



## ● **MIRA** Infrared (IR) Milk Analyzer

The MIRA is a high precision IR analyzer developed for the needs of today's dairy industry. The proven technology offers a simple and cost-effective way for the quality control of raw milk, processed or standardized milk, whey and cream.

Important parameters like fat, protein, total solids and lactose are analyzed fast and allow a rapid and optimized process adjustment. The built-in high pressure homogenizer ensures evenly homogenized samples for high repeatability and accuracy. Optionally, the freezing point can be determined within the same measurement.

- Ease of operation
- High precision and repeatability
- Low cost of ownership
- User-independent results
- Automatic cleaning/zeroing

### **Ease of use**

The MIRA is an easy-to-use analyzer for raw milk, standardized milk and liquid milk products. By the intuitive user software the sample is automatically analyzed in transmission after selecting sample type and entering sample ID. The results are obtained by product specific pre-installed calibrations which are easy to adjust. Calibrations for customer specific products can be set up by the user.

### **Proven Quality**

More than 25 years of experience in designing solutions for the dairy industry were combined with the high quality standards of Bruker. Our systems run hassle-free in companies producing milk and milk products worldwide.

#### **Sample Types**

- Raw milk
- Standardized milk
- Skim milk
- Whey
- Cream

#### **Analytical Ranges**

- Fat 0 - 55 %
- Protein 0 - 10 %
- Total Solids 0 - 50 %
- Lactose 0 - 15 %
- SNF 0 - 15 %
- Freezing Point -0.45 to -0.55 °C



The MIRA can analyze a wide range of products: raw milk, skimmed, semi skimmed and whole milk, UHT milk, pasteurized milk, condensed milk, whey, cream etc.

### Automatic Cleaning and Zeroing

After a preset time an automatic zeroing is performed to secure constant performance over time. The MIRA automatically cleans itself to prevent contamination or even blockage of the fluid mechanics without any operator intervention.

### Robust and Reliable

Designed with a small footprint, the MIRA is ideal for the use in a laboratory or an at-line process lab. The robust filter instrument with built-in homogenizer is resistant to vibration and other environmental influences. The internal sample heating allows for a reproducible and reliable performance on all measured parameters.

### Hassle-Free Maintenance

The MIRA spectrometer is designed to be easily maintained by the user, decreasing downtime and maintenance costs. Light source and desiccant cartridge are easily interchangeable and permanent diagnostics monitor the instrument and advise the user of any problems.

### Service and Support

If you need us, we are here to help! Bruker Optics is staffed with a large group of scientists and engineers to respond to your needs:

