RANDOX
FOOD DIAGNOSTICS

Wine Analysis

Excellence in every glass

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Randox Food Diagnostics is a global supplier of diagnostic products for wineries and wine laboratories. Over 30 years' experience in reagent development has supported the production of accurate analysers and reagents, which assist winemakers in the production of the highest quality wines.

Randox Food's comprehensive range of colorimetric and enzymatic kits provide accurate and reliable testing solutions to ensure quality in every glass. With a dedicated research and development team, Randox Food strive to support the needs of the global wine industry.

Why test?

Analytical chemistry is an essential part of the winemaking process, ensuring not only the safety of the final product, but also the quality. Understanding the fundamental aspects of grape and wine production has become increasingly important in winemaking, helping to closely monitor the process and create the best quality wines.

Randox Food Diagnostics offer a wide range of reagents across multiple applications for manual, semi-automated and automated analysers, helping winemakers accurately assess their wines at all stages of production. Randox Food analysers for wine analysis include the RX misano and the RX monaco. Running analytical chemistry with Randox Food means winemakers can measure the acidity, sugars, sulphites and metals, as well as levels of potassium, glycerol and ethanol during the winemaking process, promoting excellence in every glass.

RX misano

The RX misano brings the most modern analysis technology to wineries and wine laboratories worldwide. Available with a choice of two detection systems (280nm and halogen), users are offered an extensive testing range with wavelengths between 280nm and 700nm.

Accuracy combined with the flexibility of increased wavelengths, open channels and the ability to favourite and upload new parameters via USB, means the RX misano is the most versatile and easy to use wine analyser on the market. With a new smart monitoring system, the RX misano automatically detects potential analysis problems and reports them to the user. Using the latest technology, the RX misano gives winemakers accurate, trusted results throughout the winemaking process.

Specifications

Physical dimensions

Height	305mm
Depth	330mm
Width	235mm
Weight	6.5kg
Screen	7" Capacitive touch screen

Performance characteristics

Analyser accreditations	CE, CULUS
Calibration principal	K-Factor, linear, point to point, spline, log-logit
Data management	Storage of up to 1000 results which are exportable via USB
Detection principal	2 detection system options Halogen only - 340,420, 520, 546, 578, 600, 620, 660 & 700nm LED - 280nm
Light source	Halogen tungsten lamp and 280nm LED (optional)

Catalogue number

RX misano analyser	RX6015
RX misano analyser (with optional printer)	RX6016
RX misano analyser (with optional 280nm LED)	RX6017
Cuvette incubator	M701-484

RX misano

A compact wine analyser
with intuitive features

Smart monitoring system

The RX misano automatically checks for air bubbles and clots, as well as monitoring environmental conditions to prevent overheating. The analyser is also highly efficient, powering down when temperatures required for analysis reach their desired levels.

User friendly

With user friendly features such as a touch screen, favourites menu, on screen prompts and the ability to export data in excel format, the RX misano makes in-house analysis simple and effective.

Accurate

The RX misano boasts increased accuracy compared to other methods, producing results within +/- 1% of UKAS accredited reference materials.

10 wavelengths

The RX misano comes with 2 detection system options; the halogen only option covers 340, 420, 520, 546, 578, 600, 620, 660 and 700nm, with the additional 280nm wavelength available for the analysis of phenols.

Customisable test menus

As the Randox Food Diagnostics' test menu grows, users can simply upload new parameters to the machine via USB, ensuring they have the most up to date tests available.

Reduced foot print

The RX misano has a smaller footprint than standard spectrophotometers, making it suitable for laboratories of all sizes.

RX monaco

For high throughput wine testing laboratories and wineries, Randox Food Diagnostics offers the RX monaco. An efficient option to upgrade from a semi-automated to a fully automated analyser, the RX monaco is capable of performing 170 tests per hour.

The use of intuitive software ensures easily accessible information and control of operations from the main screen with informative tabs, making this high throughput analyser one of the easiest to use on the market. The RX monaco uses a shared reagent and sample carousel with a total of 66 user defined positions, as well as an on-board refrigeration system. The reagents are cooled between 5°C – 15°C, ensuring stability of reagents.

