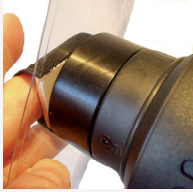


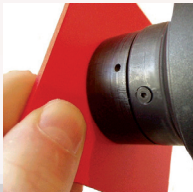
# Precise and versatile NIR desktop solution for production and laboratory

Technology by **IoSys** – Europe's Leading Specialist for Plastic Detection

With the Infrared spectrometry (NIR) of the IoSys units it is possible to identify plastics of the household-, engineering electronics and automotive application field. It allows direct analysis of non-dark-colored plastic parts (films, foils, granules, solid, foamed) as well as other materials like carpets and textiles.



The measuring principle is the diffuse near infrared reflection spectroscopy where the characteristic absorption patterns of different polymer types in a typical spectral region are used. The polymer sample is radiated with infrared light and the reflected light of the measuring place is analyzed by a near infrared detector array. For transparent materials a white ceramic must be placed behind the sample as a reflection mirror.



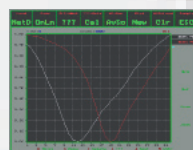
For plastic identification the measuring pistol simply is held on to the sample. The measurement begins by pressing the start button on the pistol. After one second the integrated color screen displays the recognized polymer.



The measuring pistol is connected to the instrument with a cable of 2 m length. The device includes the optical NIR-system, the computer, which controls and evaluates the identification process and optionally a mini-plotter to print out and document the results. Controlling like model selection, parameter setting etc. can be effected by the TFT-touchscreen. The connection of a keyboard for controlling purposes is also possible. Additional connections like an USB-interface allow external data transfer.

The identification of different plastic types is the result of a trained pattern recognition with a specially developed neural network inside a database with several counterchecking. The result of the calculation is a list of the most probable polymer types identified within a probability between 0 and 100%. This comparison is necessary, since – contrary to metals – plastics have no norms and no standardizations!

The software allows detailed spectra viewing, loading, saving and comparing. This possibility helps to develop own measuring applications besides the standard ranges.



With the **miRo** unit it is possible to identify the following plastics and their mixtures independently of surface structure and contamination:

PA6/PA66	PS	PC+ABS	ABS+PVC	PLA
PA12	PPO	PBT	PVC	Cellulose
PE	SAN	PET	PE+PA	
PP	PC+PET	PMMA	PE+PET	
ABS	PC	POM	PP+PET	

#### Technical Data:

- Dimensions:	364 x 195 x 316 mm
- Weight:	8 kg
- Power Supply:	100 - 230 VAC, 50/60 Hz

#### Specifics of this unit:

- Identification of plastics from household- and electronics waste as well as carpets and textiles
- On site analysis, e.g. in a dismantling area
- Non-destructing measurements
- Less than 1 sec. measuring time
- Application like incoming material inspection
- Measurement of foils and granulates possible
- Detailed spectra overview for easy evaluation
- 8 additional materials/spectra can be added
- Printout of the identification result

According to different demands in recycling matters, customers can arrange to have the system calibrated using their own samples.