- Application support
- Comprehensive training
- Local service

Date & Time	Product	Sample ID	AV Fat %	AV Protein %	AV TS %	AV Lactose %	Comment
13/06/2018 11:01:23	MILK Tests	FD1_KWV37_20180111	6.170	3.41	13.55	4.67	
13/06/2018 11:01:49	MILK Tests	FD1_KWV37_20180111	6.188	3.43	14.65	4.49	
13/06/2018 10:58:54	MILK Tests	FD1_KWV37_20180111	6.072	3.41	14.79	4.56	
13/06/2018 10:51:14	MILK Tests	FD1_KWV37_20180111	6.217	3.41	13.88	4.63	
13/06/2018 10:49:27	MILK Tests	FD1_KWV37_20180111	6.261	3.41	13.81	4.62	
13/06/2018 10:41:58	MILK Tests	FD1_KWV37_20180111					
13/06/2018 10:41:48	MILK Tests	FD1_KWV37_20180111					
13/06/2018 10:37:50	MILK Tests	FD1_KWV37_20180111					
13/06/2018 10:24:06	MILK Tests	FD1_KWV37_20180111	6.258	3.42	13.89	4.64	
13/06/2018 10:20:17	MILK Tests	FD1_KWV37_20180111	6.211	3.40	13.89	4.63	
07/02/2018 11:15:55	MILK Tests	FD1_KWV37_20180111	5.252	3.42	13.85	4.63	
07/02/2018 11:09:49	MILK Tests	FD1_KWV37_20180111	<b>5.217</b>	<b>3.41</b>	<b>13.85</b>	<b>4.63</b>	
07/02/2018 11:09:11	MILK Tests	FD1_KWV37_20180111	5.281	3.40	13.87	4.63	
07/02/2018 11:01:09	MILK Tests	FD1_KWV37_20180111	5.235	3.43	13.89	4.64	
07/02/2018 10:58:14	MILK Tests	FD1_KWV37_20180111	0.0071	0.012	0.013	0.006	
07/02/2018 10:54:30	MILK Tests	FD1_KWV37_20180111	0.0014	0.003	0.003	0.001	
07/02/2018 10:52:14	MILK Tests	FD1_KWV37_20180111					
07/02/2018 10:48:13	MILK Tests	FD1_KWV37_20180111	3.181	3.58	11.89	4.78	
07/02/2018 10:41:19	MILK Tests	FD1_KWV37_20180111	2.708	2.89	10.88	4.78	
07/02/2018 10:38:33	MILK Tests	FD1_KWV37_20180111	2.781	2.89	10.82	4.78	
05/06/2018 10:40:44	MILK Tests	FD1_KWV37_20180111	6.638	3.50	15.12	4.60	
05/06/2018 10:41:14	MILK Tests	FD1_KWV37_20180111	6.184	3.58	14.70	4.67	
05/06/2018 10:39:30	MILK Tests	FD1_KWV37_20180111	6.687	3.56	14.70	4.65	
05/06/2018 10:34:54	MILK Tests	FD1_KWV37_20180111	6.201	3.56	13.88	4.71	
05/06/2018 10:32:13	MILK Tests	FD1_KWV37_20180111	6.787	3.58	13.89	4.75	
05/06/2018 10:29:27	MILK Tests	FD1_KWV37_20180111	6.201	3.57	13.19	4.61	
05/06/2018 10:24:57	MILK Tests	FD1_KWV37_20180111	3.835	3.58	12.89	4.83	
05/06/2018 10:21:03	MILK Tests	FD1_KWV37_20180111	3.383	3.57	12.20	4.87	
05/06/2018 10:17:20	MILK Tests	FD1_KWV37_20180111	2.868	3.57	11.91	4.90	

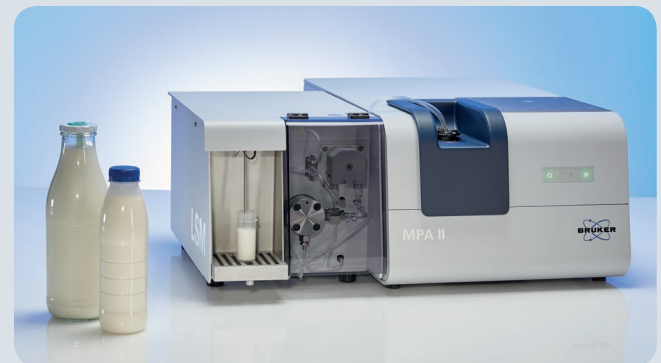
The dedicated software allows one-click measurements and presents the results in a clear table format allowing a detailed view of each individual result.

### More than milk?

In addition to the MIRA, Bruker offers FT-NIR solutions for liquid, semi-solid and solid milk products:

- Raw milk & milk drinks
- Cream & sour cream
- Yogurt & desserts
- Milk & whey powders
- Lactose & whey protein concentrate
- Hard & soft cheese

The MPA II with Liquid Sampling Module (LSM) provides a true, single instrument solution for all of your dairy applications for process and quality control in your plant.



MPA II with Liquid Sampling Module (LSM).

**Bruker Optics is ISO 9001 and ISO 13485 certified.**

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