Volumetric Pumps

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Volumetric Pumps

There are two types of volumetric pumps : Rotary & Alternating

Rotary Pumps

- Lobe Pumps
- Gear Pumps
- Sliding Vane Pumps
- Screw Pumps

Lobe Pumps and screw pumps require an external gearbox to drive the components - they cannot come into contact

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Volumetric Pumps

Rotary Pumps Disadvantages :

- They require well filtered products
- Dangerous pressures can occur if the outlet is restricted
- They are expensive due to the close machined tolerances

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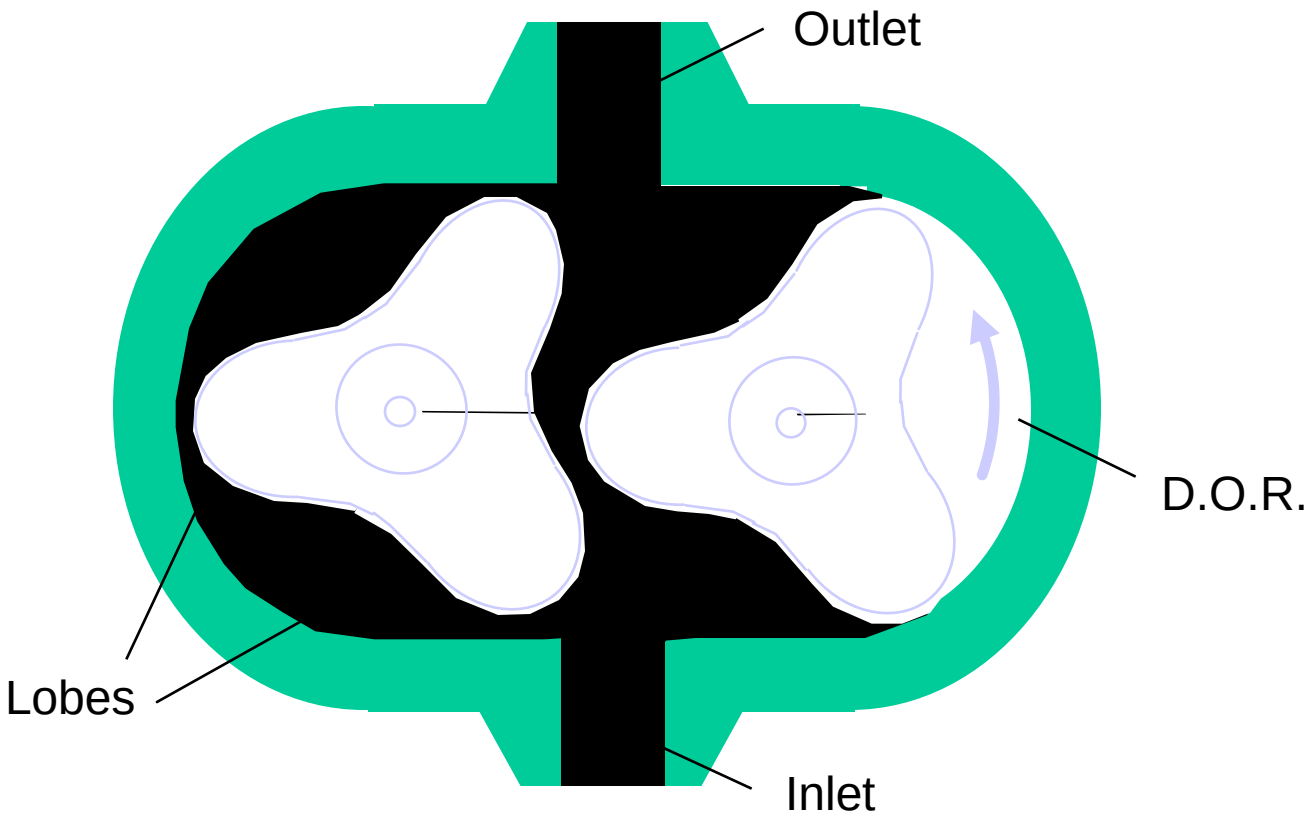
Lobe Pump



