Food Analyzers

mrc

AKA-11, Automatic Kjeldahl Analyzer

AKA-11

AKA-11 Auto Kjeldahl analyzer is an automatic device integrating distillation and titration functions designed based on classic Kjeldahl nitrogen determination method.
It's equipped with the latest core control system, powerful automatic degree and high-quality components, can easily achieve automatic waste discharge and cleaning of boiling tubes and titration cups, control steam supply and have real-time detection of condensation temperature. High-accuracy charging pump and titration system ensure test results accuracy, and multiple fluid-level detection gives smooth test process.

Titration precision as high as 1.0μL/step AKA-11 Auto Kjeldahl analyzer has exclusive design i.e. linear motor micro-control titration system which ensures accurate results; the external use is easy for the observation of the whole titration process; the built-in high-sensibility color sensing unit ensures accurate final point determination; extremely high-precision plunger titration unit achieves unprecedented precision as high as 1.0μL/step.

Brand new touch interaction system The powerful calculation function based on ARM microprocessor unit can be operated directly through the touch screen; powerful detection function has all test steps under real-time monitoring with status displayed in figures; solution barrel level detection function and high-grade pump effectively ensure correct solution supply; samples can be detected and classified by the system, and traditional test methods & parameters are built in & can be freely used in the test process.

Correct steam control New material PTC constant-temperature heating modules are used in the heating unit of the steam generation system, and the use of metallic heater speeds up the fluid boiling, ensuring the generation of a great deal of steam in a short period; digital electronic temperature measurement and mechanical temperature measurement provides the heating unit with double protections; customized steam pressure regulating valve guarantees the steam generation system safety and ensures uniform steam output; and steam flow is also adjustable with software system.

Characteristics:

- Automatic completion of distillation, titration, calculation, printing, waste discharge and cleaning.
- External titration cup design gives operator real-time control of the whole test process.
- Large LCD touch screen gives visual operation & abundant information, enabling user to have a good command of it.

Scope of application AKA-11 Auto Analyzer is widely used in food processing, feed production, tobacco, livestock, soil fertility, environmental monitoring, medicine, agriculture, scientific research, teaching, quality control & other fields for the test of nitrogen or protein content, can also be used for the test of ammonium, volatile fatty acid / alkali, & so on.

Model	AKA-11
Sample capacity	Solid≤5.00g/sample, liquid≤20mL/sample
Measuring range	0.1mg N – 200mg N
Analysis time	5 – 10 min/sample
Recovery	≥ 99.5%
Burette volume	1.0μl/step
Reproducibility	Average value relative error 0.5%
Storage capacity	1000 pieces
Interface	USB or RS485
Power supply / Power	220V 50Hz / 2KW
Water consumption in the distillation process	1.5L/min
Cooling water temperature	<20°C
Ambient temperature	10°C – 28°C

DIST-984, Auto Distiller

DIST-984 Auto Distiller is designed to determine nitrogen content of samples in the globally accepted Kjeldahl nitrogen determination method. Fully intelligent software is able to complete sample distillation within minutes. The distillation and condensation automatic cleaning system further enhances measurement precision. It is widely used in food processing, feed production, tobacco, livestock, soil fertility, environmental monitoring, medicine, agriculture, scientific research, teaching, quality control.

DIST-984

Characteristics: Display: 5.1" LCD screen • Manual/automatic mode fee changeover • Automatic alkali liquid quantification and filling • Automatic boric solution quantification and filling • Automatic or manual filling mode is optional according to test need • Distillation time can be set freely, and automatic alarming upon completion • Automatic cleaning of control system and distiller, ensuring high measurement accuracy • Perfect safety protection system gives distiller and tubes measurement and protection against over-temperature and over-pressure • Intelligent cooling water control system achieves cooling water control and test.

Model	DIST-984
Measuring range	0.1–200mgN (mg N)
Nitrogen recovery	≥99.5%
Repeat accuracy	±0.5%(CV)
Sample weight	Solid<6g, liquid<16ml
Distillation speed	< 5min/sample
Distillation period	Can be set freely (within 1 hour)
Cooling water consumption	1.5 L/min
Power supply	220V 50Hz
Power / Max. power	2KW / 1300W
Volume	400mm×361mm×746mm

GD-22, Graphite Digester

Model	GD-22
Temperature range	Room temperature ~450°C
Heating method	Infrared heating & high-purity graphite conduction
Temperature accuracy	±1°C
Digestion tube capacity	280ml
Processing capacity	20pcs
Heat insulation	High-density aluminum silicate
Power supply	220V 50Hz
Power	3.6KW
Size	534mm×453mm×218mm

Characteristics:

- Continuously adjustable furnace temp., constant temp. control & simple operation
- Smaller average temperature difference inside furnace, consistent sample digestion effect and high heat transfer efficiency.
- Its chamber is made of stainless steel, enjoying excellent corrosion resistance.
- The use of anti-corrosive parts enhances its service life.
- It enjoys multiple protections against over-voltage, over current, overheating, and so on.
- The sample is given uniform heating, to prevent heat loss to the maximum extent
- Superior heater ensures temperature uniformity among the digestion holes.
- Double-casing design offer double insulations i.e. air and aluminum silicate thermal insulating layers.

GD-22 Graphite Digester includes globally advanced technology, features quick digestion, high efficiency and easy for use, etc., is widely used in such fields as food, medicine, agriculture, forestry, environmental protection, chemical engineering, biochemistry, as well as universities, research departments and so on, for sample digestion prior to the chemical analysis of soil, feed, plants, seeds, minerals etc., suitable for matching DIST-984 analyzer.

Optional accessories:

- WGCH-02 waste gas collection hood.
- Connect the digester to the waste discharger for the removal of acidic gases.

WGCH-02

WGCH-02 characteristics:

- Full stainless steel casing.
- PTFE and FPM anti-corrosive materials are used for the connection parts, greatly increase its service life.
- U.S. Dupont FPM seal rings are used for sealing joints, offering high flexibility and corrosion resistance, excellent air-tightness, can minimize exhaust gas leakage.

GD-42, Graphite Digester

GD-42 Graphite Digester adopts globally advanced high-temperature infrared radiation heating technology and microprocessor control platform, boasts accurate temperature control and quick temperature rise. GD-42 has two kinds of temperature rise mode: linear and curve temperature rise mode, & offers 20 digestion programs for control of temperature rise curves. MRC neutralization system S402 has many functions such as triple filtration, condensate recovery of exhaust gas, filtration and neutralization device. The product adopts high-quality Anticorrosive Pumps, low noise, strong suction, reduce exhaust emissions, eco-friendly.

Characteristics:

- 20 positions, enhance working efficiency rapidly.
- Graphite block have longer life after special anti-oxidation processing and heating more uniform.
- Corrosion-resistant design
- It adopts advanced PID temperature control technology , high accuracy heating up to 400°C only cost 25minutes.
- Multi-protection , Over-current protection, high temperature warning, overload protection.
- It adopts 5.6" color screen, easy for use.
- It can pretreat for microwave digestion or removing acid after digestion.
- Standard configuration with waste gas collection hood.
- Use with WD03 exhaust hood and S402 neutralization system.
- Digestion tube (300ml) of the GD-42 can be compatible with other leading brand, it is more convenient to use.

Model	GD-42
Temperature range	Room temperature 5-450°C
Heating method	Infrared heating & high-purity graphite conduction
Heating insulation method	unique air duct insulation technology
Temperature accuracy	±1°C (450°C)
Digestion tube capacity	280ml
Capacity per batch	20pcs/batch
Power supply	220 VAC±10% 50HZ
Power	3600W
Size	474mmX509mmX636mm
Net weight	25Kg

S402, Exhausting System

Waste gas treatment is important for environment.
Neutralization system has perfect effect of neutralization & absorption performance, can neutralize acid mist and reaction waste gas where from Kjeldahl or other experiments.
Adopt efficiency anticorrosion pump for absorption, unique & efficiency absorption device design.
It makes contact area expanded with gas/ liquid, perfectly neutralize acid gas, made operating environment friendly.

MDS-100A-N

MDS-100A-N, Microwave Sample Preparation Workstation

12-vessel High-throughput processing capacity, meeting the needs of all kinds of sample preparation; Advanced multicore integrated optical fiber temperature control system, with precise temperature control and uniform digestion. UCOS-II operating system, with remote control observation, easy and comfortable operation. Aerospace fiber outer vessel, COT real-time temperature and pressure abnormity monitoring system and other multiple safety protection design; Free lifetime warranty commitment for the core part-magnetron; With over 20 years of experience in the industry MRC is known as a innovation leader with numerous patents.
The MDS microwave digester has been adhering to the principle & concept of "safe experiement", "efficient and convenient operation" & "durable use" from R&D to production. It can be widely used in routine laboratories and also applied under extreme conditions. MDS adopts advanced dual magnetron non-pulse frequency microwave heating technology, realizing the high power microwave heating & homogeneous heating; MDS has more than 20 safety guarantee technologies to ensure that MDS has high level of safety performance and data accuracy; At the same time, MDS's highly intelligent man-machine dialogue operation system and wireless control module make the experiment process become efficient, convenient and humanized, and bring safe and comfortable experience to users.

