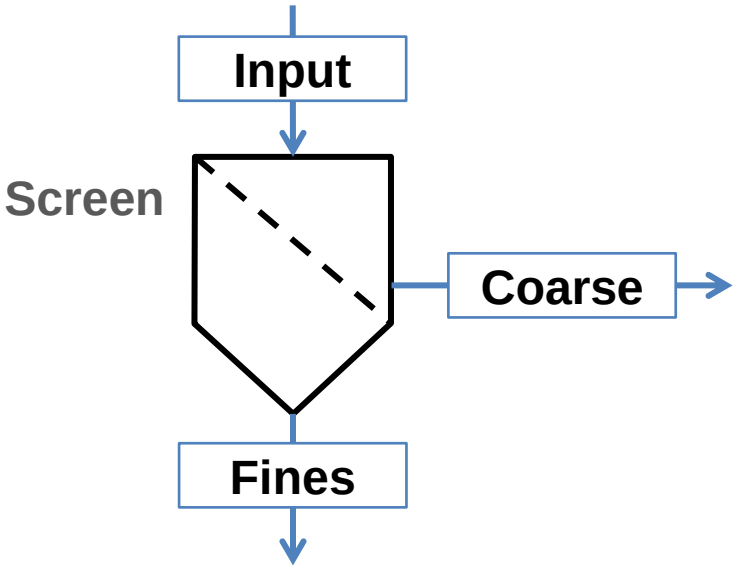
Screen Plitt

General description

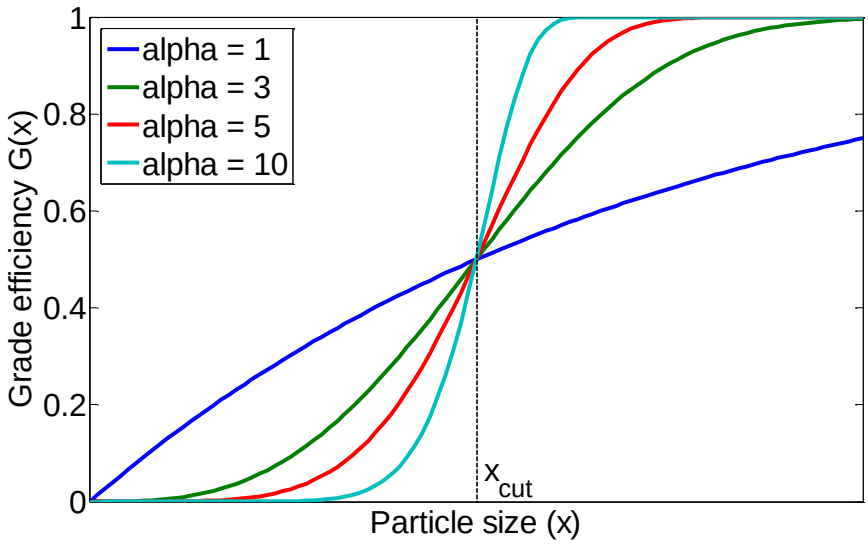


Screen unit is designed for classification of input material into two fractions according to the particle size distribution. Grade efficiency of the model is described as

$$\mathrm{G}(x_i) = 1 - exp\left(-0.693\left(\frac{x_i}{x_{cut}}\right)^{\alpha}\right)$$

- $G(x_i)$ is the grade efficiency – a mass fraction of material within the size class i in the feed that leaves the screen in the coarse stream
- x_{cut} is the cut size of the classification model
- α is the sharpness of separation
- x_i is the size of a particle

In the following figure several grade efficiency curves for different parameters of separations sharpness are schematically shown.



Unit parameters

Name	Symbol	Description	Units	Valid values
Xcut	x_{cut}	Cut size of the classification model	[m]	Xcut ≥ 0
Alpha	α	Sharpness of separation	[-]	0 ≤ Alpha ≤ 100

Application examples

- *Example Flowsheets/Units/Screen Plitt.dlfw*
- *Example Flowsheets/Processes/Agglomeration Process.dlfw*
- *Example Flowsheets/Processes/Granulation Process.dlfw*

References

L. R. Plitt, The analysis of solid-solid separations in classifiers, CIM Bulletin 64 (708) (1971) 42-47.