Specifications

Physical dimensions

Height	517 mm
Depth	752 mm
Width	998 mm
Weight	120 kg

Reagent and sample system

Reagent cooling	5 – 15°C
Reagent and sample capacity	Shared reagent and sample carousel with a total of 66 user defined positions
Reagent and sample identification	Internal barcode scanner and handheld scanner for inner carousel
Reagent and sample pipette	Single reagent and sample pipette with digital liquid level detection and collision detection function, rinsed inside and out (warm water rinsing)

Performance characteristics

Throughput	170 wine tests per hour

Optical source

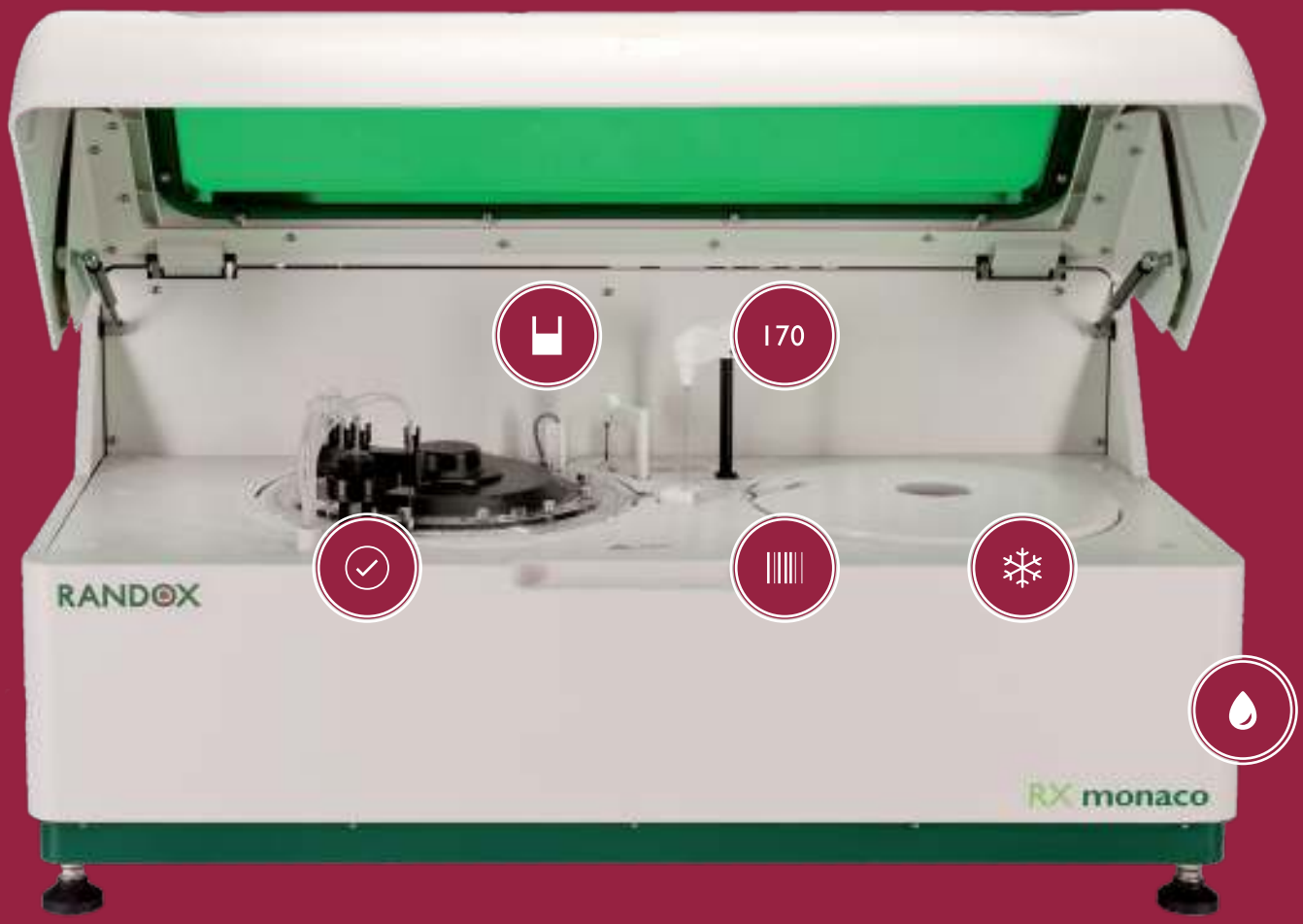
Detection principal	12 wavelengths generated via diffraction grating: 340, 380, 405, 450, 480, 505, 546, 570, 600, 660, 700, 800nm