Features:

• Optical fiber temperature control system is safe, meanwhile it can realize accurate temperature control. Optical fiber avoids the drawbacks of antenna effect of conventional metal resistance temperature sensor, and solves multi-vessel digestion temperature deviation and uneven heating. MRC adopts advanced multicore integrated optical fiber sensor, with an optical fiber diameter of 2 mm, its uses Teflon protective coating, and has small bending curvature, good fold-resistant and flexibility. The service life is 5 times longer than the single core optical fiber.
MDS adopts advanced high-precision semiconductor pressure sensor, the whole conduction path conducts the anticorrosion treatment, realizing precise pressure control, with pressure precision of ±0.01MPa.

• MDS series has 2 magnetron, and its inverter microwave heating makes real-time adjustment of microwave output power according to the temperature and pressure feedback, thus the microwave f ield is more uniform and the control more precise. Inverter microwave heating can avoid the disadvantages of pause heating and frequent startup, effectively protect the magnetron, and reduce energy loss. Double magnetron heating and professional microwave focusing design can make the magnetic field distribution inside the furnace chamber more even, ensuring the consistency of the experimental sample digestion.

• MDS adopts aerospace composite fiber materials Xtra Fiber to make the outer vessel which is invincible that can withstand 80 MPa pressure, completely eliminating the possibility of radial blasting.
Its corrosion resistance, high temperature resistance and shock pressure and many performance indexes are excellent, fundamentally solving the dangers in the process of using.

• MDS adopts ARM chip equipped with UCOS-II operating system, with stable and reliable operation. It uses 7 inches of LCD touch screen, with touch control for operation, smooth & simple. The screen gives the real-time display temperature- pressure curve. It has a built-in expert method library, which can be edited and store user methods. Built-in COT real-time T/P abnormity monitoring system can give automatic alarm when any reaction vessel has abnormal temperature and pressure, and cut off the microwave so as to protect the instrument. PRO version (MDS-PRO) has the Wi-Fi wireless control module, not only realizing point to point control between the computer and the microwave digestion instrument, but also using a tablet PC to realize control and real time observation within the local area network (LAN). It brings better experience for "comfort experiment & safe experiment". PRO version also adopts double screen design and is equipped with 5 inches of LCD color display for real-time monitoring of digestion vessel operation inside the furnace chamber through internal camera.

• With MDS 12-vessel of high throughput digestion capacity, it meets the pretreatment requirements of bulk samples. It adopts high-strength composite materials for enhancing strength, & reaches 1.7 tons of tensile test requirements, & its high pressure resistant frame is of thickening customization & can bear the high pressure during digestion. PEEK elastic tablet can resist high temperature, has larger rigidity and stable dimension, reach 19 MPa for bending strength and compression strength at 260°C, and can protect PFA vessel cover from being damaged during the digestion. MDS digestion adopts the design of automatic pressure release, which puts an end to the occurrence of dangerous high pressure explosion, and cancels safety membrane and other consumables, simple use and low cost.

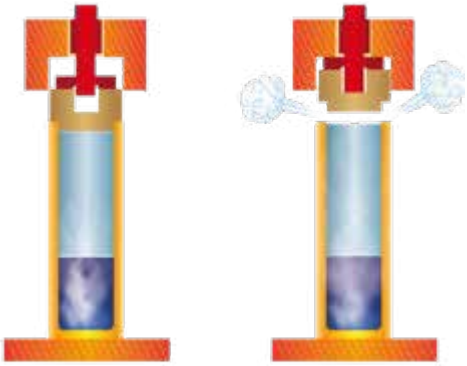
• MDS's 316L stainless steel industrial furnace chamber adopts modular design concept, providing great convenience for the upgrading and maintenance of equipment. The furnace door is made of multiple protective layers, and internal furnace chamber adopts multi-layer Teflon coating, greatly improving the service life and safety guarantee of the instrument. The optimized groove structure design can eliminate the microwave leakage. It will automatically cut off microwave when the door is opened naturally or forcibly, protecting the user's safety. Efficient exhaust system design can realize the fast and safe air cooling (drop from 200°C to 80°C within 15 minutes), improving operation efficiency.

Model	MDS-100A-N
Power	220-240 VAC 50/60Hz 16A
Microwave source	2450MHz dual magnetron design
Installed power	2850W
Maximum output power	1600W, microwave non-pulse continuous automatic frequency conversion control
Microwave chamber	316L stainless steel chamber, applied with multi-layer anticorrosive Teflon inside & outside
Door design	Safety door designed based on the 3D directional explosion mechanism, with the integrated groove structure design of microwave leak prevention
Pressure monitoring system	High precision semiconductor pressure sensor, with pressure control range: 0-10MPa(1500psi), accuracy: ±0.01MPa
Temperature monitoring system	Multi-core integrated optical fiber temperature control system, Teflon protective coating, temperature measuring range: -40-305°C, accuracy: ±0.1°C
Passive protection system	COT real-time temperature and pressure monitoring system, automaticly alarm when any reaction MDS has abnormal T/P, and cut off the microwave immediately to protect the user and instrument.
Software	ARM chip equipped with UCOS-II operating system for multi-task operation, MDS equips with 7 inch LCD color touch screen, and connected to computer for remote control.
Wireless control system	MDS-PRO version is equipped with Wi-Fi wireless control module, tablet PC can be used to realize control and real-time observation of the internal operation inside furnace chamber.
Communication interface	MDS-PRO version is equipped with 232 serial port and USB interface
Video monitoring	MDS-PRO version is equipped with 5 inch LCD color screen, which can conduct the real-time monitoring of digestion MDS operation inside the chamber through the internal camera.
Chamber exhaust system	High-power corrosion-resisting turbine fan, with turbulent and efficient air cooling, fast 15 min cooling from 200°C to 80°C.
Working environment	0~40°C, 15~80%RH
Physical size/weight	600 × 685 × 660(WxDxH) mm, 75 KG


MDS-100B

MDS-100B, High Throughput Closed Microwave, Digestion/Extraction Workstation

With more than 20 years experience in microwave chemistry instrument industry and the latest industrial technology, MDS-100B high throughput closed micro wave digestion/extraction workstation can be widely used in routine laboratories and also applied under extreme conditions. The highest level of security measures adopted such as the use of aerospace composite fiber vessel and safety bolt (pat ented), simple and smart operating software and the use of high-quality materials such as corrosion-resistant ultra-long life industrial chamber show that MRC is always striving for perfection and makes breakthrough in technology, process and materials. MDS-100A/B microwave digestion/extraction workstation, integrated with the latest industrial technology and materials set a new benchmark in the company, which together with MASTER series, forms the company's complete product line to meet the needs of various industries and strive to provide custom ers the safe, convenient, efficient, durable products and superior experience.

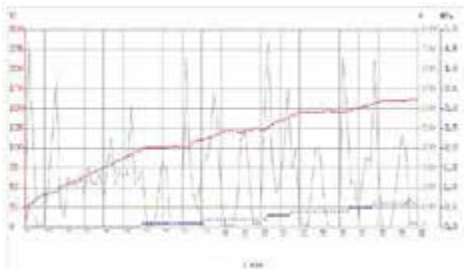


• The outer vessel of MDS exclusively made by ultrastrength aerospace composite fiber is invincible in anti-explosion, and its performance indicators such as corrosion resistance, high temperature/impact/pressure resistance are far better than that of the widely used modified PEEK engineering plastics vessel (this material is fusible at high temperature, fragile at high pressure and explosive by chemical corrosion) , fundamentally eliminating safety risks to operator in use.

• Quantified vertical blast/safety bolt design, ensures samples be closed completely & trigger a quantified pressure relief while over pressure; safe- ty bolt (patent) unit, instead of safety membrane and other consumables, ensure the diges tion vessel be sealed
completely under normal working conditions. And only when the pressure is large enough and may constitute a danger to the safety, the safety bolt will automatically blow out vertically & the cover auto-up to release the pressure, achieving quantified vertical blast pressure-relief to guarantee its well operation. Under normal operation, the safety bolt won't blow out & requires no replacement. In addition, it is easy for ventingto open the cover after completion of
digestion.

• Automatic Frequency Control of Non-pulse Microwave Power ensures the accurate closed-loop control of the temperature and pressure, and also improves the efficiency of microwave transmitter of magnetron. 12 vessels per bath throughput capability, increase the efficiency of the pretreatment process in the lab.

• The industrial-leading pressure measuring technology by piezoelectric crystal and high-precision Pt sensor temperature measurement and control,through closed-loop control of micro wave power by inverter technique,ensure the accuracy of pressure and temperature monitoring and control. The application of patented piezoelectric crystal brings about complete isolation of samples from pressure measurement system in digestion process, thoroughly solving the prob lems of cross contamination of samples due to commonly used air pipe in market and of the limitation in digestion samples because of low-pressure proof of air pipe.



• The new digestion, changing its traditional bulky appearance, uses European industrial design, colorful and smart, that in line with the needs of modern laboratory building. It re-layouts its inter nal structure more scientifically that it reduces the volume of the machine while providing 42L industrial reactor chamber to ensure uniform heating of the microwave and convenient operation.

