

# Laboratory Mineral Separator



## Rapid separation of mineral grains for mineralogist, metallurgist and mill operators

The Laboratory Mineral Separator is an invaluable tool for metallurgists, mineralogists and mill operators. It quickly and efficiently separates mineral grains of close specific gravity.

### Typical Applications

The separator is supplied with two easily interchangeable stainless-steel trays enabling efficient separation over a wide size range.

The 'V' profile tray with 'end knock', when treating closely sized material, is capable of not only of duplicating heavy liquid analysis results, but of giving additional data in the higher SG ranges. The separator is therefore ideally suited to carrying out release analysis.

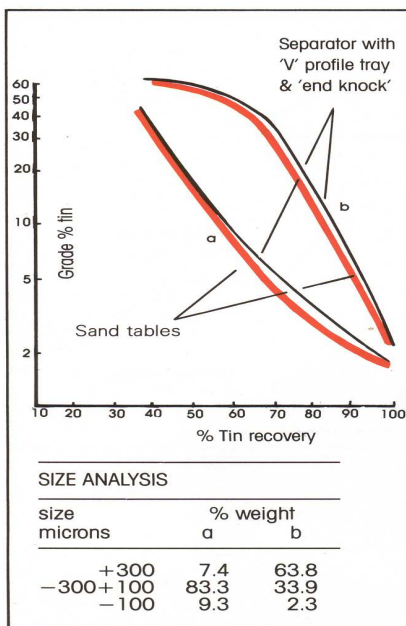
The 'V' profile tray with 'end knock' is able to accurately predict sand table performance when treating hydraulically classified products. This is of great value in optimisation of plant performance.

The flat tray is capable of making very efficient separations of samples finer than 100 microns. This is of value in predicting slime table performance or carrying out release analysis where fineness of the material precludes heavy liquid analysis.

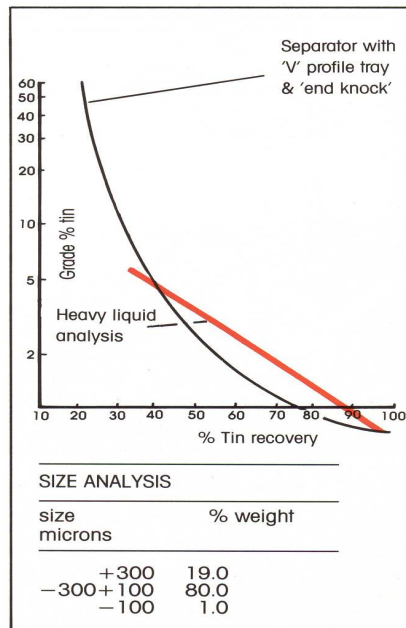


### Grade versus recovery analysis

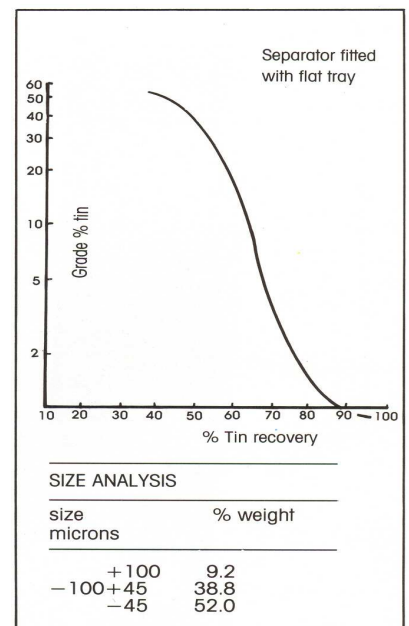
Interpretation of test data may be carried out visually, microscopically or by assay analysis of the separator products. If a complete grade versus recovery evaluation is required a series of consecutive samples is collected during the separation. At the completion of the run the product remaining on the tray is divided into middlings and concentrate to be collected separately. All samples are dried, weighed and assayed and a grade versus recovery curve plotted from the results.