Catalogue number

RX monaco analyser	RX5000
RX monaco with stand	RX5001

RX monaco

The ideal solution for high throughput testing



170 tests per hour

Running at its optimal configuration, the RX monaco is capable of performing 170 tests per hour, providing increased efficiency by delivering more tests per minute.

Integrated barcode readers

The RX monaco has integrated barcode readers for reagent and sample identification, ensuring samples and reagents are mixed accurately.

On-board reagent refrigeration

With an on-board fitted refrigeration system, the RX monaco keeps reagents cooled between 5°C and 15°C.

Reusable cuvettes

The RX monaco has capacity for 120 cuvettes which are automatically washed on-board in a 12 step cleaning programme, minimising the risk of cross contamination.

Low minimum reaction volume

With a low minimum reaction volume of 150µl, the RX monaco uses less reagents than comparable methods, helping to improve efficiency by reducing wastage.

Cuvette check function

The cuvette checking function ensures the machine will only use clean reaction vessels, this function removes the potential for contaminated samples.


Excellence


in every glass

Wine Kits

L-Malic Acid

Malic acid testing allows the malolactic fermentation process to be monitored to check levels of malic are steadily decreasing.

Manual : 40 tests
RX misano : 80 tests
RX monaco : 222 tests
Method : UV

Shelf Life : 2 years
R1 Stability : 4 days
R2 Stability : To expiry

Method	Catalogue No.	Sensitivity	Linearity
Manual	ML2634	0.136 g/l	1.43 g/l
RX misano	ML2634	0.053 g/l	1.44 g/l
RX monaco	ML8343	0.053 g/l	1.0 g/l

Acetic Acid

In early fermentation, monitoring of acetic acid levels is very important with high levels indicative of spoilage bacteria.

Manual : 40 tests
RX misano : 166 tests
RX monaco : 444 tests
Method : UV

Shelf Life : 2 years
R1 Stability : 1 day
R2 Stability : 5 days

Method	Catalogue No.	Sensitivity	Linearity
Manual	AT2654	N/A	0.3 g/l
RX misano	AT7304	0.117 g/l	Conc. of Stand.
RX monaco	AT8362	0.03g/l	Conc. of Stand.

Glucose/Fructose

Sugars analysis allows alcohol fermentation to be monitored. This kit is a stable liquid reagent until the expiration date.

Manual : 50 tests
RX misano : 157 tests
RX monaco : 333 tests
Method : UV

Shelf Life : 15 months
R1 Stability : 3 months

Method	Catalogue No.	Sensitivity	Linearity
Manual	GF2635	0.3 g/l	7.5 g/l
RX misano	GF2635	0.3 g/l	7.5 g/l
RX monaco	GF8363	0.09 g/l	7 g/l (glu) 7 g/l (Tot. Sug)

L-Lactic Acid

L-lactic is the product of the metabolism of malic acid during malolactic fermentation. It is responsible for reducing acidity in wine.

Manual : 40 tests
RX misano : 80 tests
RX monaco : 146 tests
Method : UV

Shelf Life : 2 years
R1 Stability : 8 hours
R2 Stability : To expiry

Method	Catalogue No.	Sensitivity	Linearity
Manual	LC2653	0.056 g/l	0.469 g/l
RX misano	LC2653	0.045 g/l	0.47 g/l
RX monaco	LC8344	0.06 g/l	0.4 g/l

Ammonia

Ammonia determination is one important component in the calculation of YAN. Low nitrogen levels have been related to slow fermentation.

