CLAIMS

1. A gas-liquid separation system comprising
a splitter configured to separate the inlet stream from a well stream into liquid and gaseous phases, the splitter having an outlet for a liquid phase to a liquid continuous line to an inline degasser (3) configured to drive separation of gas and liquid by centripetal acceleration, where the clean liquid exits through a liquid outlet pipeline and the gas with some liquid are extracted in a reject line and flow into a reject vessel (4), and the splitter having an outlet for the gaseous phase to a gas continuous line to an inline deliquidizer (2) configured to drive separation of liquid and gas by centripetal acceleration, where the clean gas exits through a gas outlet pipeline and the liquid with some gas are extracted in a reject line and flow into the reject vessel (4), wherein the reject vessel (4) is configured for separation by gravity.

2. The system according to claim 1, comprising two or more degassers in parallel and/or two or more deliquidizers in parallel.

3. The system according to claim 1, wherein the reject vessel is a conventional separator.

~~4. The system according to claim 1, wherein the reject vessel is an ID pipe section.~~

~~5~~4. The system according to any of the preceding claims, wherein the reject vessel comprises at least one connection to streams from another process unit.

~~6~~5. The system according to any of the preceding claims, wh~~erein~~ a gas outlet from the reject vessel is connected to the gas outlet from the deliquidizer.

~~7~~6. The system according to any of the preceding claims, wherein a liquid outlet from the reject vessel is connected to the liquid outlet from the degasser.

~~8~~7. The system according to any of the preceding claims, wherein the system comprises control valves (5, 6).

~~9~~8. The system according to claim ~~8~~7, wherein the outlet flows controlled by control valves (5, 6) are regulated in accordance with the flow rate and composition of an inlet stream.

~~10~~9. A method of operating a gas-liquid separation system, comprising transferring an inlet stream from a well stream to a splitter facilitating separation of a liquid phase and a gaseous phase, transferring the liquid continuous stream into an inline degasser (3) where the fluid is set into spin and the centripetal acceleration drives separation of gas and liquid, the clean liquid exits through a liquid outlet and gas and some liquid are extracted in the reject line and flow into a reject vessel (4), transferring the gas continuous stream into an inline deliquidizer (2) where the fluid is set into spin and the centripetal acceleration drives separation of liquid and gas, the clean gas exits through a gas outlet and liquid and some gas are extracted in the reject line and flow into the reject vessel (4), the mixed liquid and gas from the reject lines are separated by gravity in the shared reject vessel, the degassed liquid is combined with the liquid outlet and the dry gas is combined with the gas outlet.

~~11~~10. The method according to claim ~~10~~9, wherein the stream flows are controlled by valves.