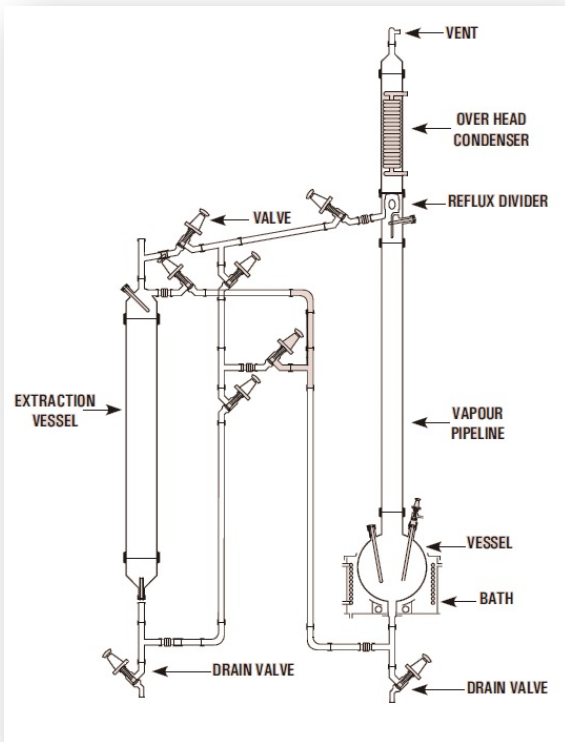


Extraction Process



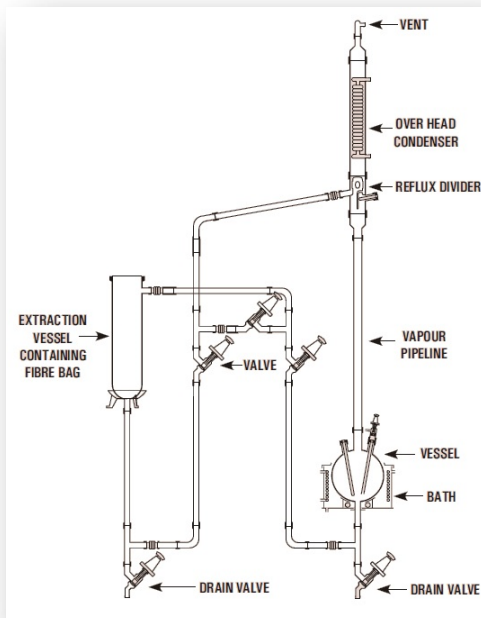
LIQUID-LIQUID EXTRACTION UNIT

Liquid extraction, sometimes called solvent extraction, is the separation of constituents of a liquid solution by contact with another insoluble liquid. The unit described here is for a semi-batch operation.

The liquid to be extracted is poured into an extraction vessel. Solvent is boiled in a re-boiler vessel and condensed in an overhead condenser, the condensed liquid collecting in a reflux divider and passing through pipework to the extraction vessel. The pipework incorporates valves in order that the solvent can enter the extraction vessel at either the base or the top, depending on the relative densities of the solvent and liquid to be extracted. The solvent and the extracted liquid pass back to the re-boiler and the process is repeated until the extraction is complete. The extraction vessel is then drained and the solvent evaporated from the re-boiler vessel and collected in the extraction vessel enabling the two liquids to be drained from their respective vessels.

The units are available in vessel sizes of 10, 20 & 50L and are suitable for operation under atmospheric pressure.

Unit Cat.Ref.	Reactor Capacity	Bath KW	Vapour Line	Extraction Vessel	Condenser M ²
LLU10	10 L	3.00	40mmx1m	10 L	0.35
LLU20	20 L	4.50	50mmx1m	20 L	0.50
LLU50	50 L	6.00	80mmx1m	50 L	1.50



SOLID-LIQUID EXTRACTION UNIT

This operation involves preferential solubilising of one or more soluble constituents (solutes) of a solid mixture by a liquid solvent. The unit described here is for a semi-batch operation.

The solid to be extracted is put inside a glass fiber bag and placed in an extraction vessel. Solvent from the re-boiler is continuously evaporated, condensed and circulated through a reflux divider by means of piping network and valves. When desired/ steady concentration of solute is achieved in the solution the operation is discontinued. The solution is drained off and collected for further use.

After charging fresh solid in fiber bag and solvent in re-boiler, the cycle can be restarted again.

The units are available in vessel sizes of 10, 20 & 50L and are suitable for operation under atmospheric pressure.

Unit Cat.Ref.	Reactor Capacity	Bath KW	Vapour Line	Extraction Vessel	Condenser M ²
SLU10	10 L	3.00	40mmx1m	10 L	0.35
SLU20	20 L	4.50	50mmx1m	20 L	0.50
SLU50	50 L	6.00	80mmx1m	50 L	1.50