Manual : 50 tests
RX misano : 71 tests
RX monaco : 444 tests
Method : UV

Shelf Life : 2 years
R1 Stability : 3 weeks
R2 Stability : 3 months (RX monaco)
To expiry (Manual, RX misano)

Method	Catalogue No.	Sensitivity	Linearity
Manual	AM1015	1 mg/l	20 mg/l
RX misano	AM1015	1 mg/l	24 mg/l
RX monaco	AM8366	0.4 mg/l	15 mg/l

Primary Amino Nitrogen

Primary Amino Nitrogen (NOPA) is one of two main sources of nitrogen in yeast, when combined with ammonia it determines YAN content.

Manual : 100 tests
RX misano : 125 tests
RX monaco : 333 tests
Method : UV

Shelf Life : 2 years
R1 Stability : 3 weeks (Manual, RX misano)
28 days (RX monaco)
R2 Stability : To expiry

Method	Catalogue No.	Sensitivity	Linearity
Manual	NO3495	5.1 mg N/l	500 mg N/l
RX misano	NO3495	4.6 mg N/l	500 mg N/l
RX monaco	NO8365	10 mg N/l	500 mg N/l

Total Sulphites (TSO_2)

Sulphur dioxide content in wine is regulated as it is considered to be a toxic substance. The sulphur level will affect the labelling of a bottle of wine.

Manual : 100 tests
RX misano : 125 tests
RX monaco : 500 tests
Method : Colorimetric

Shelf Life : 2 years
R1 Stability : To expiry
R2 Stability : To expiry

Method	Catalogue No.	Sensitivity	Linearity
Manual	TS4051	5 mg/l	500 mg/l
RX misano	TS4051	5.2 mg/l	500 mg/l
RX monaco	TS8364	5 mg/l	500 mg/l

Free Sulphites (FSO_2)

Sulphites can aggravate intolerances, therefore accurate monitoring is essential for labelling requirements, as well as variations in national regulatory thresholds.

Manual : 120 tests
RX misano : 150 tests
RX monaco : On request
Method : Colorimetric

Shelf Life : 2 years
SB Stability : 15 days
Chromogen Stability : 15 days

Method	Catalogue No.	Sensitivity	Linearity
Manual	FH10040	3.1 mg/l	81.32 mg/l
RX misano	On request	3.1 mg/l	81.32 mg/l
RX monaco	On request	On request	On request

Glycerol

Glycerol is formed as a by-product of fermentation and has an impact on wine quality, fullness and sweetness.

Manual : 90 tests
RX misano : 180 tests
RX monaco : On request
Method : Colorimetric

Shelf Life : 2 years
R1 Stability : 14 days

Method	Catalogue No.	Sensitivity	Linearity
Manual	GY105	5 mg/l	400 mg/l
RX misano	GY105	7.2 mg/l	300 mg/l
RX monaco	On request	On request	On request

Potassium

Excessive potassium levels contribute to higher pH measurements in wine and potentially tartrate instability problems.

Manual : 60 tests
RX misano : 120 tests
RX monaco : 370 tests
Method : UV

Shelf Life : 2 years
R1 Stability : 7 days
R2 Stability : 2 weeks

Method	Catalogue No.	Sensitivity	Linearity
Manual	PT3852	0.04 g/l	0.4 g/l
RX misano	PT3852	0.08 g/l	0.45 g/l
RX monaco	PT8329	0.06 g/l	0.4 g/l

Ethanol

Naturally abundant, quantitative determination of ethanol is important in the production of intoxicating wines, beers and spirits.

Manual : 32 tests
RX misano : 42 tests
RX monaco : On request
Method : UV

Shelf Life : 1 year
R1 Stability : To expiry
R2 Stability : To expiry

Method	Catalogue No.	Sensitivity	Linearity
Manual	DA4015	1320 mg/dl 1.67 % v/v	25750 mg/dl 32.6% v/v
RX misano	DA4015	529 mg/dl 0.67 % v/v	25005 mg/dl 31.68% v/v
RX monaco	DA4015	On request	On request

Copper*

As well as being undesirable due to its toxicity, high levels of copper are also unwanted due to its propensity to cause copper casse in white wines.