• The patented design that the whole set of digestion vessels in chamber always continuous rotates in one direction, breaks conventions of <360° back and forth rotation of the digestion unit, avoid ing uneven heating on vessels by microwave and reducing impact on turntable motor, extending service life.

• Sturdy & durable industrial-grade chamber design strengthen its impact resistance; Professional focused microwave design make microwave heating more efficient; Multi-layer chemical resistant coating greatly improves the service life and safety of the system; the popup cushioning explo sion-proof sliding chamber door builds a passive safety protection system, easing operation; double-locked self-checking system of the chamber door and the push-type open-door mecha nism at the top make the operation simple and easy; efficient exhaust system design achieves fast and safe air-cooled cooling (20 min cooling from 200°(to 60°C), improving operational efficiency.

The Popup Cushioning Explosion Proof Sliding Chamber Door

- MDS-100B's software & remote control system have many advantages: safety external PC control; friendly windows interface that is easy to be operated;display digestion temperature, pressure & changes of microwave transmit power in real time; directly display its working process; through computer's remote control station,do operations such as setting, running, change time and power etc; the software can save unlimited amount of digestion solution, making it convenient for users. The user-friendly software operation like a chemist, who help you complete various operations, providing customers with safe, scientific & convenient operation experience (color software and computer connection are for MDS-100A).

Safety & Convenient In Operation High In Efficiency Durable In Use:

- Satisfy the requirements of different samples' digestion/extraction processing
- Up to 12 vessels high-throughput processing capacity
- Exclusive patented multifunctional safety bolt design, instead of explosion-proof membrane and other consumables
- Aerospace composite fiber outer vessel-the highest level of security measures
- Large-screen color softare interface,clear and direct-viewing in operation, bright in appearance and smart 1n performance
- Connected to and controlled by computer, achieving secure remote operation, and unlimited program storage database
- Small volume VS big chamber, which is advance in industrial design and provides perfect experience
- Free lifetime warranty to the core components-magnetron of the micro wave Digestion System.

Application area:

Food and drug (milk and dairy products, health food), cosmetics, agricultural and sideline products, aquatic products, biological tissues, various types of feed, energy and petrochemical, geology and mineral resources, environmental resources (air, water, soil), metals, alloys, ceramics, RoH5, medicine, domestic wastes

Ultrastrength frame closed reaction vessel:

Maximum Pressure	15MPa (2250psi)
Maximum working pressure	4Mpa (600psi)
Maximum sustained temperature	300°C
Maximum working temperature	250°C
Inner vessel volume	100ml
Outer vessel material	ultrastrength aerospace composite fiber
Inner vessel material	TFM (Modified PTFE)
Maximum batch capacity	12 vessels

Model	MDS-100B
Power	220-240 VAC 50/60Hz 8A
Microwave frequency	2450MHz
Installed power	1800W
Maximum output power	1300W, non-pulse continuous automatic variable frequency control
Turntable design	Load 12 it closed digestion vessels at same time (standard configuration is 10vessels)
Pressure measurement & control system	Piezoelectric crystal pressure sensor, pressure control range :0-1OMPa (1500 psi), accuracy ± 0.01MPa
Temperature measurement & control system	High-precision platinum resistor temperature sensor, temperature range :0-300°(, accuracy ±1°C
Outer vessel material	Explosion-proof outer vessel made of aerospace composite fiber
Inner vessel material	Modified TFM material
Software	Simplified MDS-100B apply JSb software. 5 inch screen display and up to 50 methods can be stored
Chamber exhaust system	High-power anticorrosion axial fan, exhaust speed: 3.1 m 3/min
Operating ambient temperature	0-40°C
Working environment humidity	15-80%RH
Whole physical size	450 x 600 x 620mm (W x D x H)
Net weight	42 KG

MDS-100G

MDS-100G, Closed Microwave Digestion/Extraction System

MDS-100G microwave digestion/extraction/synthesis system (nickname: SMART), a subversion of tradition, is a ma rket-oriented practica l compact microwave digester made by MRC with its over 20 years' experience; It highlig hts the company's three major ideas of product design and also meets users' needs in "safety' "durability" and "convenience of operation."

- The outer vessel of SMART exclusively made by ultrastrength aerospace composite fiber is invincible in anti-explosion, & its performance indicators such as corrosion resistance, high temperature/impact/pressure resistance are far better than that of the widely used modified PEEK engineering plastics vessel (this material is fusible at high temperature, fragile at high pressure and explosive by chemical corrosion). The compressive strength of aerospace composite fiber is up to 10000psi and temperature 500-600°C, fundamentally eliminating safety risks to operator in use.

- Quantified vertical blast/safety bolt design, ensures samples be closed completely and triggers a quantified pressure relief while over pressure; safety bolt (patent) unit, instead of safety membrane & other consumables, ensure the digestion vessel be sealed completely under normal working conditions. And only when the pressure is large enough and may constitute a danger to the safety, the safety bolt will automatically blow out vertically and the cover auto-up to release the pressure, achieving quantified vertical blast pressure-relief to guarantee its well operation. Under normal operation, the safety bolt won't blow out and requires no replacement. In addition, it is easy for venting to open the cover after completion of digestion.

- The industrial-leading pressure measuring technology by piezoelectric crystal and high-precision Pt sensor temperature measurement and control, through closed-loop control of microwave power by inverter technology, ensures the accuracy of pressure and temperature monitoring and control. The application of patented piezoelectric crystal brings about complete isolation of samples from pressure measurement system in digestion process, thoroughly solving the problems of cross contamination of samples due to commonly used air pipe in market and of the limitation in digestion samples because of low-pressure proof of air pipe.

- The patented design that the whole set of digestion vessels in chamber always continuous rotates in one direction, breaks conventions of <360° back and forth rotation of the digestion unit, avoiding uneven heating on vessels by microwave and reducing impact on turntable motor, extending service life.

- Sturdy and durable industrial-grade chamber design strengthen its impact resistance; Professional focused microwave design make microwave heating more efficient; Multi-layer chemical resistant coating greatly improves the service life and safety of the system; the popup cushioning explosion-proof sliding chamber door builds a passive safety protection system, easing operation; double-locked self-checking system of the chamber door & the push-type open-door mechanism at the top make the operation simple and easy; efficient exhaust system design achieves fast & safe air-cooled cooling, improving operational efficiency.

- The Gold Award in Automatic Frequency Control of Non-pulse Microwave Power on BCEIA represents that the company not only achieves the accurate closed-loop control of the temperature and pressure, but also improves the efficiency of microwave transmitter of magnetron, realizing energy saving (37.5%).

Application area:

Food and drug (milk and dairy products, health food), cosmetics, agricultural and sideline products, aquatic products, biological tissues, various types of feed, energy and petrochemical, geology and mineral resources, environmental resources (air, water, soil), metals, alloys, ceramics, RoH5, medicine, domestic wastes

Ultrastrength frame closed reaction vessel:

Maximum Pressure	15MPa (2250psi)
Maximum sustained temperature	300°C
Maximum working temperature	250°C
Inner vessel volume	100ml
Outer vessel material	ultrastrength aerospace composite fiber
Inner vessel material	TFM (Modified PTFE)
Maximum batch capacity	8 vessels

Model	MDS-100G
Power	220-240 VAC 50/60Hz 8A
Microwave frequency	2450MHz
Installed power	1800W
Maximum output power	1000W, non-pulse continuous automatic variable frequency control
Turntable design	Load 8 it closed digestion vessels at same time
Pressure measurement & control system	Piezoelectric crystal pressure sensor, pressure control range :0-10MPa (1500 psi), accuracy ± 0.01MPa
Temperature measurement & control system	High-precision platinum resistor temperature sensor, temperature range :0-300°C, accuracy ±1°C
Outer vessel material	Explosion-proof outer vessel made of aerospace composite fiber
Inner vessel material	TFM material
Chamber exhaust system	High-power anticorrosion axial fan, exhaust speed: 3.1 m 3/min
Operating ambient temperature	0-40°C
Working environment humidity	15-80%RH
Whole physical size	450 x 515 x 510mm (W x D x H)
Net weight	40 KG


FA-46

FA-46, Fat Analyzer

Characteristics:

- Integral metal heating, wide scope and high precision of temp. control.
- Electric circuit is isolated from the extraction space, ensuring device security.
- Timer & timing functions are available.
- Over-temperature alarming and timer reminding functions are available.
- Triple alarms i.e. sound, light, LCD screen word prompts are available.
- Abundant interface contents give simultaneous display of given temp., actual temperature, given time and heating time.
- The lifting connection of linear bearing conduction technique gives smooth & comfortable lifting operation.
- Intelligent man-machine dialogue control system.
- Exclusive air insulation technique leaves the case in room temperature, has thermal insulation and temp. maintenance two functions.
- 5.1" LCD screen and microcomputer control system are adopted.

