

Automated **CombiScope FTIR** A600 HP



DeltaInstruments
An Advanced Instruments Company



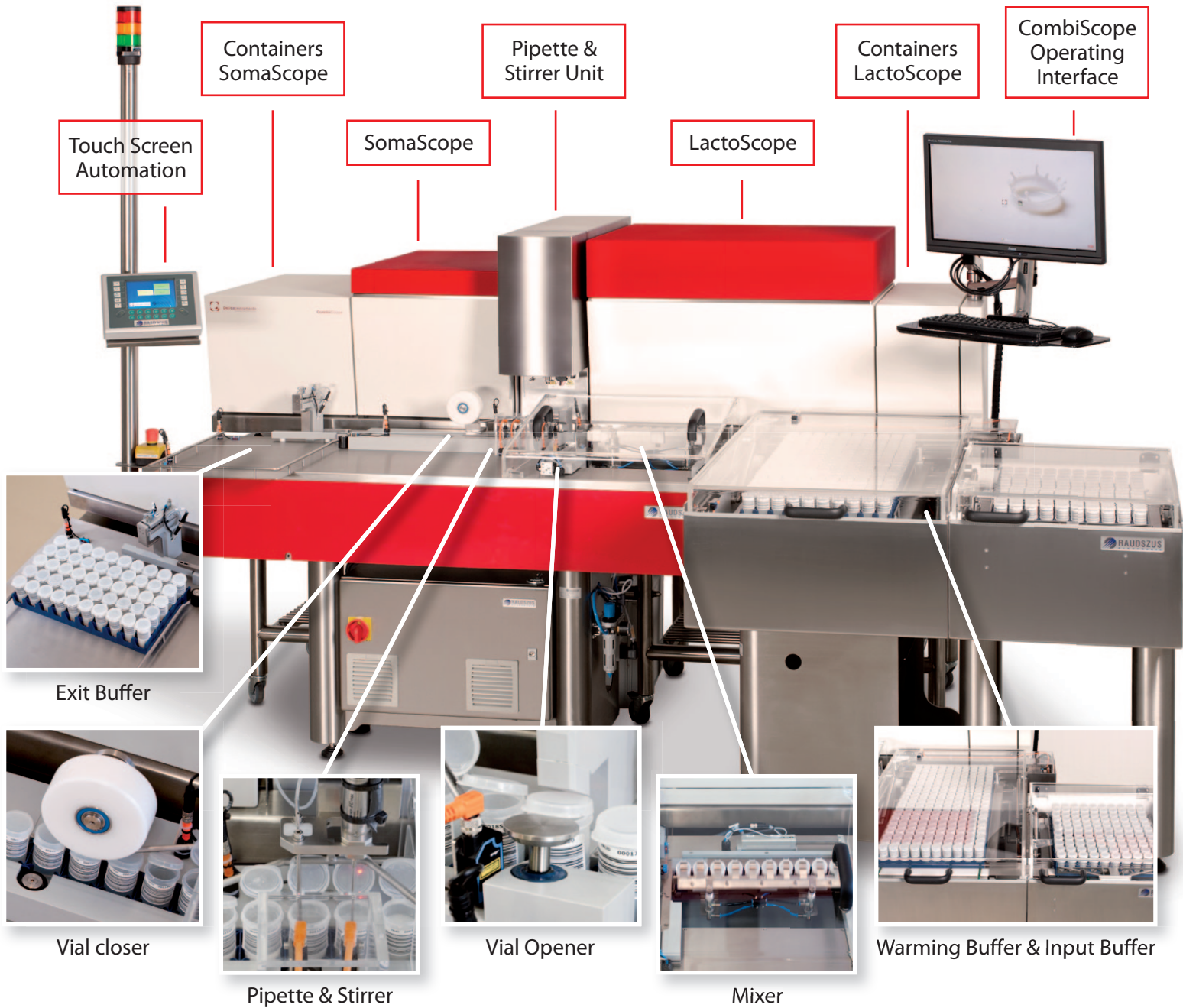
RAUDSZUS[®]
ELECTRONIC



Fully automated sample handling system combined with milk analyzer for the chemical composition and somatic cell counting

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Automated CombiScope FTIR A600 HP



CombiScope FTIR A600 HP

FEATURES

600 samples per hour	<ul style="list-style-type: none"> • 1 minute for analyzing 1 vial carrier of 10 samples. • Exceeds AOAC, IDF & ISO standards and guidelines.
Electromagnetic pipette drive unit	<ul style="list-style-type: none"> • No wear & tear of gearboxes or motors. • Automatic detection of obstructions.
36 micron calcium fluoride cell	<ul style="list-style-type: none"> • Less protein build-up compared to the previous model CombiScope FTIR 400. • Expected lifetime of 800.000-1.000.000 samples.
Wishbone FTIR scanning mechanism with diode laser	<ul style="list-style-type: none"> • Expected lifetime for the diode laser of 10 years. • Limited lifetime warranty on the scanning mechanism. • No calibration required. • No unforeseen costs over the lifetime. • No maintenance required.
Flow cytometer for the somatic cell count with LED light source and fixed optical arrangement	<ul style="list-style-type: none"> • Light source design life of 10.000 hours. • No adjustment time or calibration costs.
Model transferability between FTIR analyzers of Delta Instruments	<ul style="list-style-type: none"> • No costs involved.
Ethernet connection	<ul style="list-style-type: none"> • Remote diagnostic system and data transfer.
On board working solutions to process 6000 samples	<ul style="list-style-type: none"> • Exceeds an 8-hour work shift.
Automatic dryer for FTIR optic dew point -70°C	<ul style="list-style-type: none"> • Improves the sensitivity for minor components. • No silica gel required.
Sample Temperature Control STC™	<ul style="list-style-type: none"> • Intake temperature from 35°C to 41°C. • Maintains stability of specifications at 600 s/h.