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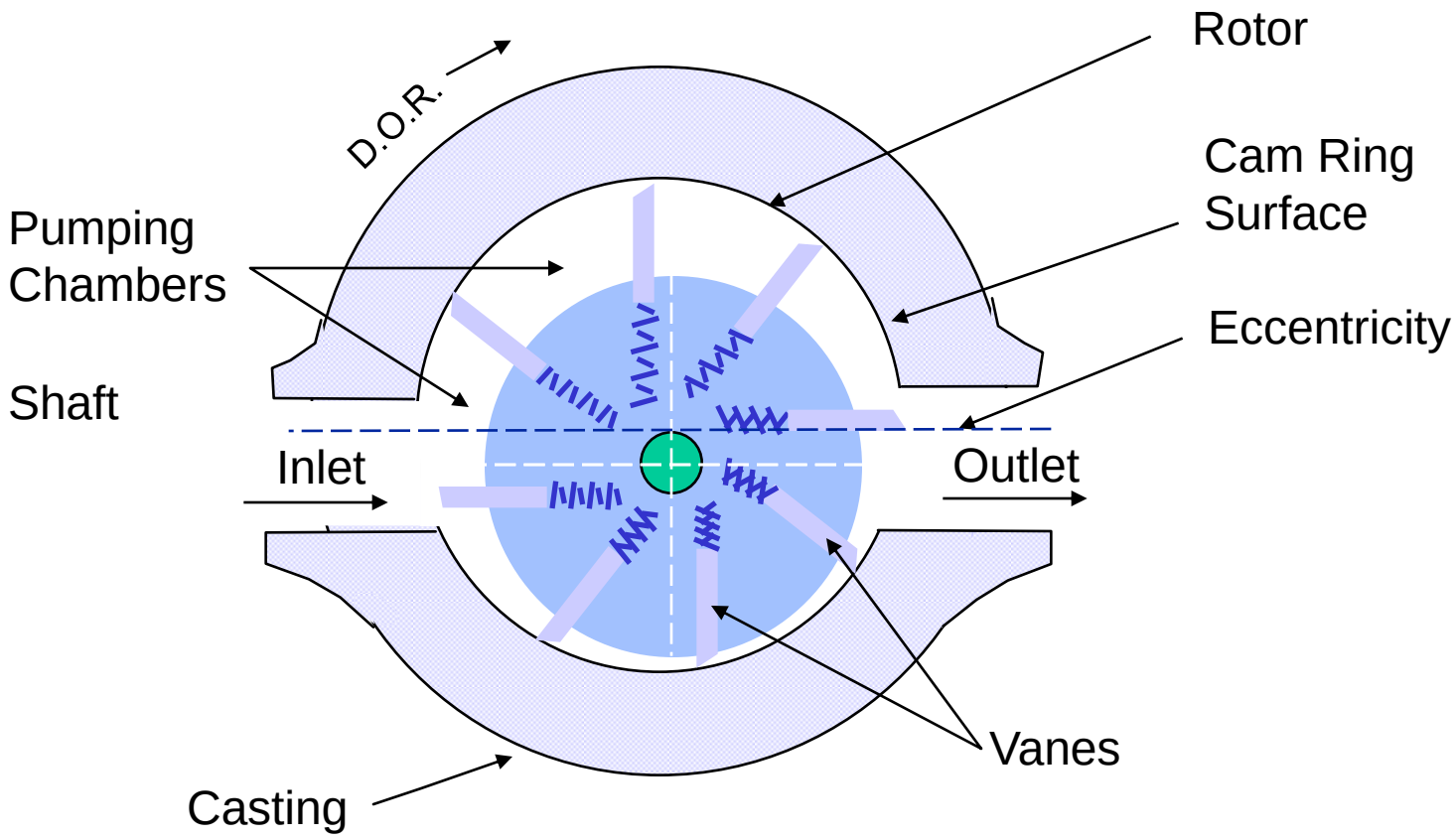
Sliding Vane Pump



