



The most efficient double diaphragm pump

Everything about the most efficient double diaphragm pumps in the world at www.verderair.com

Do you want to learn all about the most efficient double diaphragm pumps in the market? The Verderair AODD pump series show that its ingenious design really is the prove: they are the most efficient AODD pumps.

most efficient AODD pump

Statements to guide this proof:

- 1 rapid acting air valves & innovative design of air chambers
- 2 The innovative flow pattern

How a diaphragm moves

Analysing the detailed movement of a diaphragm in a double diaphragm pump shows:

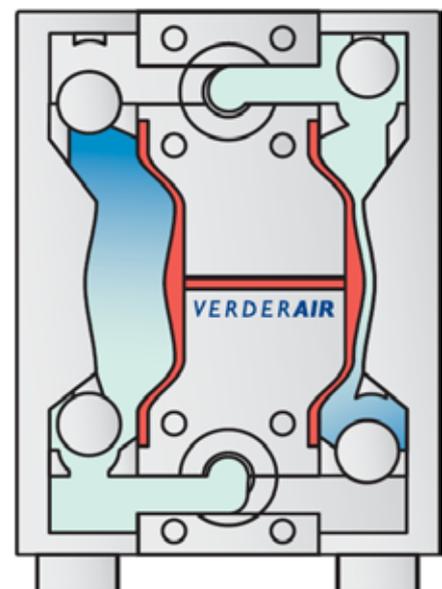
1. Compressed air is entering the air chamber. At start the air will decompress to fill the chamber.
2. When the chamber is full the pressure will rise until the differential pressure becomes enough to overwin the friction losses of the shaft and the diaphragm will start to move
3. Than the liquid is pushed out of the pump-chamber; (the presure will rise to overwin the friction losses of the moving liquid), when there is a restriction, the pressure in the liquid will rise until it reaches the air pressure.
4. When the diaphragm starts to move, the air chamber will become bigger, so presure will go down and the cycle starts again from 1.

This is the standard working principle of all double diaphragm pumps. There are almost no possibilities to win on efficiency here.

Where you can win on efficiency

Improving efficiency without using external electronic devices

Some pumps use electronic devices to change the continous inlet stream of compressed air into a modulated inlet stream. At the end of the stroke the air is not supplied in a continous stream, resulting in having less consumed air. Using an electronic device is only usefull for 2" and 3" pumps and even then it makes the pumping process unnecessarily expensive. Verderair AODD pumps have improved efficiency without external electronic drives.



Rapid acting air valves

Once the diaphragm reached the end of the stroke compressed air will keep on entering the air chamber until the pressure in the air chamber is equal to the pressure of the supplied air or until the air valve is switching over.

If a valve is developed, reacting faster than every other air valve on the market then you have improved efficiency.

A 1" AODD pump is often working at a stroke rate of 200 strokes/min. So even if the difference per stroke is limited (it can be micro seconds), 200 strokes/min will have a major impact when pumps are running several hours a day!

The rapid acting air valve technology of Verderair uses less compressed air without the need of expensive and difficult to maintain electrical components! And is available for every pump size!

Innovative design of the air chambers

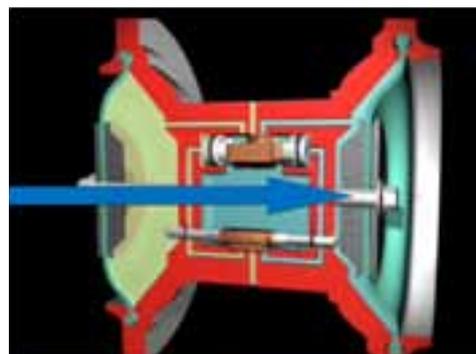
When the exhaust air is removed out of the pump without unnecessary restrictions, compressed air is only used for moving the fluid! Not for pushing out the used air.

Innovative flow pattern

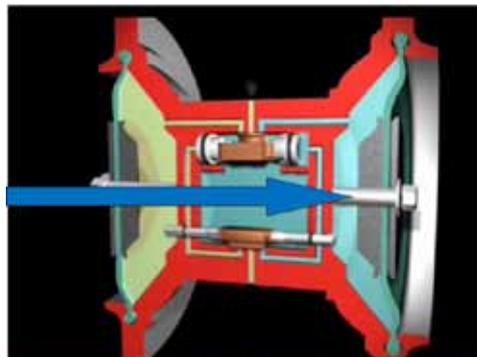
The Verderair double diaphragm pumps have a smoother and higher flow rate because of its innovative flow pattern.

Special focus is given to the "pressure drop" of the liquid by passing through the chamber. This results not only in a smoother flow but is also increasing the pumped volume of liquid. Less compressed air is needed.

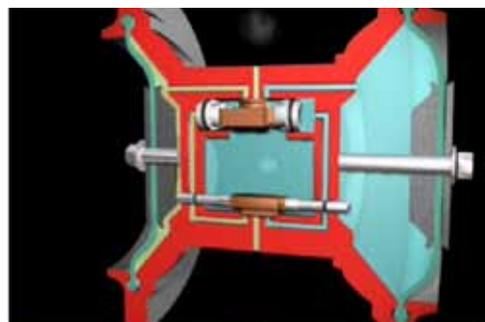
1 Pump starts to move to the right



2 Air chamber is becoming larger and liquid is pushed out of the pump chamber



3 stroke ends. the air valve will switch to start moving to the left.



This is an important way of improving the volume and create better efficiency!

Go to www.verderair.com and find out more...