Solidifier

A Solidifier object converts a specified quantity of flow into discrete entities. The object has a single input FlowNode and single Output TransferNode. Flow is sent into the object at the input FlowNode and once a specified quantity has been reached, an entity is transferred out from the object at the TransferNode. The Output Entity Type may be used to change the entity type for outgoing products.

Listed below are the properties of the **Solidifier**:

Property	Valid Entry	Description
Capacity Unit Type	Volume/Weight	The unit type to be used for specifying the Solidifier's output.
Output Volume	Expression	The output volume for each entity that is discretely transferred from the Solidifier.
Output Weight	Expression	The output weight for each entity that is discretely transferred from the Solidifier.
Output Entity Type	Entity Name	The new output entity type. If null, the entity type is the same as the input entity type.
Output Buffer Capacity	Integer	Capacity of the output buffer that holds discrete entities prior to movement to the next location.
Run Initialized Add-On Process	Process Instance Name	Occurs when the simulation run is initialized.
Run Ending Add-On Process	Process Instance Name	Occurs when the simulation run is ending.
Discrete Entity Created Add-On Process	Process Instance Name	Occurs when a discrete entity has been created based on the Output Volume specified.
Exited Add-On Process	Process Instance Name	Occurs when an entity has exited this Solidifier object.

Liquefier

The Liquefier converts a discrete entity into an outbound flow. The object has a single input BasicNode, and a single output FlowNode. The arriving entities are sent out from the object as a flow transfer.

Listed below are the properties of the **Liquefier**:

Property	Valid Entry	Description
Input Buffer Capacity	Integer	The maximum number of entities that can wait in the input buffer.
Run Initialized Add-On Process	Process Instance Name	Occurs when the simulation run is initialized.
Run Ending Add-On Process	Process Instance Name	Occurs when the simulation run is ending.
Entered Add-On Process	Process Instance Name	Occurs when an entity is discretely transferred into the Liquifier.

Filler

The filler is the flow equivalent of the Combiner from the Standard Library. The filler combines input flow of a specified volume (e.g. beer) with a discrete entity (e.g. bottle), and the combined entity (beer attached to bottle) departs the Filler. The batched entity may be sent to either an Extractor or the Separator to remove the flow entity from the discrete entity.

Listed below are the properties of the **Filler**:

Property	Valid Entry	Description
Capacity Unit Type	Volume/Weight	The unit type to be used by the Filler so that it either fills by Fill Volume or Fill Weight.
Fill Volume	Expression	The volume of flow that is batched into each incoming entity.
Fill Weight	Expression	The weight of flow that is batched into each incoming entity.
Parent Input Buffer	Integer	The maximum number of entities that can wait in the input buffer.
Output Buffer	Integer	The maximum number of entities that can wait in the output buffer.
Run Initialized Add-On Process	Process Instance Name	Occurs when the simulation run is initialized.
Run Ending Add-On Process	Process Instance Name	Occurs when the simulation run is ending.
Parent Entered Add-On Process	Process Instance Name	Occurs when an entity has entered the parent input buffer of this Filler object.
Exited Add-On Process	Process Instance Name	Occurs when the filled entity has exited the Filler.

Extractor

The extractor is the flow equivalent of the Separator from the Standard Library. It separates the batch member entity from the parent entity; flow transfers in as the the batch member entity; and then discretely transfers the parent entity once the flow is complete. Note that the extractor can be used with batched entities that have been created by either the Filler or a Combiner.

Listed below are the properties of the **Extractor**:

Property	Valid Entry	Description
Extraction Method	ExtractAllContents	The method for splitting the parent/member entities in the batch.
Input Buffer	Integer	The maximum number of entities that can wait in the input buffer.
Output Buffer	Integer	The maximum number of entities that can wait in the output buffer.
Run Initialized Add-On Process	Process Instance Name	Occurs when the simulation run is initialized.
Run Ending Add-On Process	Process Instance Name	Occurs when the simulation run is ending.
Entered Add-On Process	Process Instance Name	Occurs when an entity is discretely transferred into the Extractor.
Parent Exited Add-On Process	Process Instance Name	Occurs when the parent has exited the Extractor.

Stockpile

The stockpile is similar to the Tank in the Flow Library. The object has a single input FlowNode, and a single output FlowNode, such that flow enters and leaves the stockpile. The queue for the contents within the container (StockpileName.FlowContainer.Contents) is animated to graphically display the contents within the stockpile.

Listed below are the properties of the **Stockpile**:

Property	Valid Entry	Description
Capacity Unit Type	Volume/Weight	The unit type to be used for specifying the stockpile's physical capacity.
Initial Volume Capacity	Expression	The initial maximum physical volume that can be stored in this stockpile.
Initial Weight Capacity	Expression	The initial maximum physical weight that can be stored in this stockpile.
Initial Contents	Repeat Group, Contents	The contents present in the stockpile when the system is initialized.
Entity Type (Initial Contents)	Entity Name	The initial content entity type.
Unit Type (Initial Contents)	Volume/Weight	The unit type to be used for specifying the initial content quantity.
Quantity (Initial Contents)	Real	The initial content quantity.
Auto Refill Mode	No Automatic Refills/ Refill When Empty/ Refill When Low/ Refill When Specific Event	Indicates whether the stockpile has automatic refills and, if so, whether a refill is triggered when the stockpile becomes empty, when its contents level has fallen below the 'Low' mark, or when some other specified triggering event occurs. The stockpile will be refilled to the maximum level determined by its physical volume or weight capacity.
Refill Triggering Event Name	Event Name	The name of the event that will indicate when the stockpile is to be refilled.
Delay Time Until Refill	Expression	The delay time after a refill triggering event before the refill action is actually performed.
Refill Entity Type	Entity Name	The entity type that the stockpile will be refilled with.
Run Initialized Add-On Process	Process Instance Name	Occurs when the simulation run is initialized.
Run Ending Add-On Process	Process Instance Name	Occurs when the simulation run is ending.
Above Low Mark Add-On Process	Process Instance Name	Occurs when the contents of the stockpile is rising above the stockpile's 'Low' mark.
Above Mid Mark Add-On Process	Process Instance Name	Occurs when the contents of the stockpile is rising above the stockpile's 'Mid' mark.

Above High Mark Add-On Process	Process Instance Name	Occurs when the contents of the stockpile is rising above the stockpile's 'High' mark.
Stockpile Full Add-On Process	Process Instance Name	Occurs when the contents of the stockpile has reached the stockpile's maximum volume or weight capacity.
Below High Mark Add-On Process	Process Instance Name	Occurs when the contents of the stockpile is falling below the stockpile's 'High' mark.
Below Mid Mark Add-On Process	Process Instance Name	Occurs when the contents of the stockpile is falling below the stockpile's 'Mid' mark.
Below Low Mark Add-On Process	Process Instance Name	Occurs when the contents of the stockpile is rising above the stockpile's 'Low' mark.
Stockpile Empty Add-On Process	Process Instance Name	Occurs when the contents of the stockpile is rising above the stockpile's 'Low' mark.
Contents Ranking Rule	First In First Out / Last In First Out / Smallest Value First / Largest Value First	The static rule used to rank flow entities located in this stockpile's 'FlowContainer.Contents' queue.
Contents Ranking Expression	Expression	The expression used with a 'Smallest Value First' or 'Largest Value First' ranking rule.
Low Mark	Expression	The contents level value used as the stockpile's 'Low' mark.
Mid Mark	Expression	The contents level value used as the stockpile's 'Mid' mark.
High Mark	Expression	The contents level value used as the stockpile's 'High' mark.