Fine & coarse table feeds from tin plant



Cassiterite bearing beach sand

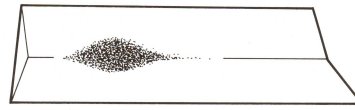
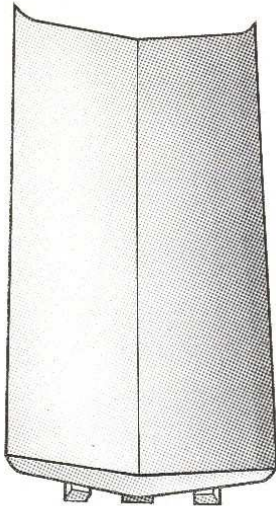


'Slime' product from tin plant

# Laboratory Mineral Separator

## "V" PROFILE TRAY WITH "END KNOCK"

For separations in the 2mm to 100 micron size range.



Sample placed on tray and wetted



Partial separation after ½ minute



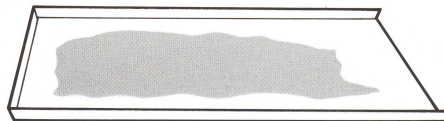
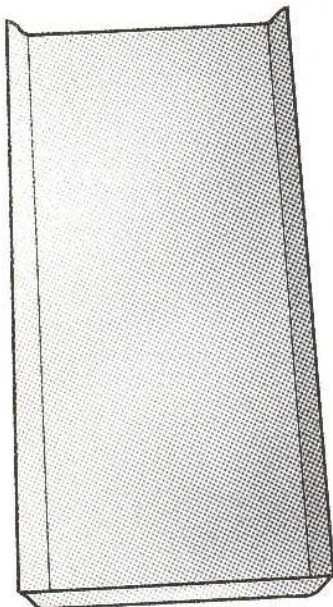
Complete separation after 3 minutes

### Typical separation of coarse sample on 'V' profile tray

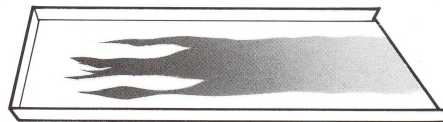
A 50 to 100g sample is placed on the tray and wetted. The cyclic motion mobilises the mineral particles enabling stratification to take place. The heavy (usually valuable) mineral settles and is 'thrown' upstream by the 'end-knock' action. The lighter (usually gangue) mineral is carried downstream by the flow of irrigation water to discharge via the tailings launder.

## FLAT TRAY

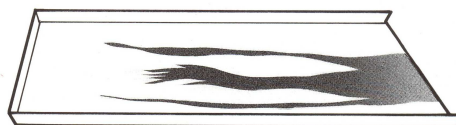
For separations in the 100 to 10 micron size range.



Sample in slurry form placed on tray



Partial separation after 1 minute



Complete separation after 5 minutes

### Typical separation of fine sample on flat tray

A 100g sample is dispersed in water in a beaker and poured onto the tray. The cyclic motion mobilises the mineral particles which spread out into a thin layer. Stratification occurs enabling the heavy (usually valuable) mineral to sink to the tray surface and be retained. The lighter (usually gangue) mineral is carried downstream by the flow of irrigation water to discharge via the tailings launder.

