

CRIOSCOPY

"Entry-level" single-sample cryoscope – CryoSpecial 1

New "entry-level" cryoscope for the quick determination of the freezing point variation in milk and cream samples due to the presence of added water, based on plateau reading. Analytical performances according to the recent IDF-ISO 5764:2009 and AFNOR international regulations. This equipment has a reading head with manual movement and the automatic beginning/end of the analysis: it is the perfect solution for all dairies and milk laboratories with a limited budget or a small number of test/day.

Technical features:

- ✦ Capacity: single sample
- ✦ Visualization of the freezing point and the added water percentage
- ✦ Cooling system with electronically controlled Peltier cells
- ✦ No need of cooling liquid
- ✦ Forced ventilation
- ✦ Working room temperature: from +5°C to +36°C
- ✦ Automatic calibration
- ✦ Software-piloted agitation and whip stroke
- ✦ Results in °C, °Hortvet and water% units, selectable by the user
- ✦ Sample volume: 2 – 2.5 ml
- ✦ Analysis time: about 3 minutes
- ✦ Instrument pre-heating time: 5 minutes
- ✦ Resolution: $\pm 0.0005^{\circ}\text{C}$
- ✦ Reproducibility (on bovine milk): $\pm 0.0025^{\circ}\text{C}$
- ✦ Dimensions: 285x380x450 mm (wxdxh) with head up - Weight: about 10 Kg.
- ✦ Power supply: 110/220 V – 50/60 Hz – 90 W



Code no. 67699	Single-sample cryoscope - CryoSpecial 1
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Single-sample cryoscope with "lactose-free" function – CryoTouch 1

CryoTouch 1 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. CryoTouch 1 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 features:

- ✦ Sample capacity: single sample
- ✦ Full colour 7" touchscreen display
- ✦ Bath with Peltier cells controlled by software
- ✦ Operating ambient temperature: +5°C to 36°C
- ✦ Automatic calibration
- ✦ Lash and agitation width controlled by software



(following) Single-sample cryoscope with "lactose-free" function – CryoTouch 1

- ✦ Selectable °C, °Hortvet and water% units
- ✦ Sample volume: 2 or 2.5 mL
- ✦ Analysis duration: about 2 minutes/test - Warm up time: about 5 minutes
- ✦ 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 *(to be requested at the order)*
- ✦ Results shown in different colours for a quick check of anomalies or critical values
- ✦ "Lactose-free milk" function to control the removal of lactose in milk/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 software
- ✦ Resolution: $\pm 0.0005^{\circ}\text{C}$ - Reproducibility (on bovine milk): $\pm 0.0025^{\circ}\text{C}$
- ✦ Immediate visualization of error messages
- ✦ USB port for data downloading to a pen drive
- ✦ 2 x RS232 ports for connecting an optional thermal printer and a PC
- ✦ An additional RS232 port can be added for connecting an optional barcode reader
- ✦ Power absorption: max. 150 W
- ✦ Dimensions: 285x485x360 mm (wxdxh, with head down) - Net weight: 16.1 Kg.



Code no. 67799	Single-sample cryoscope - CryoTouch 1
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Accessories:

Code no. EP-50	EP-50 thermal printer
Code no. 67219	Thermal paper roll for EP-50 printer
Various codes	Connection cable for PC, additional RS232 port for a barcode reader, barcode reader, etc.

20-sample automatic cryoscope with "lactose-free" function – CryoTouch 20

CryoTouch 20 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. CryoTouch 20 allows milk labs 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 features:

- ✦ Capacity: 20-place, with carousel-based autosampler
- ✦ Provided with EP-50 thermal printer
- ✦ Net weight: 17.4 Kg.
- ✦ Other features: as for CryoTouch 1



Code no. 67899	20-sample cryoscope - CryoTouch 20
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40-sample automatic cryoscope with "lactose-free" function – CryoTouch 40

CryoTouch 40 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. CryoTouch 40 allows milk labs 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 features:

- ✦ Capacity: 40-place, with carousel-based autosampler
- ✦ Provided with EP-50 thermal printer
- ✦ Dimensions: 33x61x36 cm (wxdxh, with head down)
- ✦ Net weight: 20.5 Kg.
- ✦ Other features: as for CryoTouch 1



Code no. 67863 40-sample cryoscope - CryoTouch 40

Standards and accessories for cryoscopes

This cryoscopy accessories and standards range has a high quality level and extremely competitive prices. All standards are lot-specific certified and have a long-term ensured shelf life. The calibrated sample tubes are manufactured in full agreement with the recent IDF-ISO cryoscopy international regulation. All this product range can be used on any cryoscope.



Code no. 67205	Calibrated cryoscopy glass tubes, 12 pieces
Code no. 67241	50-place tube holder, in stainless steel
Code no. 63220	Check standard for crioscopy -0.512°C, 250 ml
Code no. 63215	Calibration standard for cryoscopy -0.408°C, 250 ml
Code no. 63225	Calibration standard for crioscopy -0.600°C, 250 ml
Code no. STD2105	Certified Calibration Standard, -0.929°C, 125 ml (to be used with the "lactose-free milk" function)
Code no. 67210	Cooling liquid, 1,000 ml
Code no. 67200	Cooling liquid, 250 ml
Code no. 67226	Precision micropipette, 2/2.5 ml volume
Code no. 37470	Plastic disposable tips, 2/2.5 ml volume, 1,000 pieces

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