Model	FA-46
Measuring range	0-100%
Capacity per batch	6pcs./batch
Sample weight	0.5-15g (generally 2-5g depending on sample)
Solvent cup volume	80ml
Temperature range	Room temp.+5°C - 280°C
Temperature accuracy	±1°C
Solvent recovery	≥80%
Reproducibility	±1%
Power supply	220V 50Hz
Power	1000W

FA-46 Fat Analyzer is based on the Soxhlet extraction principle and integrates such functions as soaking, extraction, leaching, heating, condensation and solvent recovery. It features sealed metal bath heating with automatic temperature control, ensuring uniform heating and safe operation; six samples can be tested at the same time, and optimal temperature can be selected according to the difference between reagent boiling point and ambient temperature so as to achieve quick analysis; reagents can also be recycled to reduce test cost; & soaking, extraction and solvent recovery can be done in one step. Therefore, this device is characterized by reasonable design, stable performance, good reproducibility, high accuracy, easy operation, saving time and effort, and so on.


FA-6

FA-6, Auto Fat Analyzer

Model	FA-6
Temperature range	Room temp.+5°C - 300°C
Measuring range	0.1-100%
Temperature accuracy	±1°C
Reproducibility	Relative error 1%
Capacity per batch	6pcs./batch
Sample weight	0.5-15g
Solvent cup volume	150ml
Solvent recovery	>85%
Power supply	220VAC±10%, 50Hz
Power	2.6KW
Dimensions	650mmx380mmx720mm
Net Weight	50Kg

FA-6 Automatic Soxhlet Extractor, designed based on the Soxhlet extraction principle with weight method to determine the fat content. It has five extraction methods to meet different demands from customer. The whole metal heating module, heating up fast, good effect, low power consumption; access to all-round water temperature, flow control, environmental protection more economical; built-in ether leak detection device to ensure experimental safety. It is widely used in agri cultural. food ,chemical.environment and other areas, especially for the drug ,soil, sludge. cleaner and other substances in the extraction of soluble organic com pounds.

Features & Advantages:

- Apply to all organic solvents to satisfy all demands.
- Automatic Soxhlet standard method, it customized by glass and PTFE, which can block all impurities and possess high rate of accuracy.
- One click manipulation for start and pause, that makes operation with high proficiency.
- Analyzer allows its controller to adsorb on any surface that made by iron.
- Vertical screen, more humanization.
- In-built 5 methods of extraction, handy operation.
- Preset common reagent options, one-click manipulation for repeated trials.
- The overall heating module, that possesses features of warming faster, favorable effect and low power consumption.
- Full temperature and flow control for environmental and economy.
- In-built ether leak detection device to ensure experiment safety.
- Efficient solvents recovering system for reduce experimentation cost.

• Automatic extraction • In-built 5 unique methods of extraction, handy operation • Apply to all organic solvents • ECO-friendly and conservation.

MIA-SLP

MIA-SLP/MIA-SLP-A, Economy Milk Analyzers

MIA-SLP 30sec: Standard 30sec.
MIA-SLP 60sec: Standard 60sec.
MIA-SLP-A 30sec: Automatic 30sec.
MIA-SLP-A 60sec: Automatic 60sec.

MIA-SLP/ MIA-SLP-A Options & Accessories:

- MIA-EP: External Printer.
- MIA-HF: Measuring high fat samples (cream) up to 45% (High Density).
- MIA-DCP: Milk Data Collection Program.
- MIA-PH: pH measurement - function.
- MIA-CON: Conductivity measurement function.
- MIA-P: pH probe.
- MIA-EK: External keypad.
- MIA-USB: USB.
- MIA-RTC: Real time clock.

Consumables:

- MIA-B7: Buffer solution Ph 50 ml (pH7.00±0.01/20°C).
- MIA-B4: Buffer solution pH 50 ml (pH4.00±0.01/20°C).
- MIA-B5ms: Buffer solution conductivity 50 ml (5.02 (±5%) mS/cm (18±0.1°C).
- MIA-ALC: Alkaline cleaning powder.
- MIA-ACC: Acidic cleaning powder.
- MIA-PAPER: Printer paper roll.

Model	MIA-SLP/MIA-SLP-A		
Measuring time	Measuring parameters	Standard complete	Additional options
60 Sec	FAT – 0.01% – 25% SNF – 3% – 15% Density – 1015 –1040kg/m³ Proteins – 2% – 7% Lactose – 0.01% – 6% Water content – 0% – 70% Temp. of milk – 1°C– 40°C Freezing point – –0.400–0.700°C Salts – 0.4 – 1.5% PH – 0 – 14 ±0,05% (option) Conductivity – 3 – 14 [mS/cm]±0,05% (option) Total solids – 0 –50% ±0,17(option)	1. Hoses-spare pipes-1/2pcs 2. Sample holders-plastic mugs–2 pcs 3. Switching adapter: input: 100–240 V~1.6A max. 50–60Hz 4. output: +12V 4.17A min. 5. Output power: 50–65W 6. Operation Manual 7. Standard Calibrations: Cow-Sheep-UHT 8. Cardboard Box 9. CD – Service pack	Ph option 0–14
30 Sec			Conductivity 3–14ms/cm Total Solids 0–50%

MIA-S

MIA-S/MIA-SA, Standard Milk Analyzers

Model	MIA-S/MIA-SA		
Measuring time	Measuring parameters	Standard complete	Additional options
90 Sec	FAT – 0.01% – 25% SNF – 3% – 15% Density – 1015 –1040kg/m³ Proteins – 2% – 7% Lactose – 0.01% – 6% Water content – 0% – 70% Temp. of milk – 1°C– 40°C Freezing point –0.400 –0.700°C Salts – 0.4 – 1.5% PH – 0 – 14 ±0,05% (option) Conductivity – 3 – 14 [mS/cm]±0,05% (option) Total solids – 0 –25% ±0,17(option)	1. Hoses-spare pipes-2pcs 2. Sample holders-plastic mugs–2 pcs 3. Switching adapter: input: 100–240 V~1.6A max. 50–60Hz 4. output: +12V 4.17A min. 5. Output power: 50–65W 6. Operation Manual 7. Standard Calibrations: Cow-Sheep-UHT 8. Cardboard Box 9. CD – Service pack	Ph option 0–14
50 Sec for SA 60 Sec for S			Conductivity 3–14ms/cm
30 Sec for S			Total Solids 0–25%

MIA-S: Standard. **MIA-SA:** Standard Automatic.

MIA-SO, Somatic Cell Counter

It is our pleasure to offer you our new product: Somatic Cells Counter MIA-SO for cow, buffalo, goat and other milk types in 3 easy working steps. MIA-SO is based on fluorescent microscopic technique for somatic cells count. Thanks to the fluorescent dye, LED optics and CCD technologies for taking pictures, analyses of the somatic cells in the milk is is precise, reliable and quick. In order the number of the somatic cells to be counted with MIA-SO, the milk sample is mixed with dye Sofia Green. It is necessary only 12 µL from the ready sample to be directly pipetted directly on the disposable Lactochip. Then the chip is placed in the device. For a period of between 20 seconds to 1 minute the analyses is conducted. Duration depends on the complexity and the number of the snapped fields. MIA-SO is automatically focused on the chip and colored cells are taken pictures of with the CCD camera. The algorithm for analyzing the digital images determines the number of the fluorescent cells and calculates their concentration. The result is automatically displayed.

Basic advantages: More accurate • Easy to be used even from not trained personnel • No cleaning is needed after the usage • No periodical calibration is needed • Portable • Low single price for analyses (the lowest price in the world for similar devices • Low exploitation costs • The lowest in the world price for similar analyser with better functional characteristics.

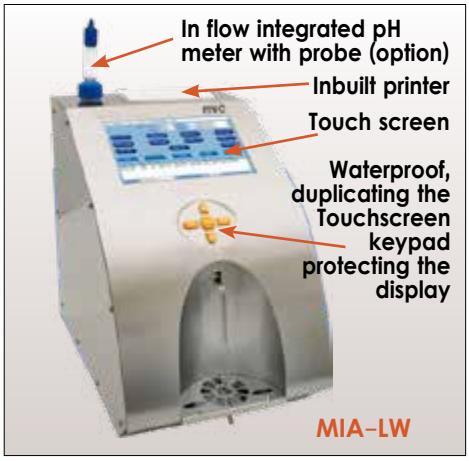
Model	MIA-SO
Dimensions (HxWxL)	25.5 cm x 38 cm x 30 cm
Weight	4 kg
Working power	100–240 VAC, 2.5A, 120V outer supply
Frequency	50/60 Hz
Power supply	14 VDC
Working place	Only inside
Working temperature	15–35°C
Working humidity	0–95%
Technical Specification	
Time of analyses	From 20 sec up to 1 min in dependence of number of pictures
Concentrations of cells in the sample	0 ÷ 1x107 cells/mL
Milk sample volume	12 µL or 20 µL
USB	4 Gigabyte
Optics	
Lens	4 x
LED	5 W blue LED, 475 nm
Filters	Excitation filter and emission filter
Camera	CCD
IEC 60825-1	1993+A1; 1997+A2; 2001

MIA-CC-V2, Milk Collecting Center Center

Parameter	Measuring range	Accuracy
Fat	from 0.01% to 45%	± 0.06%
SNF	from 3% to 40%	± 0.15%
Density	from 1000 to 1160 kg/m^3	± 0.3 kg/m^3
Protein	from 2% to 15%	± 0.15%
Lactose	from 0.01 % to 20%	± 0.20%
Added Water content	from 0% to 70%	±3.0%
Temperature of milk	from 5°C to 40°C	± 1°C
Freezing point	from – 0.400 to – 0.700°C	± 0.005°C
Salts	from 0.4 to 4%	± 0.05%
pH	from 0 to 14	± 0.05%
Conductivity	from 2 to 14 mS/cm	± 0.05 (mS/cm)
Kg	from 0 to 150 kg	± 0.025 kg
Total solids	from 0 to 50%	± 0.17%

Key Features:
- User-friendly: simple in operation, maintenance, calibration & installation.
- Portable & compact design.
- Very small quantity of milk required.
- Low power consumption.
- No use of hazardous chemicals.
- 1 year full waranty.

