Version 1.1
03/06/2019

USER MANUAL

SAP LIFTER

SAP LIFTER OPERATION

The sap lifter is used to raise water from one pipe to another higher above. An elevation of 20 feet (6 meters) and more is possible with a vacuum of 20 inches mercury and more.

The sap lifter is installed at the lowest level, the tank is under vacuum and sap may flow in by gravity. Mainline must grade down towards the sap lifter.

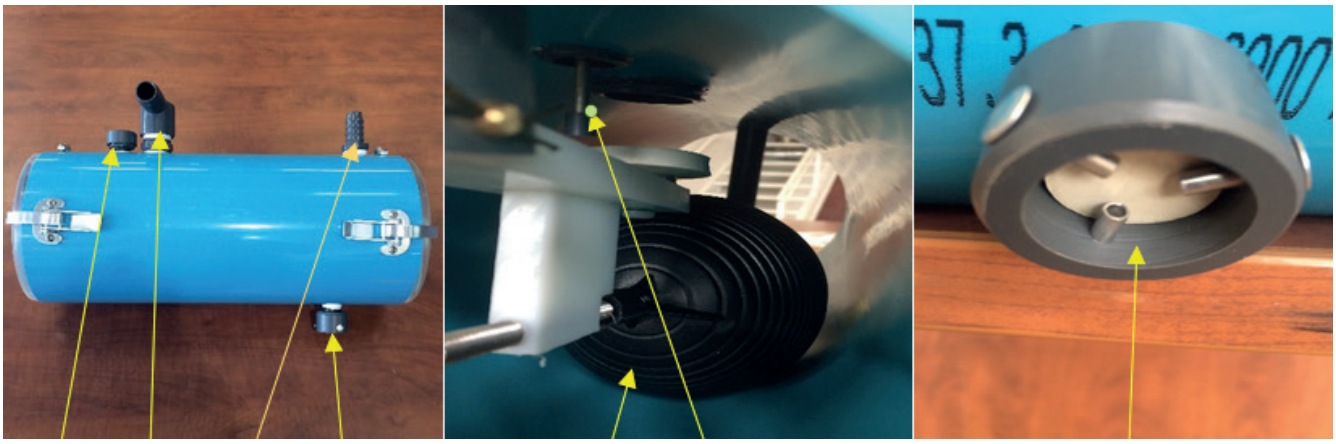
When the tank is full, a floating device clogs the sap water inlet and at same time opens a valve allowing atmospheric pressure in. So, when bottom tank is full, air pressure is taken in and sap is pushed up an under vacuum line. It will take about 10 seconds to empty the tank. As sap water rises, vacuum is by-passed to the line connected directly from the mainline to gathering line below. So vacuum is always continuous. Sap accumulates in the mainline below (between A and B see drawing) waiting to flow in the sap lift tank when transfer is completed.

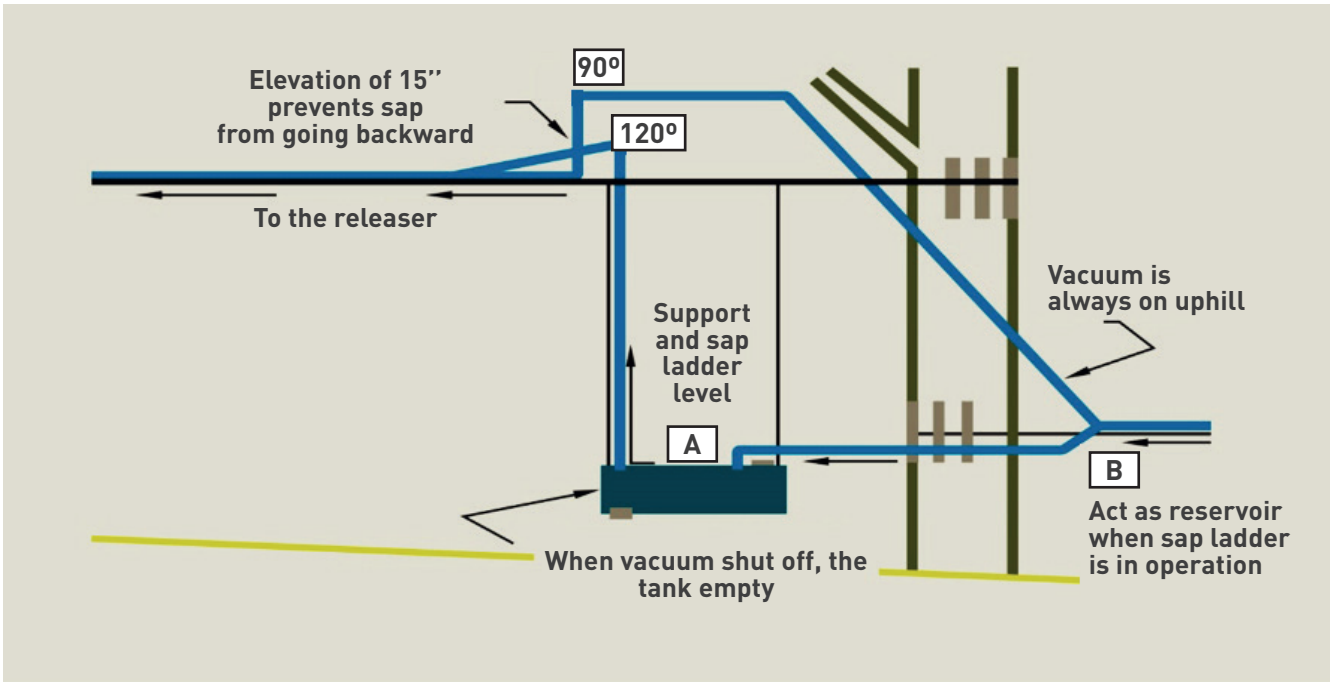
More taps there is, the length of the mainline between A and B must be extended in order to accumulate more sap without interfering with the rising vacuum line.

Single sap lifter = 300 taps;
Double sap lifter = 600 taps;
Triple sap lifter = up to 1000 and 1200 taps;

When vacuum is out, sap flows to ground by gravity. The valve in question may be sensitive to frost ***when open*** at night. For this reason, we recommend to protect the system from frost by covering it with a shelter made of insulated panels and place in a source of heat, either a light bulb when power is available or a large candle will be sufficient to avoid frost problem**.**

1) Air inlet valve;
2) Water inlet of the lower mainline;
3) Water outlet to above mainline;
4) Drain valve in the absence of vacuum;
5) Float device inside the sap lifter;





Note: distance between A and B must increase depending number of taps (5 feet per 100 taps)

MAPLE SUGARING
EQUIPMENT