

Applications & Primary Methods Guide

Real time results, correlated to almost any primary test method

The JP3 Verax and XSPCT analyzer systems produce rapid optical measurements that are correlated with primary ASTM or GPA test methods using chemometric models. Any JP3 read point can measure any combination of the properties listed below.

Each analytical standard in the table below contains individual precision (repeatability and reproducibility) specifications. The combination of application and analytical method used determines the final performance of the resulting models, which commonly equals published ASTM/GPA performance data where available.

Applications



Upstream

- Well pad separation units (gas and liquid)
- Vapor recovery units
- Compressor fuel gas
- Liquid and gas allocations
- Stabilizers
- Heater treaters
- Truck loading



Midstream

- Terminals (crude, NGLs, condensate)
- Blending (crude, NGLs, LPG)
- Truck offloading
- Stabilization (crude, condensate)
- Crude splitters
- Pipelines (products, interfaces)
- Gas plants and fractionation plants
- Gas pipelines



Downstream

- Pipelines (refined fuels, purity products)
- Refinery crude supply
- Crude blending
- Crude Distillation Unit
- Terminals (refined fuels, NGLs)
- Gasoline blending
- NGL & LPG blending

Product	Measurement	Standards
Crude / Condensate	Composition (C1-C6+, C9+, C15+, C30+)	GPA 2103, 2186
Crude / Condensate	Vapor Pressure (RVP, VPCRx, TVP)	ASTM D6377
Crude / Condensate	API Gravity	ASTM D4052
Crude / Condensate	True Boiling Point	ASTM D2892, D5236
Crude / Condensate	Distillation Profile / SimDis	ASTM D86 / D7169
Natural Gas / VRU Gas	Composition (C1-C6+)	GPA 2261
Natural Gas / VRU Gas	Composition (C1-C9+)	GPA 2286
Natural Gas / VRU Gas	Relative Density	GPA 2261, 2286
Natural Gas / VRU Gas	BTU	GPA 2261, 2286
NGL Products	Composition (C1-C6+ & propylene)	ASTM D2163
NGL Products	Composition (C1-C6+)	GPA 2177
NGL Products	Composition (C1-C15+)	GPA 2186
NGL Products	Specific Gravity	ASTM D1657
NGL Products	Vapor Pressure (RVP, VPCRx, TVP)	ASTM D1267, D2598*, D6897
NGL Products	Distillation Profile	ASTM D2887, D7344
Refined Fuels	Vapor Pressure (RVP, VPCRx, TVP, DVPE)	ASTM D5191
Refined Fuels	API Gravity	ASTM D4052
Refined Fuels	Distillation Profile	ASTM D86
Gasoline	Vapor/Liquid Ratio (V/L)	ASTM D5188
Gasoline	RON/MON Octane Number	ASTM D2699 / D2700
Gasoline	Benzene Content (%)	ASTM D5580
Gasoline	Butane Content (%)	ASTM D2186
Diesel	Cetane Index	ASTM D4737
Diesel	Cetane Number	ASTM D613
Diesel	Cloud Point	ASTM D2500, D5773
Diesel	Flash Point	ASTM D93, D7094
Jet	Flash Point	ASTM D56
Jet	Freeze Point	ASTM D5972
Jet	Pour Point	ASTM D97, D5949

*ASTM D2598 requires a compositional measurement on the same read point such as 2177, D2163, or 2186.