Environmental Conditions: Ambient air temperature 10°C – 40°C (Option 43°C). Milk Temp.: 1°C – 40°C. Relative Humidity: 30% – 80%.
Mechanical Parameters: Dimensions: W230xL350xH350mm. Weight: 8kg. Stainless Steel Box.



MIA-LW, Ultrasonic Milk Analyser based on MS Windows and Database applicatiom

High-end ultrasonic technology for analyzing any kind of milk
• Internet cloud services • E-mail & SMS support • Multi-language support • Touch-screen display • Wireless keypad & mouse.

Key Features:
- User-friendly: simple in operation, maintence, calibration & installation
- Portable & compact design
- Very small quantity of milk required
- Low power consumption
- No use of hazardous chemicals
- One year full waranty.

Options:


Wireless keyboard & mouse (USB)


HDMI Display 21"


Platform scales (serial interface)


External standard printer


Bar-code reader (USB)

Measuring Parameters:
Fat • Solids-non-fat (SNF) • Total solids • Density • Protein • Lactose • Milk sample temperature • Added water • Salts • Freezing point • PH • Conductivity • Kg • Ion meter.

Option: 50sec., 30sec., 20sec. measurement
Milk analyzer MRC makes quick analysis of milk & liquid dairy products:
Cow milk **(25%)**
Sheep milk
Buffalo milk
Whey
Cream **(up to 45%)**
Skimmed milk **(0.01% FAT)**
Concentrated milk **(up to 1160 kg/m³)**
Recovered milk Etc.
And can be calibrated by the customer with specific samples of: Yoghurt, Flavoured milk, Ice-cream mixtures etc.

Environmental conditions:
Ambient air temperature 10°C - 40°C (Option) 43°C
Milk temperature 1°C - 40°C
Relative humidity 30%-80%

Electrical parameters:
Switching asdapter
Input: 100-240V ~ 1.6A max. 50-60Hz
Output: +12V 4.17A min.
Output power: 50-65W.

Mechanical parameters:
Dimensions: (WxLxH) 250x290x300mm
Weight: 7kg
Stailess steel box.

Functions:
- Input information
- Communication-SMS & E-mail
- Active Formulae
- System log.

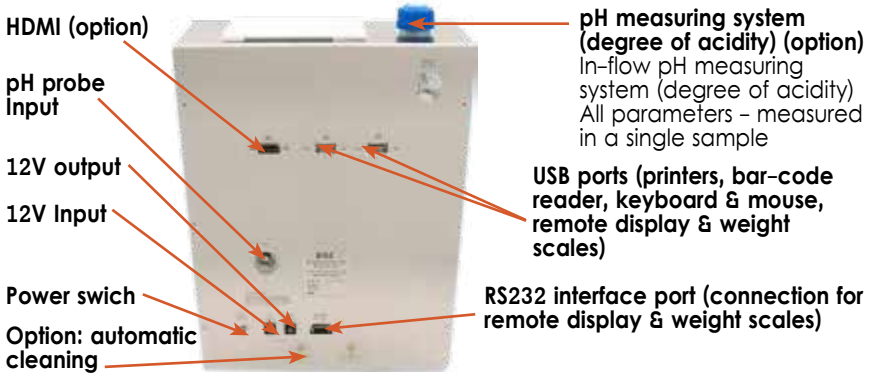
Tables & formulae-delivers & price:
- Reports: shift, daily, monthly, deliverer daily report, deliverer monthly report

Database services:
• Archive DBRes • Restore DBRes • Init DBRes • Archive DBDel • Restore DBDel • Archive all databases • Restore all databases • DB server.

Advantages:
- remote modification of the rate-charts
- remote support and maintenance
- remote alert for changes in calibration.

Specifications MCCW:

Parameter	Measuring range	Accuracy
Fat	From 0.01% to 25% **(optional to 45% only for 50sec)**	±0.06%
SNF	From 3% to 40%	±0.15%
Density	From 1000 to 1160 kg/m³	±0.3 kg/m³
Protein	From 2% to 15%	±0.15%
Lactose	From 0.01% to 20%	±0.20%
Added Water content	From 0% to 70%	±3.0%
Temperature of milk	From 5°C to 40°C	±1°C
Freezing point	From -0.400 to -0.700°C	±0.005°C
Salts	From 0.4 to 4%	±0.05%
pH	From 0 to 14 **(optional)**	±0.05%
Conductivity	From 2 to 14 mS/cm **(optional)**	±0.05 (mS/cm)
Kg	From 0 to 150 kg **(optional)**	±0.025 kg
Total solids	From 0 to 50% **(optional)**	±0.17%



Analyser - Database (LSAn-DB): LSAn-DB collecting information from MRC compatible measurement files and creating reports consistent with predefined formulae. The application saves data collected to a MySQL database.

Local and Cloud Based DB: Cloud Database Application. Total solution for milk collecting process. Windows tablet, wireless, cloud services based system • Easy to use, integrated, internet based • Automated farmer identification (bar-code card) • Real-time SMS and e-mail alerts • Remote back-up support and maintenance, updates • Payment schemes calculations • Real-time online access to milk data.

CRYO-1, The entry-level cryoscope for a low budget

CRYO-1 is a single-sample automatic equipment for the rapid determination of the milk/cream cryoscopic point variation caused by added water, with analytical performances according to the IDF-ISO 5764:2009 and AFNOR reference standards.
This equipment has a reading head with manual movement and the automatic beginning/end of the analysis: it's the perfect solution for all dairies and milk laboratories with a limited budget or a small number of test/day.

Technical Features:

- Setting of the real cryoscope value to calculate the added water %
- Bath with Peltier cells controlled by software
- Induced ventilation.
- Automatic calibration
- NO cooling liquid is needed
- Lash and agitation width controlled by software
- Selectable °C, °Hortvet and water% units.

Model	CRYO-1
Sample capacity	single sample
Operating ambient temperature	+5°C to 36°C
Sample volume	2 or 2.5 ml
Analysis duration	about 3 minutes/test
Warm up time	about 5 minutes
Resolution	±0,0005°C
Reproducibility (bovine milk)	±0,0025°C
Power supply	110/220V, 50/60 Hz, max. 90W
Dimensions	W285 x D380 x H450mm
Net weight	about 10Kgs

CRYO-1T, Professional analysis of added water in milk and cream samples

CRYO-1T is a single-sample automatic equipment for the rapid determination of the milk cryoscopic point variation caused by added water, in full compliance with the IDF-ISO 5764:2009 international reference standard.
This next generation cryoscope includes a lot of useful features that the most recent technology allows: a full colour 7" touchscreen display, real-time visualization of the freezing curve, stable memory for more than 4,000 results, a PC software for data handling, a USB port for downloading all data to a pen drive and much more.
CRYO-1T allows milk laboratories and dairy industries to perform official analysis based on ISO reference method. The new "lactose-free" function helps milk & dairy industries monitor the process of removal of lactose in milk and cream.

New functions, great advantages:

- Choice among 6 values for setting the reference value and between 2 different formula to calculate the added water %
- Choice between 2 reading modes: plateau mode according to ISO method or fixed-time mode
- Real-time graph of the sample temperature during each analysis
- An alphanumeric ID code can be added to each sample, easily
- Optional barcode reader for a quick sample identification (it requires an additional RS232 port to be requested when ordering)
- Results shown in different colours for a quick identification of anomalies or critical values
- New "Lactose-free milk" function to control the removal of lactose in milk and cream
- Stable memory for 2 different calibration curves: the typical one in compliance with ISO requirements and a second one to be set according to the user's needs (i.e.: Lactose-free curve)
- Stable memory for up to 4,000 results
- Easy download of test results to a USB pen drive
- Real time PC monitoring or quick download of test results to a PC thanks to CryoSoft Touch data handling software
- Immediate visualization of error messages.

Technical Features:

- Bath with Peltier cells controlled by software.
- Automatic calibration.
- Lash and agitation width controlled by software
- Selectable °C, °Hortvet & water% units
- USB port for data downloading to a pen drive.

