

# Multiparameter Jet Fuel Analysis

SVM 3001 Cold Properties with Xsample 340

Perform seven critical jet fuel tests and simultaneously measure up to 15 parameters with a single automated unit using test methods compliant with ASTM D1655, D7566, and DefStan 91-091.



Find out more

## Did you know?

According to the global ASTM specifications D1655, D7566, and DefStan 91-091, jet fuels derived from non-conventional sources must meet viscosity specifications not only at -20 °C, but also at -40 °C.

SVM 3001 Cold Properties, in combination with Xsample 340, determines viscosity at both -20 °C and -40 °C, density at 15 °C, and freezing point – all in full compliance with ASTM standards. This makes it an ideal solution for analysis of petroleum-derived jet fuels such as Jet A, Jet A-1, and JP-8, as well as sustainable aviation fuels (SAF).

## Highlights

- **Multiparameter jet fuel analysis:** Kinematic viscosity at -20 °C and -40 °C, density at 15 °C, freezing point, kinematic and dynamic viscosity borderline temperature (temperature at 12 cSt or any other viscosity), SFP (viscosity at 3 °C above freezing point), API, specific gravity, cloud point, and more
- **Fully ASTM-compliant measurements:** Freezing point according to ASTM D8630, viscosity according to ASTM D7042, and density according to ASTM D4052
- **True pumpability characterization:** Complete viscosity-temperature profile (instead of isolated measurements at a few fixed temperatures)
- **Exceptional flexibility:** Viscosities from 0.2 mm<sup>2</sup>/s to 30,000 mm<sup>2</sup>/s, densities from 0 g/cm<sup>3</sup> to 3 g/cm<sup>3</sup>, and freezing point from -75 °C to +80 °C without any change or reconfiguration
- **Self-cleaning or solvent cleaning:** Cleaning via sample replacement or with solvent to prevent contamination

## Benefits

- No liquid bath required: Integrated Peltier temperature control eliminates bath handling, long temperature equilibration times, and maintenance
- No breakable glass capillaries
- Minimal sample consumption: As little as 10 mL for all standards-compliant tests combined
- Full automation with Xsample 340: Automated sample handling and true cleaning with up to two solvents, minimizing human error and ensuring standards-compliant measurements every time
- Digital data recording and storage for reliable traceability
- Expandable system: Upgradeable with multi-position sample changers (up to 71 positions), refractometers, and AP Connect lab execution software
- Beyond jet fuel: Analysis of up to 15 parameters in one run for a broad range of petroleum products, including diesel, marine distillate, and other fuels as well as base oil and lubricants
- Cloud point determination also for distillate fuels



### SVM 3001 Cold Properties with Xsample 340

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|--|---|
| <b>Test methods</b>                                | ASTM D7042 (viscosity),<br>ASTM D4052 (density),<br>ASTM D8630 (freezing point) |
| <b>Viscosity range</b>                             | 0.2 cSt to 30,000 cSt   |
| <b>Temperature range</b>                           | -60 °C (-75 °C for freezing point determination) up to +100 °C                  |
| <b>Density range</b>                               | 0 g/cm <sup>3</sup> to 3 g/cm <sup>3</sup>                                      |
| <b>Freezing point range</b>                        | -75 °C to +80 °C  |
| <b>Sample volume (min./typical)</b>                | 3 mL / 10 mL  |
| <b>Viscosity repeatability<sup>1)</sup></b>        | 0.1 %   |
| <b>Freezing point repeatability<sup>2)</sup></b>   | 0.4 °C  |
| <b>Freezing point reproducibility<sup>2)</sup></b> | 1.1 °C  |

Trademarks: SVM (13411996), FillingCheck (6834725)

1) Attested at the points of the works adjustment or at calibration correction points, not including the uncertainty of the standards. Valid for ideal measuring and sample conditions within the works adjustment range.

2) At -47 °C according to ASTM D8630