

Wine Analysis for Small Scale Wineries

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Analysis / Measuring	Product	Recommended for User	Pros	Cons	Additional Product Cost	Cost per Test
Monitoring Sugar Level in Field Brix	Hand-held Refractometer	A & B	Lasts many years	Lens must be kept clean and scratch free Can only be used on non-fermenting juice	\$50 - \$100+	\$0
Monitoring Primary Fermentation Brix	Hydrometer	A & B	Lasts many years	Samples require elimination of CO ₂ Proper technique is imperative	\$20 to \$30+	\$0
Monitoring Secondary Fermentation LMA	Accuvin Quick Test test strips	B	Easy to use	Not as accurate as other options	\$0	\$3
	Merck RQflex 10 Reflectometer	B	Fairly easy to use; digital read-out Accuracy not bad Option of PC connectivity	Not a rugged instrument A bar-code strip needed Requires periodic calibration	\$750	\$2.20
	MegaQuant Colormeter	A and very motivated B	Reagents in tablet form Battery powered and portable Fairly accurate	Requires good laboratory skills Requires additional equipment	\$700	\$3.60
	Spectrophotometer	A	Accurate result; low cost per test for high volume users	Requires high level of laboratory skills Requires precise measuring equipment	\$2,000	\$2.25 - \$6.00
Confirmation of Dryness for Primary and Secondary Fermentations RS and LMA	Professional lab service	B	Accurate results	More expensive	Per lab	
	Spectrophotometer	A	Accurate result; slow cost per test for high volume users	Requires high level of laboratory skills Requires precise measuring equipment	\$2,000	\$2.25 - \$6.00
TA and pH TA and pH	Accuvin Quick Test test strips	B	Easy to use	Not as accurate as other options	\$0	\$2
	Merck RQflex 10 Reflectometer	B	Fairly easy to use; digital read-out Accuracy not bad Option of PC connectivity	Not a rugged instrument A bar-code strip is needed Requires periodic calibration	\$750	\$1.40 - \$1.60
	Hanna pH/ATC Portable Meter	B	Easy to use and calibrate Accurate to +/-0.15 pH units Waterproof	Requires pH 4 and pH 7 buffer solutions to calibrate Requires periodic electrode replacement Can be used only for pH	\$100	\$0
	Bench top pH meter	A	Accurate results for both TA and pH Lasts many years	Requires good laboratory skills Requires daily calibration Requires periodic electrode replacement	\$700	Minimal
Determination of Alcohol Levels Alcohol	Merck RQflex 10 Reflectometer	B	Fairly easy to use Digital read-out Accuracy not bad Option of PC connectivity	Not accurate enough for critical measurements Not a rugged instrument; bar-code strip is needed Requires periodic calibration	\$750	\$2.60
	Hanna Instruments HI 83540 Alcohol Meter (Limited product information)	A & B	Accuracy is within TTB limits of 1.5% Fairly easy to use	Not accurate enough for critical measurements	\$775	\$1.43
	Ebulliometer	A & B	Accurate within +/-0.5% Inexpensive; fairly easy to use Lasts many years	Problems can result in inaccurate readings Alcohol burner emits fumes	\$1,000	Minimal
VA Analysis VA	Distillation via Cash Still	A & B	Accurate results Inexpensive after initial investment Lasts many years	Made of glass and can break Requires good laboratory practice and safety Requires a moderate level of lab skill	\$900	Minimal
	Spectrophotometer	A	Accurate up to 0.05 g/100ml (as acetic acid)	Expensive for small number of samples Requires high level of laboratory skills Requires precise measuring equipment	\$2,000	\$2.25 - \$6.00
Measuring SO₂ SO₂	Accuvin Quick Test test strips	B	Easy to use	Not as accurate as other options	\$0	\$2.73
	Merck RQflex 10 Reflectometer	B	Fairly easy to use Digital read-out Accurate for 1 to 50 ppm Option of PC connectivity	Not a rugged instrument A bar-code strip needed Requires periodic calibration	\$750	\$1.80
	Ripper method (requires titration set)	A & B	More accurate results than above methods (+/- 10%); fast Inexpensive and not too difficult	Requires a moderate level of lab skill Must be able to reach same end points consistently	\$100	Minimal
	Hanna Instruments HI 84100 Mini Titrator (Limited product information)	A & B	More accurate than Ripper (+/- 5%) Pre-packaged solutions and reagents Digital read-out	Cost per test is higher	\$575	\$1.00
	Spectrophotometer	A	Fast and fairly accurate	Expensive for small number of samples Requires high level of laboratory skills Requires precise measuring equipment	\$2,000	\$2.25 - \$6.00
	Aeration and Oxidation (A/O)	A & B	Accurate results Inexpensive after initial investment Lasts many years	Glassware breaks Requires a moderate level of lab skill Must be able to reach same end points consistently	\$200 - \$300	Minimal