscosity, from seconds to several minutes
Automation level	Automatic measurement, cleaning, drying, and result calculation	Embedded software with manual sample loading into split-cell chamber
Sample compatibility	Transparent and opaque Newtonian liquids including gasoline, diesel, kerosene, cutting fluid, heat transfer oil, additives, lubricating oil, and used oil	Transparent oils, black oils, and heavily contaminated oils without pretreatment
Cleaning approach	Automatic cleaning system; cleaning liquid consumption generally no more than 10 mL per process	Open-close cell, wipe-clean surface with non-abrasive cleaning pad
Battery / portability	Integrated portable design with engineering case; lithium battery supports up to 10 hours at 100°C	Rechargeable 24V, 2600 mA battery module
Data export	USB data export	Built-in memory up to 1000 sets and USB export in tabular format
Dimensions	390 × 230 × 300 mm	201 × 119 × 155 mm
Weight	Approx. 8 kg	1.5 kg

Why choose ToronPKV™ for your Portable Kinematic Viscometer

ToronPKV™ gives users two different portable workflows under one category, which makes model selection easier based on actual field conditions. ToronPKV™ 2200 fits teams that want broader viscosity range coverage, automatic cleaning and drying, and faster full-cycle testing for multiple oil types. ToronPKV™ 350 fits teams that want the lightest format, very low sample consumption, and easier handling of dark or contaminated used oils without pretreatment.

The category also aligns well with common industry testing expectations. ToronPKV™ 2200 is directly tied to ASTM D445 and ASTM D7279 style workflows, while ToronPKV™ 350 is tied to ASTM D8092 field use. That gives buyers a clearer path when comparing portable screening needs against established laboratory reference methods such as ASTM D445 and ISO 3104.

For field maintenance teams, the value is speed, portability, and lower dependency on fixed lab access. Both models are built for on-site viscosity checks, but they solve different problems: one emphasizes automation and wider range, while the other emphasizes compact design, low sample volume, and dirty-oil tolerance.



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