Manual : 100 tests
RX misano : 200 tests
RX monaco : On request
Method : Colorimetric

Shelf Life : 2 years
R1 Stability : 2 weeks
R2 Stability : To expiry

Method	Catalogue No.	Sensitivity	Linearity
Manual	CU2340	0.28 mg/l	7.25 mg/l
RX misano	CU2340	0.27 mg/l	7.25 mg/l
RX monaco	CU2340	On request	On request

*Only suitable for white wine analysis

Iron

Iron favours oxidation, alters the sensory characteristics of wine and can cause casse. It is considered dangerous at high levels.

Manual : 200 tests
RX misano : 400 tests
RX monaco : 1000 tests
Method : Colorimetric

Shelf Life : 2 years
R1 Stability : To expiry
R2 Stability : 4 weeks
R3 Stability : To expiry

Method	Catalogue No.	Sensitivity	Linearity
Manual	S1257	0.21 mg/l	14 mg/l
RX misano	S1257	0.20 mg/l	14 mg/l
RX monaco	S1257	0.25 mg/l	15 mg/l

Total Antioxidant Status

The Total Antioxidant Status kit offers a quantifiable assessment of a beverage's phenolic content, by way of antioxidant activity.

Manual : 50 tests
RX misano : 100 tests
RX monaco : On request
Method : Colorimetric

Shelf Life : 1 year
R2 Stability : 2 days
R3 Stability : 1 day

Method	Catalogue No.	Sensitivity	Linearity
Manual	NX2332	0.2 mmol/l	2.58 mmol/l
RX misano	NX2332	0.2 mmol/l	2.58 mmol/l
RX monaco	NX2332	On request	On request

Tartaric Acid

Tartaric acid plays a key role in the stability of wines and influences the taste, colour and odour of the final product.

Manual : 50 tests
RX misano : 100 tests
RX monaco : On request
Method : Colorimetric

Shelf Life : 2 years
R1 Stability : To expiry
R2 Stability : To expiry

Method	Catalogue No.	Sensitivity	Linearity
Manual	TK4060	0.5 g/l	10 g/l
RX misano	TK4060	0.5 g/l	10 g/l
RX monaco	TK4060	On request	On request

Citric Acid

Citric acid can be added during the wine making process to boost wine acidity or act as a stabilising agent to help prevent ferric hazes.

Manual : 40 tests
RX misano : 80 tests
RX monaco : On request
Method : UV

Shelf Life : 1 year
R1 Stability : 5 days (12 weeks at -20°C)
R2 Stability : 3 days (12 weeks at -20°C)

Method	Catalogue No.	Sensitivity	Linearity
Manual	CTR4065	15 mg/l	400 mg/l
RX misano	CTR4065	9.56 mg/l	400 mg/l
RX monaco	CTR4065	On request	On request

Individual Enzymes

Enzyme	Catalogue No.	Size
MDH	MD1002	5 ml
Hexokinase	HK1000	5 ml
PGI	PGI1001	1 ml
GOT	GOT1003	1 ml
NAD	ND626	5 g
NADP	DP820	1 g
ATP	AT611	10 g

Yeast Assimilable Nitrogen (YAN)

As nitrogen is the limiting element in the growth of yeast cells, it is important to measure the concentration of Yeast Assimilable Nitrogen (YAN). This has been identified as the main cause of 'stuck' fermentation. The addition of nutrient supplements to grape juice prior to / during fermentation can now be quantified accurately by combining both Primary Amino Nitrogen (NOPA) and Ammonia kits from Randox Food Diagnostics.

Customer support

In every laboratory time is valuable; therefore dedicated specialists will answer all of your queries in a quick and thorough manner. With field engineers on hand at any time, you can be confident of a fast response anywhere in the world, ensuring your laboratory is operational at all times.

Randox Food Diagnostics is committed to helping your analysis run smoothly, from provision of quality products to unrivalled customer support.

For all support queries contact: winesupport@randoxfood.com

Versatile Reagents

Randox Food Diagnostics offer a wide range of versatile wine reagents that are available for use on multiple analysers, such as Chemwell, Hitachi, Konelab, Advia and Cobas Mira.

Randox Food Diagnostics also offer customisable kits for high throughput analysis of L-Malic Acid, L-Lactic Acid, Acetic Acid and Glucose/Fructose analysis. Product details are available on request.

RANDOX
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500+

laboratories using Randox
Food Diagnostics technology

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