Model	CRYO-1T
Sample capacity	single sample
Display	Full colour 7" touchscreen
Operating ambient temperature	+5°C to 36°C
Sample volume	2 or 2.5 ml
Analysis duration	about 2 minutes/test
Warm up time	about 5 minutes
Resolution	±0.0005°C
Reproducibility (bovine milk)	±0.0025°C
Power absorption	150W
Dimensions / Net weight	W285 x D485 x H360mm / about 16.1Kgs

CRYO-20T, Professional analysis of added water in milk and cream samples

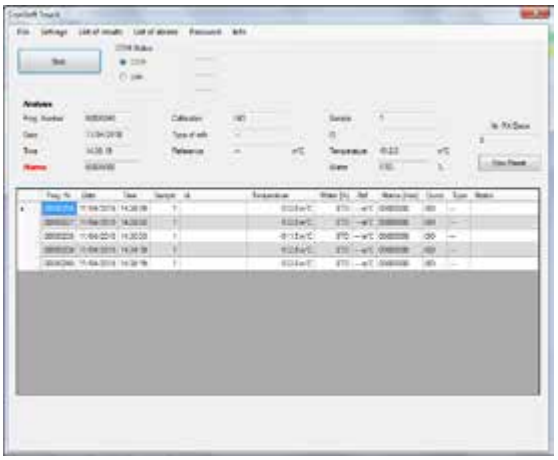
CRYO-20T is a 20-sample carousel-based automatic equipment for the rapid determination of the milk cryoscopic point variation caused by added water, in full compliance with the IDF-ISO 5764:2009 international reference standard.
This next generation cryoscope includes a lot of useful features that the most recent technology allows: a full colour 7" touchscreen display, real-time visualization of the freezing curve, stable memory for more than 4,000 results, a PC software for data handling, a USB port for downloading all data to a pen drive and much more.
CRYO-20T allows milk laboratories and dairy industries to perform official analysis based on ISO reference method. The new "lactose-free" function helps milk and dairy industries monitor the process of removal of lactose in milk and cream.

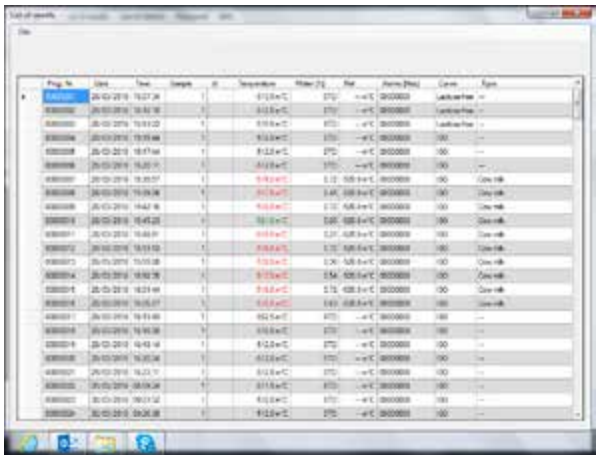
Technical Characteristics:

- Bath with Peltier cells controlled by software
- Automatic calibration
- Lash and agitation width controlled by software
- Selectable °C, °Hortvet & water% units.
- USB port for data downloading to a pen drive
- 2 x RS232 ports for connecting the provided thermal printer & an optional PC
- An additional RS232 port can be added for connecting an optional barcode reader.

New functions, great advantages:

- Choice among 6 values for setting the reference value and between 2 different formula to calculate the added water %
- Choice between 2 reading modes: plateau mode according to ISO method or fixed-time mode
- Real-time graph of the sample temperature during each analysis
- An alphanumeric ID code can be added to each sample, easily
- Optional barcode reader for a quick sample identification (it requires an additional RS232 port to be requested when ordering)
- Results shown in different colours for a quick identification of anomalies or critical values
- New "Lactose-free milk" function to control the removal of lactose in milk and cream
- Stable memory for 2 different calibration curves: the typical one in compliance with ISO requirements and a second one to be set according to the user's needs (i.e.: Lactose-free curve)
- Stable memory for up to 4,000 results
- Easy download of test results to a USB pen drive
- Real time PC monitoring or quick download of test results to a PC of test results thanks to CryoSoft Touch data handling software
- Immediate visualization of error messages.





Model	CRYO-20T
Sample capacity	up to 20 samples
Display	Full colour 7" touchscreen
Operating ambient temperature	+5°C to 36°C
Sample volume	2 or 2.5 ml
Analysis duration	about 2 minutes/test
Warm up time	about 5 minutes
Resolution	±0.0005°C
Reproducibility (bovine milk)	±0.0025°C
Power absorption	150W
Dimensions	W285 x D485 x H360mm
Net weight	about 17.4Kgs

CRYO-40T, Professional analysis of added water in milk and cream samples

CRYO-40T is a 40-sample carousel-based automatic equipment for the rapid determination of the milk cryoscopic point variation caused by added water, in full compliance with the IDF-ISO 5764:2009 international reference standard.
This next generation cryoscope includes a lot of useful features that the most recent technology allows: a full colour 7" touchscreen display, real-time visualization of the freezing curve, stable memory for more than 4,000 results, a PC software for data handling, a USB port for downloading all data to a pen drive and much more.
CRYO-40T allows milk laboratories and dairy industries to perform official analysis based on ISO reference method. The new "lactose-free" function helps milk and dairy industries monitor the process of removal of lactose in milk and cream.

New functions, great advantages:

- Choice among 6 values for setting the reference value and between 2 different formula to calculate the added water %
- Choice between 2 reading modes: plateau mode according to ISO method or fixed-time mode
- Real-time graph of the sample temperature during each analysis
- An alphanumeric ID code can be added to each sample, easily
- Optional barcode reader for a quick sample identification (it requires an additional RS232 port to be requested when ordering)
- Results shown in different colours for a quick identification of anomalies or critical values
- New "Lactose-free milk" function to control the removal of lactose in milk and cream
- CRYO-40T – Real-time graph of the freezing point determinationStable memory for 2 different calibration curves: the typical one in compliance with ISO requirements and a second one to be set according to the user's needs (i.e.: Lactose-free curve)
- Stable memory for up to 4,000 results
- Easy download of test results to a USB pen drive
- Real time PC monitoring or quick download of test results to a PC of test results thanks to CryoSoft Touch data handling software
- Immediate visualization of error messages.

Technical Characteristics:

- Bath with Peltier cells controlled by software
- Automatic calibration
- Lash and agitation width controlled by software
- Selectable °C, °Hortvet & water% units.
- USB port for data downloading to a pen drive
- 2 x RS232 ports for connecting the provided thermal printer & an optional PC
- An additional RS232 port can be added for connecting an optional barcode reader.

Model	CRYO-40T
Sample capacity	up to 40 samples
Display	Full colour 7" touchscreen
Operating ambient temperature	+5°C to 36°C
Sample volume	2 or 2.5 ml
Analysis duration	about 2 minutes/test
Warm up time	about 5 minutes
Resolution	±0.0005°C
Reproducibility (bovine milk)	±0.0025°C
Power absorption	150W
Dimensions	W330 x D610 x H360mm
Net weight	about 20.5Kgs

NIR-100/110, Fast & Nondestructive analysis for Grain/Oil/Feed

Near infrared analyzer is designed to meet customers demand of accurate and rapid analysis of grain, oil and feed for quality control and pricing. It requires minimal operator training and instrument maintenance. Analysis takes less than a minute and no chemicals are required, Operation is very simple, just pour the sample in to the dish, place under the instrument, and automatic analysis will be done within a click.
The user-friendly RIMP software combines instrument control, data analysis and modeling in one. It is connected to the dynamic link libraries. thus ideal for data output and office outomation. Report forms can be customized according to customer's demand. With the exlstlng analysis model, the onalyzer performs accurate analysis for quality control of raw material and finished products in solid grains. pellets, pastes and powders.

Rotary Sample plate leads to accurate analysis.

Light source easy to replace.

Effective sample analysis:

- Optimize sample presentation while minimize operator influence
- No sample preparation required for most products and sample data integrity ensured
- Perform real-time analysis for solid grains, pellets, pastes and powders
- Rotation measurement ensures representativeness for heterogeneous samples.

Hassle-free Maintenance:

- Easy to clean sample plate
- Long operating time, and light source easy to replace
- Convenient routine maintenance and model update.

High performance RIMP software:

- Easy and reliable software operation ensures stable analysis result
- One software for operation and modeling
- Online data analysis and multiple statistics functions
- Customizable reports output.

Robust design & high reliability:

- Adopt advanced raster scanning technology and InGaAs detector
- Perform multi-component analysis in less than 1 min
- Daily self-check and automatic alarm display
- Reliable instrument stability and less instrument noise
- No adjustment needed for light source.
- Transferable calibration, ideal for use in a network of instruments
- Improved water resistance and dustproof properties, suitable for factory environment.

Applications:

- Feed: NIR-100 series provides rapid and reliable analysis on raw material to optimize feed formulation, improve product quality and minimize cost. and inspection on finished product is essential for pricing.
- Oil: NIR-100 series is widely used in determination of oil and grease products as well as oil seeds quality for pricing, optimizing manufacturing process and inspecting product quality. And it brings huge economic benefits for factories.
- Grain: Grain detection with NIR-100 can be employed in quality control from raw material to the finished product. It helps to save money, improve process efficiency and increase factory throughputs.