Automated Sample Handling System

FEATURES

Sales and Service support through Delta Instruments	<ul style="list-style-type: none"> • Single point of contact.
Air warming media with programmable temperature per buffer	<ul style="list-style-type: none"> • No overheated samples. • Short and simple cleaning procedures. • No environmental increase of humidity or temperature.
Input and warming buffers host combined 33 vial carriers of 10 vials each	<ul style="list-style-type: none"> • Enough capacity for a continuous supply for the analyzer.
Speed of the analysis determined by the analyzer	<ul style="list-style-type: none"> • Flexibility to adjust the speed and measurement processes.
Automatic mixing, vial opening and closing	<ul style="list-style-type: none"> • Continuous and identical sample treatment. • Uncompromised analytical results. • Elimination of Repetitive Strain Injuries. • Lower labour costs and simplified operators' training.
Input and exit buffer system with a capacity of 11 vial carriers	<ul style="list-style-type: none"> • The operator has a window of 11 minutes for other tasks. • One operator can handle three CombiScope FTIR A600 HP.
Compact design	<ul style="list-style-type: none"> • Front-end access and short distance to analyzers.
Ethernet connection	<ul style="list-style-type: none"> • Remote diagnostic system.
Modular design of the unit	<ul style="list-style-type: none"> • Possibility to upgrade automation to full lab automation later e.g with belt system.

TECHNICAL SPECIFICATIONS

Combined dimension	Approx. 200*300 cm
Air pressure	6 bar
Sample identification	RFID tag on vial carriers of 10 vials each

	Basic Unit	Warming Unit	CombiScope FTIR A600 HP
Weight:	150 kg.	300 kg.	330 kg.
IP classification:	IP 54	IP 54	IP 22
Power consumption:	750 VA (230 VAC)	4500 VA (380 VAC)	750 VA (230 VAC)
Operating interface:	Touchscreen	-	Touchscreen, keyboard & mouse



Cow milk performance specifications FTIR Calibrations models (filter and full spectrum PLS) - All parameters calculated conform IDF141C/ISO9622 and expressed in % m/m if not specified

Component	Measurement range	Performance range	Repeatability specification	Repeatability typical	Within lab reproducibility specification	Within lab reproducibility typical	Accuracy bulk specification	Accuracy bulk typical
Fat	0 - 15%	2.0 - 10.0%	Sr < 0.014	Sr = 0.006	SR < 0.020	SR = 0.010	Sy,x% < 1.0%	Sy,x% = 0.40%
Protein	0 - 10%	2.0 - 7.0%	Sr < 0.014	Sr = 0.006	SR < 0.020	SR = 0.010	Sy,x% < 1.0%	Sy,x% = 0.50%
Lactose	0 - 10%	2.0 - 6.0%	Sr < 0.014	Sr = 0.010	SR < 0.020	SR = 0.014	Sy,x% < 1.0%	Sy,x% = 0.70%
Total Solids	0 - 20%	6.0 - 20.0%	Sr < 0.040	Sr = 0.020	SR < 0.050	SR = 0.025	Sy,x% < 1.0%	Sy,x% = 0.40%
NPN-CU	10 -100 mg /100g	10-70 mg /100g	Sr < 1.5 mg /100g	Sr = 1.4mg /100g	SR < 2.8mg /100g	SR = 2.0 mg /100g	Sy,x < 4.0 mg /100g	Sy,x = 2.5 mg /100g
FPD	400 - 600 m°C	450 - 550 m°C	Sr < 0.5 m°C	Sr = 0.3 m°C	SR < 1.5 m°C	SR = 0.85 m°C	Sy,x < 4 m°C	Sy,x = 2.8 m°C

Sr = standard deviation of repeatability conform IDF141C
 SR = standard deviation of reproducibility conform IDF141C/ISO9622
 Sy,x = standard deviation of accuracy conform IDF141C/ISO9622
 Sy,x% = relative standard deviation of accuracy conform IDF141C/ISO9622

Typical accuracy results based on combined tests.
 Reference methods:
 Fat; ether extraction,
 Protein; Kjeldahl, Total
 Solids; oven method,
 NPN-CU; pH method,
 FPD; cryoscopic method

Somatic Cell counting

Range 0-10000K cells/ml, performance range 0-2000K cells - all parameters calculated conform IDF148-2/ISO13366-2

Level	Repeatability specifications	Repeatability typical	Accuracy specifications
	Sr%	Sr%	Sy,x%
100K cells/ml	<6.0% *	3.5% *	* <10%
300K cells/ml	<4.0% *	2.5% *	* <10%
500K-2000K cells/ml	<3.0% *	2.0% *	* <10%

Sr% = relative standard deviation of repeatability conform IDF148-2/ISO13366-2

* Unit : Somatic cell Repeatability: Sr% = Cv * Unit : Milk component Accuracy: Sy,x% = Cv * Unit : Somatic cell Accuracy: Sy,x% = Cv



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