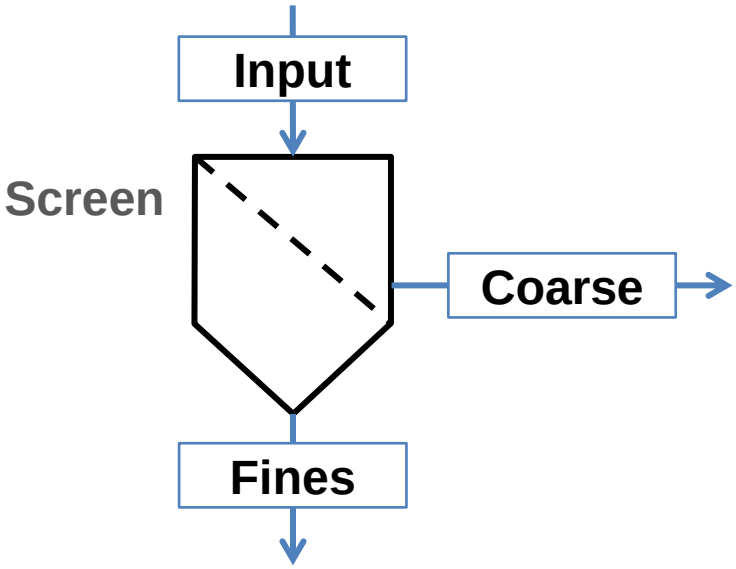
Screen Teipel & Hennig

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

$$G(x_i) = \left(1 - \left(1 + 3 \cdot \left(\frac{x_i}{x_{cut}}\right)^{\left(\left(\left(\frac{x_i}{x_{cut}}\right)+\alpha\right)\cdot\beta\right)}\right)^{-\frac{1}{2}}\right) \cdot (1-a) + a$$

- $G(x_i)$ 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
- β is the sharpness of separation
- a is the separation offset
- x_i is the size of a particle

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 1	[-]	0 < Alpha ≤ 100
Beta	β	Sharpness of separation 2	[-]	0 < Beta ≤ 100
Offset	a	Separation offset	[-]	0 ≤ Offset ≤ 1

Application example

- *Example Flowsheets/Units/Screen Teipel-Hennig.dlfw*

References

M. Hennig, U. Teipel, Stationäre Siebklassierung, Chemie Ingenieur Technik 88 (2016) 911-918.