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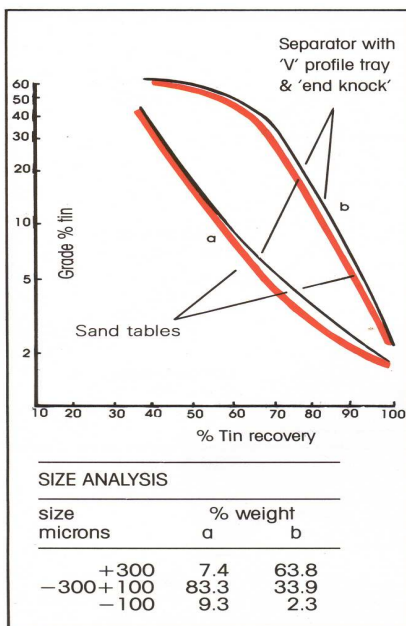
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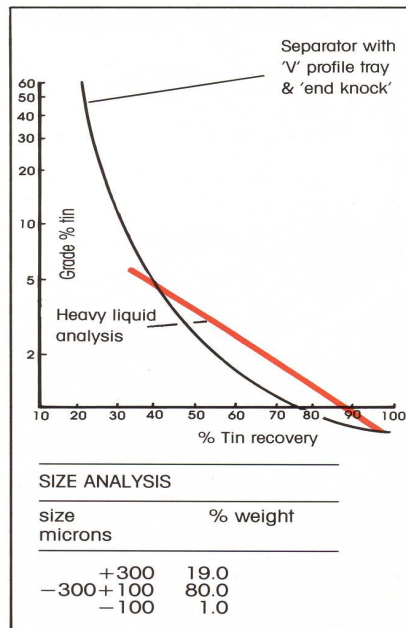


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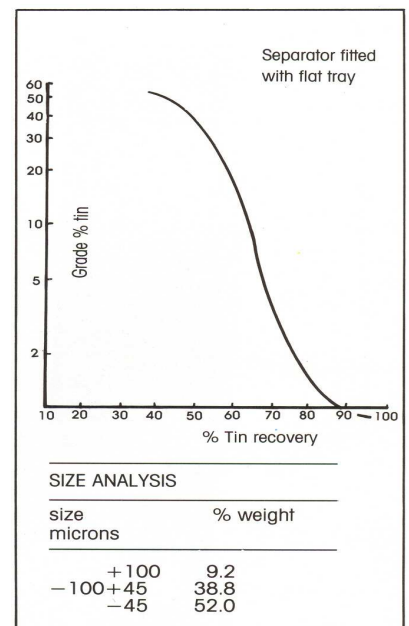
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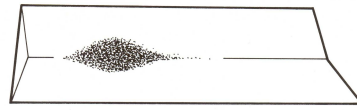
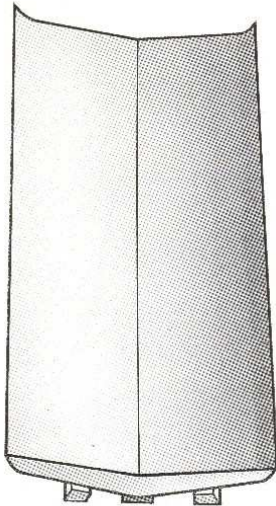


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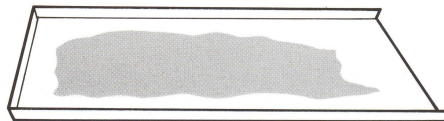
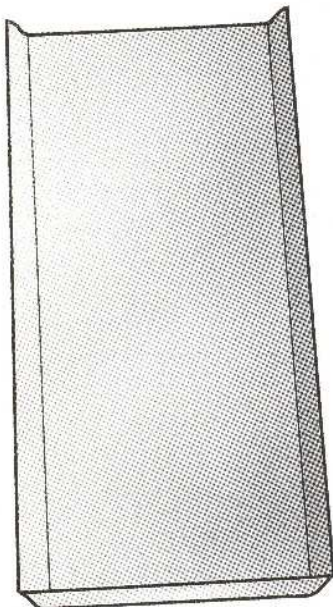
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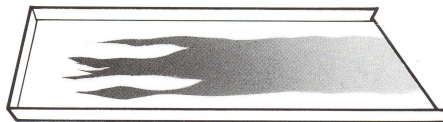
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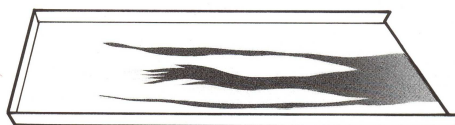
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