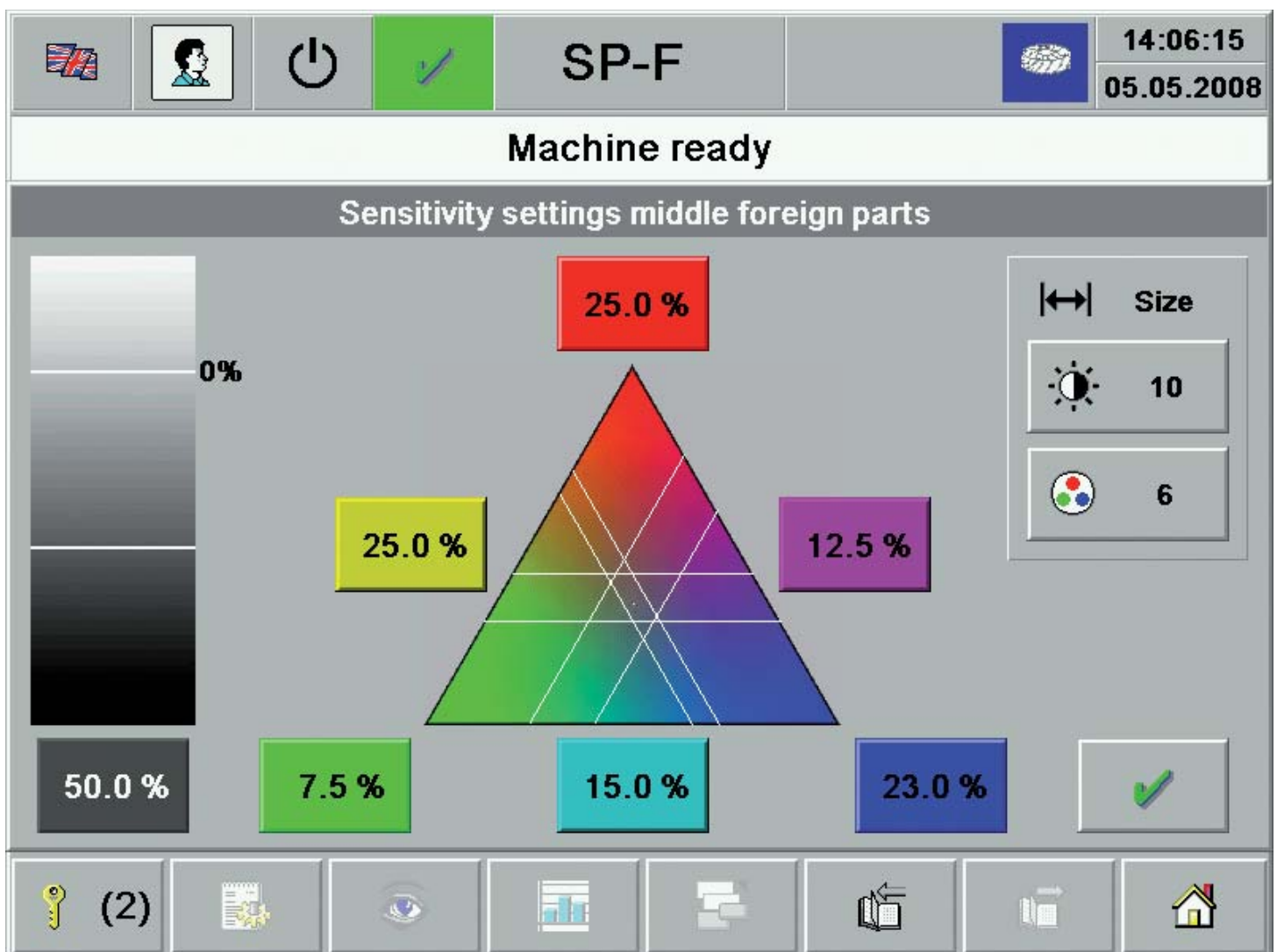


# Improvement of separation quality on Foreign Part Separators SECUROMAT SCFO and SP-F



# Improvement of separation quality on Foreign Part Separators SECUROMAT SCFO and SP-F

## Reliable detection of strip and thread-shaped foreign parts

Yarn pieces, coloured or dark PP strips and strings, for instance out of jute, are a big problem and very difficult to detect in the fibre flow. Due to their small cross section, such parts are very difficult to detect with old systems. The Retrofit KIT SC1 allows separation of thread-shaped foreign parts starting at a length of approximately 20 mm and a diameter of approximately 1 mm. In the case of high-contrast colours or very dark shades, diameters starting at approximately 0,5mm are sufficient. To also separate foreign parts in pastel shades starting at approximately 0,5 mm diameter, the additional use of Retrofit KIT SC2 is recommended.

## Simultaneous detection of small high-contrast parts and relatively large low-contrast parts

Most systems can only be optimised for certain foreign parts properties, such as size. Same as with yarn clearers, the Retrofit KIT SC1 allows separate sensitivity settings for up to three size classes.



Examples of detected foreign parts after conversion to Retrofit KIT SC1. The small thread-shaped parts and even parts in pastel shades can be clearly detected.

