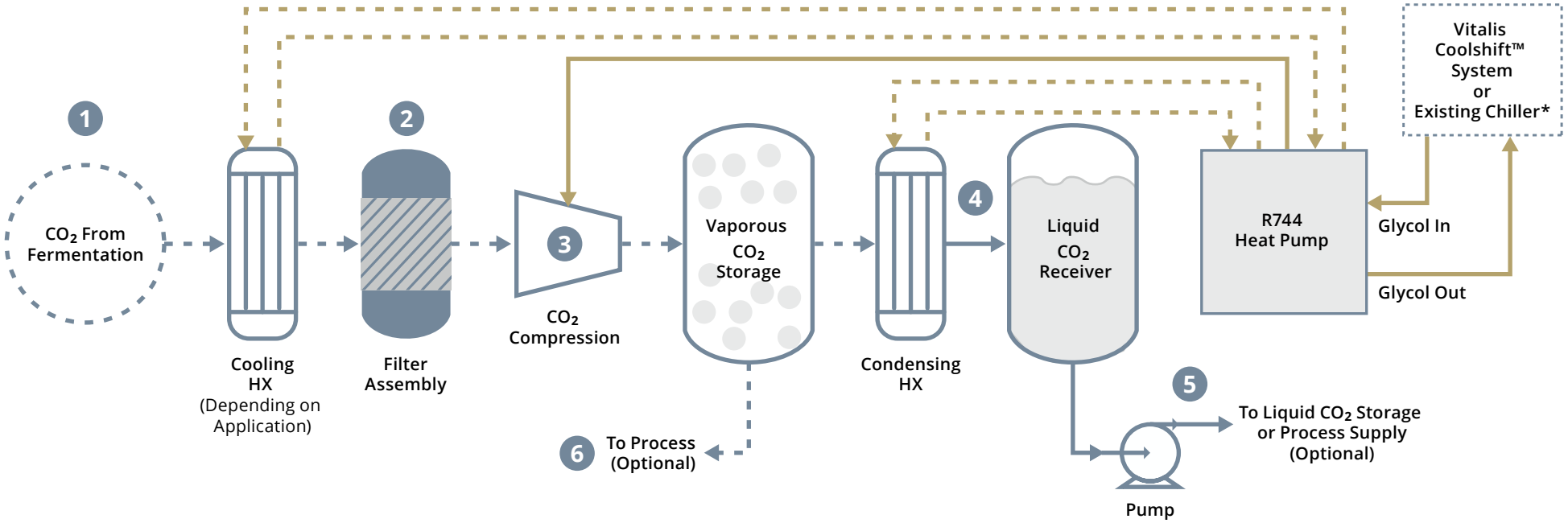
VITALIS

Freecovery™

Carbon Capture System



Legend

- Vaporous CO_2
- Liquid CO_2
- R744 (DX)
- Heat Transfer Fluid (HTF)

1. The system is connected to the source of CO_2 to be recovered, which can be at atmospheric pressure or up to 500 psi. Pressures of 0 to 15 psi are typical.
2. The CO_2 stream is filtered. Depending on the application, the stream is first cooled in a heat exchanger.
3. The CO_2 stream is compressed. Temperature is maintained via an integrated R744 system.
4. The compressed CO_2 is cooled to change it from vapor to liquid in a heat exchanger.
5. The liquid CO_2 is pumped to storage (at pressures around 300 psi) or, optionally, to a process requiring liquid CO_2.
6. Optionally, CO_2 vapor stream (100 psi) can be used for processes that don't require liquefied CO_2, such as canning, bottling, etc.

* A stand-alone Freecovery system uses a small amount of cooling capacity from an existing chiller if not paired to a Vitalis Coolshift™ heat pump.