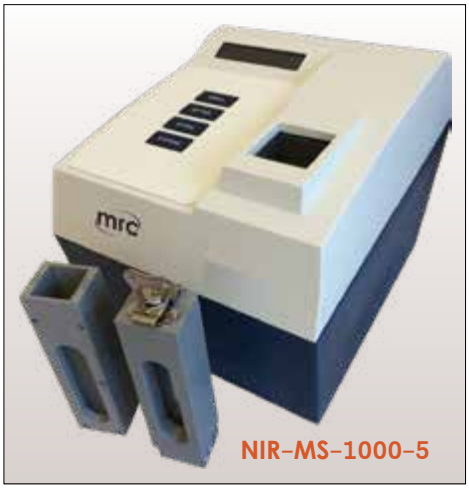
Model	NIR-100	NIR-110
Wavelength range	1000 – 1800nm	1000 – 2500nm
Noise	Less than $5x10^{-5}A$	
Wavelength accuracy	±0.2nm	
Wavelength repeatability	Less than 0.01nm	
Stray light	Less than 0.1%	
Resolution	10.95 ± 0.3nm@1395.5nm	
Analysis time	Less than 60s	
Simultaneous analysis	No limit	
Sample size	Less than 120g	
Lamp life-time	More than 5000 hours	
Communication ports	USB 2.0	
Temperature	(5 ~ 35)°C	
Humidity	(5 ~ 85)%	
Power supply	(198 ~ 242)V~ /50Hz/0.5A	
Dimension (LxWxH)	403 x 391 x 374mm	
Weight	Approx. 20kg	

NIR-MS-1000-5, Alcohol Analyzer

The NIR-MS-1000-5 Analyser is a range of Near Infrared Transmission analyser designed for specific end user applications, i.e., Alcohol Analyser, Moisture Analyser and Fat and Moisture Analyser. The NIR-MS-1000-5 Analysers scan from 720 to 1100nm using a diode array spectrometer but with different sampling systems to suit different applications.

- The NIR-MS-1000-5 Alcohol Analyser uses a flow through cell and a peristaltic pump to fill & empty samples of wine, beer and other alcoholic beverages.
- The NIR-MS-1000-5 Moisture Analyser uses a 5mm thick powder cell for measuring moisture in homogeneous samples such as ground grains, flour, chemicals, powders
- The NIR-MS-1000-5 Fat and Moisture Analyser also uses the 5mm thick powder cell but measures two components simultaneously.

The NIR-MS-1000-5 Analysers are simple to operate and include an Auto-calibration function. NTAS software is available for calibration development.



NIR-MS-1000-5

Features:

- Near Infrared Transmission technology: Suitable for liquids, powders and pastes
- Four Button Keypad: Simple to use
- Built-in Auto-calibration Software: Calibration adjustments can be performed using a single test sample
- Flow Thru Cell with thermistor for NIR-MS-1000-5 Alcohol Analyser: Measures & corrects results for temperature variation
- Selection of Sample Cells: Cells for powders, granules, slurries and liquids.

Model	NIR-MS-1000-5
Scan Range	820-980nm
Pixels	16
Scan Speed	2-4 seconds
Power	110/240VAC, 18VDC
Weight	6kg
Dimensions	W330cD270xH200mm

Applications:

• Beverages: Alcohol • Flour, ground grains, chemicals, powders: Moisture • Butter, mayonnaise, cream cheese, yogurt: Fat and Moisture.

NIR-MS-2000-C2F, Flour Analyzer

NIR-MS-2000-C2F

The NIR-MS-2000-C2F Flour Analyser is a powerful Near Infrared Transmission spectrophotometer capable of measuring protein, oil and moisture in cereal grains, and protein, moisture, starch damage, water absorption and ash in flour. The instrument uses near infrared transmission spectra and supports a range of sample cells for whole grains and flour as well as slurries and liquids. The NIR-MS-2000-C2F uses a moving sample cell to average spectra over a wide sample area.

Model	NIR-MS-2000-C2F
Features	**Benefits**
NIR Transmission technology	Same NIR technology as used by AWB, Graincorp, CBH and Ausbulk
Broad Spectral Range	720-1100nm Multiple constituent analysis Optimum PLS calibrations 1st and 2nd derivative spectral data Qualitative and quantitative analysis
Diode Array Optics	Unaffected by vibration Independent of orientation Rugged, stable and compact
Internal Computer, Keyboard, LCD	Stores calibrations and predicts constituents onto a LCD Save results using alpha/numeric characters
RS232 Serial Port, USB Memory Device	Provides a convenient method of uploading stored data to a PC or to download calibrations to the instrument
5 Sample Cells Available (Supplied with 3 piece)	8mm cell - canola, powders 15mm cell - barley, sorghum 18mm cell - wheat, oats, triticale 28mm cell - lupins, faba beans, chick & field peas Powder cell - flour, meals, semolina
Sample Transport Module (STM)	Scans large sample area Automates multiple sample loadings
Specifications	
Scan Range / Pixels	720-1100nm / 38
Scan Speed	2-4 seconds
Power	110/240VAC, 19VDC
Physical	12kg, 450 x 380 x 270mm
Applications	
Wheat / Durum	Protein and moisture
Flour	Protein, moisture, starch damage, water absorption, dough stability, dough strength, ash
Semolina	Protein and moisture
Meal	Protein, oil, ash and moisture

FSA-1510, Food Safety Analyzer

FSA-1510

Model	FSA-1510
Absorbance Range	0 – 4,500Abs
Resolution	0.001Abs(Displayed). 0.0001Abs (Calculated)
Accuracy	±0.1%or ±0.005Abs
Type of Microplate	Standard with96-wellor other kind of microplate & strip
Wavelength	410, 450, 492, 630mm, 4 more filters optional
Wavelength Accuracy	±1nm
Band Width	8nm
Calculation Method	ABS, %ABS, Cut-Off, Single Standard, Curve, Multi-Precent,, Precent Log, Linear, Exponential, Power, 4PL Regression
Reading Speed	5 seconds for 96 well plate (single wavelength)
Shaking Plate	Shaking time & speed adjustable
Memory	>100 programs, 100,000test results
Interface	RS-232, USB,SO card & LAN interface
Display	6" LCD, Touch panel
Power Supply	AC 110V – 220V ±10%, 50-60Hz
Net Weight	8kg
Dimensions (mm)	L460xW330xH190

Features:

- Multiple tests on one analyzer, includes Food Safely Analyze, Pesticide Residues, Veterinary Drug Residues. Antibiotic Residues, Determination of Organic Pollutants, Natural Toxins. Safety of Aquatic Products. Analysis of Biological Pollutants etc.
- Widely applied. not only in labs, but also in On-site Screening, like Food and Drug Administration ,Inspection and Center for Disease Control and Prevention, etc.
- Multi-assay enables up to 96 tests and 12 different assays on one plate, 5 sec. for 96 well plate (single wavelength). fast and accurate.
- Variety tests and calculation methods, meeting the requirements from different areas of Food Safety • Easy Windows operation system with touch screen Or mouse, large LCD display • 22 pre programmed tests, covers area in Pesticide Residues, Aquatic Pollution. Natural Toxins, Animal Diseases • Powerful QC function: Grubs, Westguard Multi-rule, Levey Jennings Plot • Professional software design, sample in two different tests, dilution ratio adjustaable • Multiform result output including patient comprehensive report.

NIR-MS-3000F

NIR-MS-3000F, Grain and Flour Analyser

Analytical Solution for Flour Millers, Grain Processors & Food Manufacturers

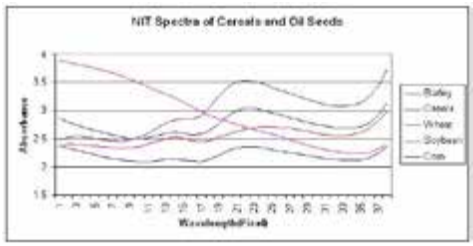
Near Infrared Transmission (NIT) Spectroscopy:

Near Infrared Transmission Spectroscopy is the most widely used technology for measuring protein, oil and moisture in grains and oil seeds. NIT analysers offer farmers, grain buyers, flour millers, pasta producers and grain processors a rapid means of determining the composition of their incoming grains, their process streams and their final products. The NIR-MS-3000F Grain and Flour Analyser require no grinding & are designed for ease of use. The same system measures whole grains of wheat as well as flour and meals.
The NIR-MS-3000F Grain and Flour Analyser can be coupled with the SeedCount Image Analysis System and Specktek software to provide a complete wheat and flour measurement system:

Specification:

- Touch Screen Operation
- Measures Protein & Moisture in Wheat
- Measures Protein, Moisture, Ash, Water Absorption and Starch Damage in Flour and Semolina • Weighbridge software available • Internet software available.

Once the data fields are completed, the information is stored in the on board memory and can then be posted to the web site where it can be retrieved form a Smart Phone, Tablet or PC.
Reports are available at the press of a button for:
- Tabulated results
- Spectra
- Trends Plots
- Bin Averages for each silo, bunker or shed..



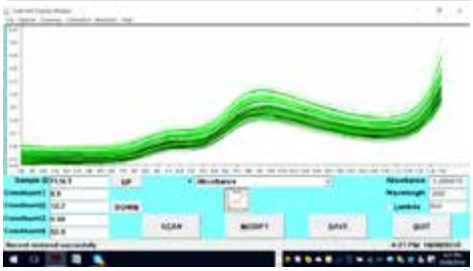


Image Analysis System and Specktek Software:

- Touch Screen Operation
- Measures Length, Width, Thickness
- Measures Colour
- Measures Defects and Broken Seeds
- Measures Diseases including Fusarium, Blacktip, Smut, Yellow Berry
- Flour Yield
- Measures Specks in Flour and Semolina.