## Comfortable user interface

The colour touchscreen offers intuitive operation. All settings are displayed by symbols and diagrams. The operating concept corresponds to the familiar Trützschler card and draw frame concept.

Optimisation is easier despite the higher number of setting options. Even though all

parameters can be adjusted individually, basic calibration with only two settings is possible as well.

## Detection statistics show the result:

The settings can be checked at any time via the displayed detection statistics. The values can be shown using run time or machine width. A distribution to colour channels is also of advantage for optimisation.



Setting sensitivity with brightness and colour contrast



Statistic divided into size classes

## The separation quality is improved

Comparison tests before and after the conversion with Retrofit KIT SC1 show an impressive improvement of foreign parts detection and separation.

## Successful in practice

The separation quality was evaluated before and after the conversion at a customer's facility. Both tests were performed with the same bale laydown. Each test took one hour at a production rate of approximately 500 kg. The waste of the SC-F was collected and the foreign parts sorted out.

### The result:

	Standard		With Retrofit Kit I	
	Count	Weight [g]	Count	Weight [g]
Compact shaped coloured parts	16	1,86	16	1,38
Small high-contrast parts (<10mm)	0	0,00	7	0,02
Large low-contrast parts (>20mm)	0	0,00	2	0,04
Thread-like shaped parts	3	0,02	22	0,26
Coloured fibre tufts	60	1,74	121	2,13
trash, sticks	13	0,29	22	0,42
Sum of all foreign parts	92	2,91	190	4,25

The values of the table are also confirmed visually:



Particularly yarn-shaped foreign parts are more reliably detected and separated after the conversion.

## Machines which can be retrofitted

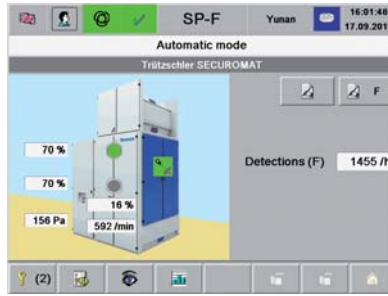
The following machines can be retrofitted with the kit:

**SECUROMAT SCFO**      Type No. 1561002      from year of manufacture 2001

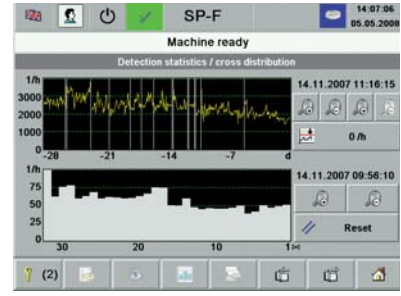
**SECUROMAT SP-F**      Type No. 1561003      from year of manufacture 2004

### Scope of delivery of Retrofit Kit SC1

The control is equipped with new electronics. The computing power is increased via a new main board with faster processors. Parallel to this, the assembly group for real time evaluation of the camera signals is updated. This ensures detection of smaller parts as well. A touchscreen is installed for simple operation and optimisation. These hardware conversions go hand in hand with new detection and operating software.



The colour touchscreen greatly facilitates operation and setting.

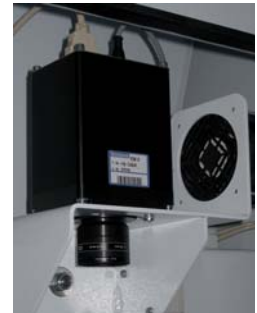
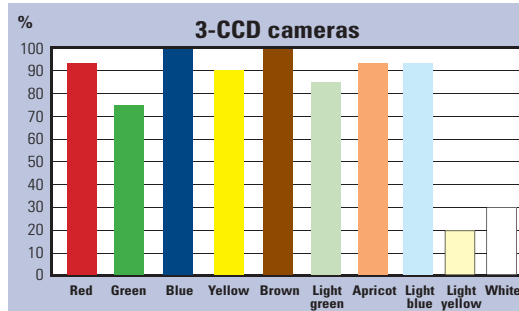
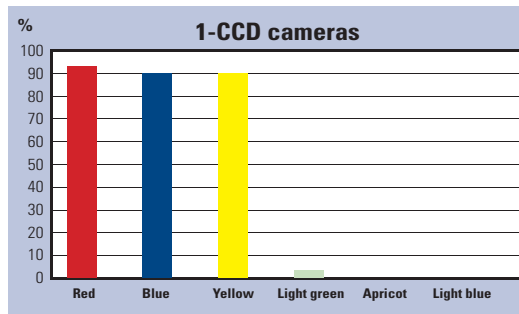


### Scope of delivery of Retrofit Kit SC2

In addition to the already described upgrades provided with Retrofit Kit SC1, productivity can be further increased with new cameras. The Retrofit Kit SC2 includes the replacement of the 1-CCD cameras with 3-CCD cameras and new lighting with colour temperature that is optimal for this type of camera.

The 3-CCD cameras feature the latest technology and function with three chips, one for each primary colour. By evaluating the three colour signals simultaneously, the so-called colour noise of the 1-chip cameras is eliminated.

This results in improved detection of thinner yarn pieces and smaller fragments of coloured PP strips. The detection of pastel shades also improves significantly.



The 3-CCD cameras of Retro KIT 2 improve the detection of fine yarn pieces and parts in pastel shades.

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