It includes a high resolution scanner, multiple sample tray system & a powerful set of image analysis routines to measure the physical characteristics of grains, flour and semolina.

Applications:

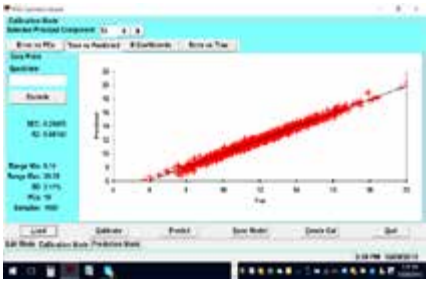
- Protein and Moisture in Wheat
- Protein, Moisture, Ash, Water Absorption and Starch Damage in Flour and Semolina
- Specks in Flour and Semolina
- Protein and Moisture in Meals
- Protein, Moisture, Oil and Starch in Soybeans, Corn, Rice and other grains and oil seeds.
- Protein, Moisture and Oil in Corn Flour, Rice Flour, Soybean Meal and other processed grain products.

The NIR-MS-3000F is a bench top analyser designed for rapid measurement of protein and moisture in wheat, barley and other cereal grains. Powders including flour, semolina, lupin meal, soybean meal, soybean flour, corn flour and meals can be measured in a 5mm deep rotating dish that is simple to load and empty. Up to 30 sub scans can be collected for either grains or powders and averaged to provide excellent accuracy and precision.
The Touch Screen PC provides users a simple to use interface. Once the NIR analyser has predicted the required parameters, the software prompts a set of customised data fields. The operator enters the following information:
- Sample ID
- Test Weight and Screening Weight
- Storage Location
- Variety
- Grade
- Source(Farm, Paddock or Supplier)
- Truck ID.

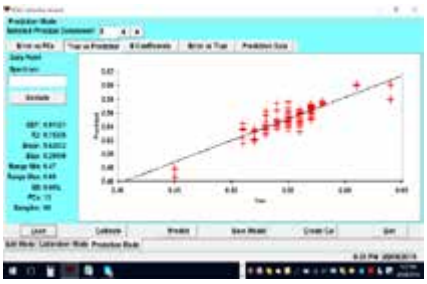
Near Infrared Transmission (NIT) Analysis of Whole Grains & Flour:

The figures below show the NIT spectra of cereal grains, oil seeds and flour. Light passes through a sample of wheta or flour and NIR light energy is absorbed in proportion to the concentration of the protein, moisture and starch. The more light absorbed at the the specific wavelengths, the higher the concentration of protein, moisture and starch.
Calibration models have been developed to relate the amount of light absorbed by the sample to the concentration of each component. These calibrations are stored in memory and used to predict the protein, moisture and other components in samples of incoming grains and flour.

Protein and Moisture Calibration Plots in Wheat:



Protein and Moisture Calibration Plots in Flour:



How the NIR-MS-3000F Analysers work:

Light from the lamp, passes through a sample of grains or flour. The light bounces off the surfaces of the grains or flour and propagates through the sample until it reaches the other side. The emerging light is focused into the slit of a flat field spectrograph that separates the light into its individual frequencies, across the wavelength range from 720-1100nm. The separated light is then directed onto a silicon photo diode array detector. This array detector measures the intensity of the light at each frequency to produce what is called the NIT spectrum of the sample.
Within this region of the electromagnetic spectrum, N-H (protein), C-H (fats and oils) and O-H (water) and C-O-H (carbohydrates) absorb NIR light at specific wavelengths. The NIT spectrum contains information about the concentration of these components. Calibration models, stored in the MRC's computer, converts this information to % Protein, % Moisture, % Oil, % Starch, Water Absorption and Starch Damage and displays the results on the screen.
Seeds are spread over the sample tray & inserted into the scanner module.
The SeedCount software draws a border around each seed and uses the pixels within the border to define each parameter. 4 black and white scans are collected from a 100 x 100mm flat sample of flour or semolina. The intensity of each spot within these scans are measured and the software determines black and brown specks. The average of the four scans is presented with data shown for Black Large, Brown, Specks, Black/Large ppm, Brown ppm. Reports can be printed or stored.

Model	NIR-MS-3000F
Wavelength Range	720-1100nm
Optical Detector	Silicon Diode Array
Lamp	Halogen 12VDC, 10W
Scan Rate	2-4 per scan
Sample Tray Pathlengths	8, 16, 24mm
Display	Touch Screen PC Windows & OS
Power	19VDC using 110 -240VAC
Operating Temperature Range	5-45°C, 41-113°F
Dimensions (cm)	40 W x 40 D x 33 H
Weight (Kg)	12Kg

MA.R Series, Moisture Analyzers

Moisture analyzers are measuring devices specially designed for determination of moisture content of relatively small samples of various materials.

Information system of MA.R series moisture analyzers is based on 6 databases, allowing many operators to operate product database comprising many samples. Collected measurements may be subjected to subsequent analysis:

- Users (up to 100 users)
- Products (up to 1000 products).
- Weighments (up to 1000 weighments).
- Tares (up to 100 tares).
- Programs (up to 100 drying programs).
- Drying process reports (up to 1000 reports).

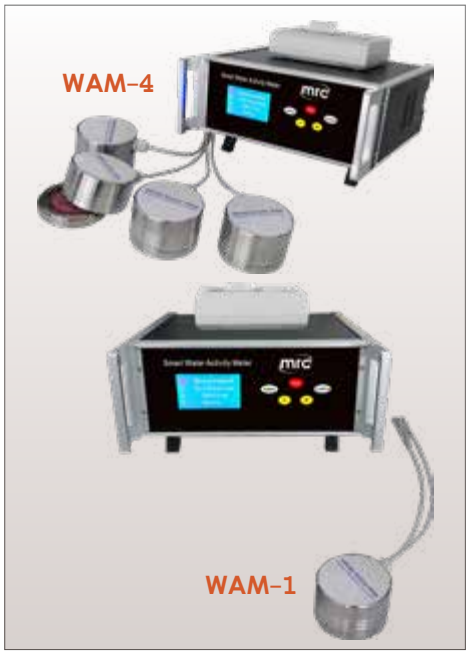
Maximal capacity of moisture analyzer Series MA.R is 210 g /1 mg.
Moisture content is measured with accuracy 0.001%
Maximal drying temp. equals 160°C.

Optional accessories:

Anti-vibration table • Printer • PC keyboard • Disposable pans • PC Keyboard • Water Vapour Permeability Determination Set • Computer software.

Model	MA 50/1.R	MA 50.R	MA 110.R	MA 210.R
Max capacity	50g	50g	110g	210g
Reading unit	0.1mg	1mg	1mg	1mg
Tare range	–50g	–50g	–110g	–210g
Max sample weight	50g	50g	110g	210g
Moisture readout accuracy	0.0001%	0.001%	0.001%	0.001%
Moisture content repeatability	0.05% (sample weight of 2g), 0.01% (sample weight of 10g)			
Max sample height	h= 20mm			
Weighing pan size	Ø90mm, h= 8mm			
Drying temeprature range	max. 160°C			
Heating module*	IR emitter			
Drying mode	4 drying modes (standard, quick, step, mild)			
Auto switch off options	4 options (time-defined, automatic, manual, user-defined)			
Additional functions	sample identification			
Working temperature	+10° ~ +40°C			
Power supply	230V			
LCD display	LCD (backlit)			
Interface	1 × RS 232, USB-A, USB-B, Wireless Connection (option)			
Net / Gross weight	4.9 / 6.4kg			
Packaging size	470×380×336 mm			

* Heating element options: WH – halogen (max= 250° C), NS – metal heater (max=160° C)



WAM-1/2/3/4, Water Activity Meters – Including Printer

- Work environment: Temperature -10°C ~ 50°C, Relative humidity 0 ~ 95%RH.
- Display mode: Large-screen LCD 128×64.
- Measuring range: Temperature -10°C ~ 50°C, Water activity 0 ~ 1.000aw.
- Measurement accuracy: Temperature ±0.5°C, Water activity ±0.012 (@23°C ±5°C).
- Repeatability: ≤0.008aw.
- Measurement time: 5 ~ 40min, automatic measurement.
- Resolution: Water activity: 0.001aw Temperature: 0.1°C.
- Data processing:
  - The special software can be operated after connected with the computer. It is applicable to the Windows operation system
  - The computer controlled measurement can display the measured data, curve, & save the data
  - The computer controlled measurement can automatically save the result data according to the set product name.

- It can circularly record 5,000 sets of measured data.
- Correction mode: multi-point joint calibration, single-point calibration.
- Measurement points: 1 ~ 4.
- Interface: RS232 interface or USB interface.
- Configuration: data cable, micro printer (option).
- Print function: a. Print at the end of the measurement b. Real-time print.
- Supply voltage: 100 ~ 230VAC±10% 50Hz/60Hz.
- Power consumption: ≤10W.