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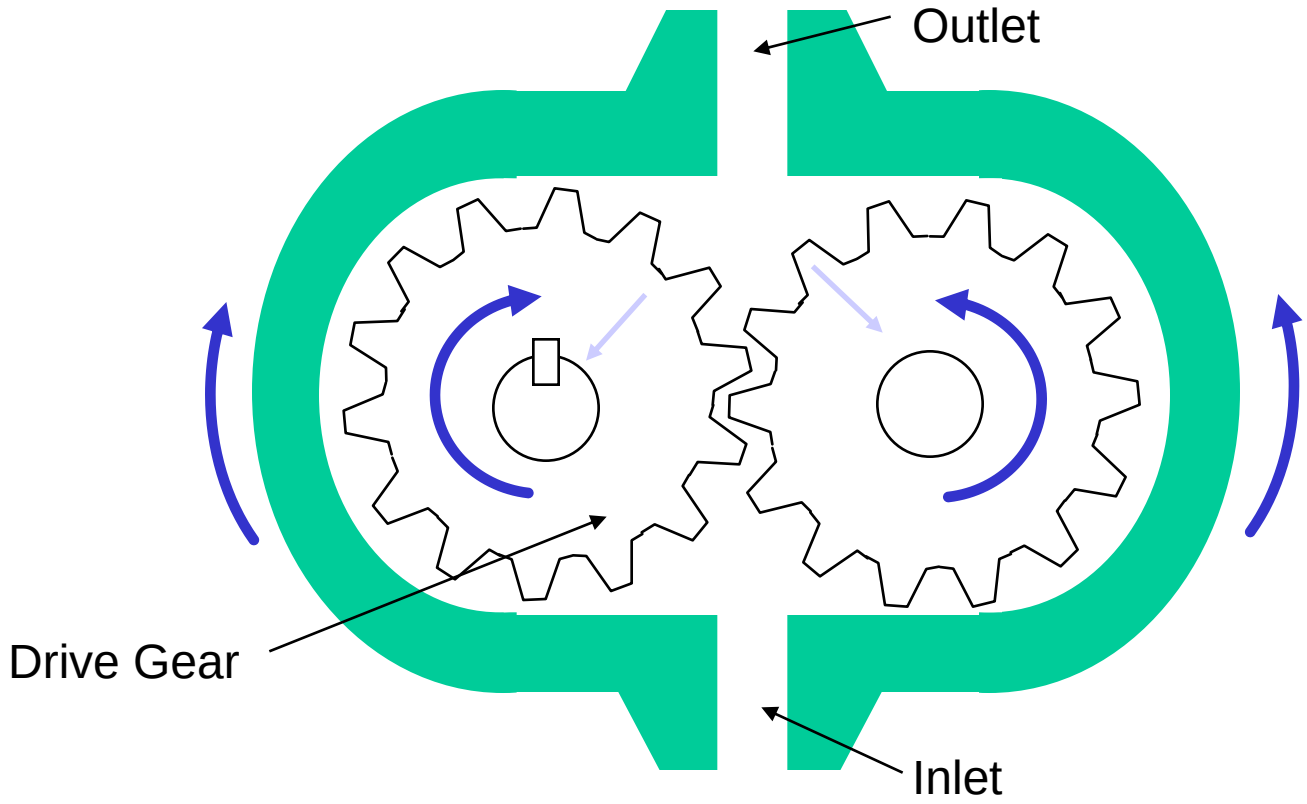
GEAR PUMP



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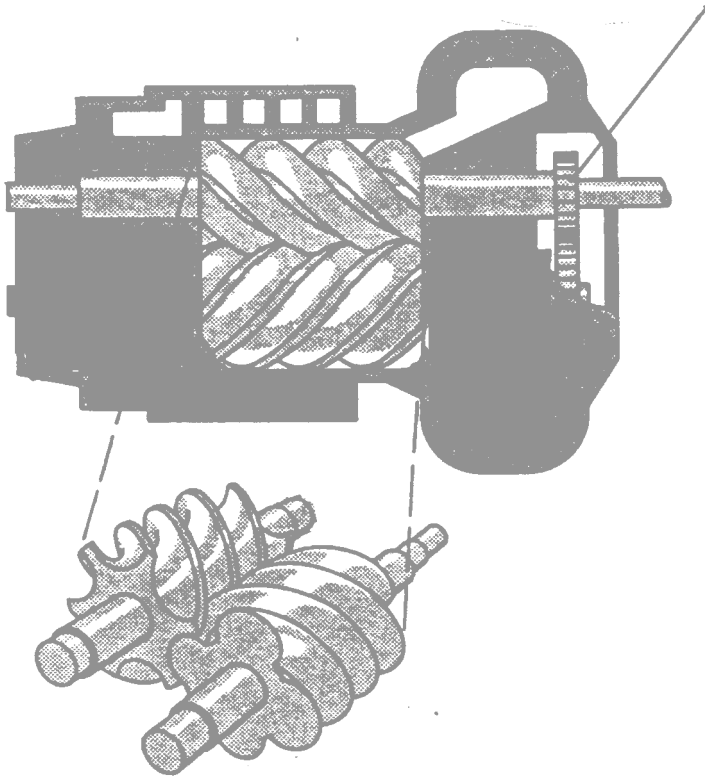
Screw Pumps



external gears required

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Volumetric Pumps

Alternating Pumps

- Piston Pumps
- Plunger Pumps
- Diaphragm Pumps

Piston reciprocating pumps
may be single or double acting

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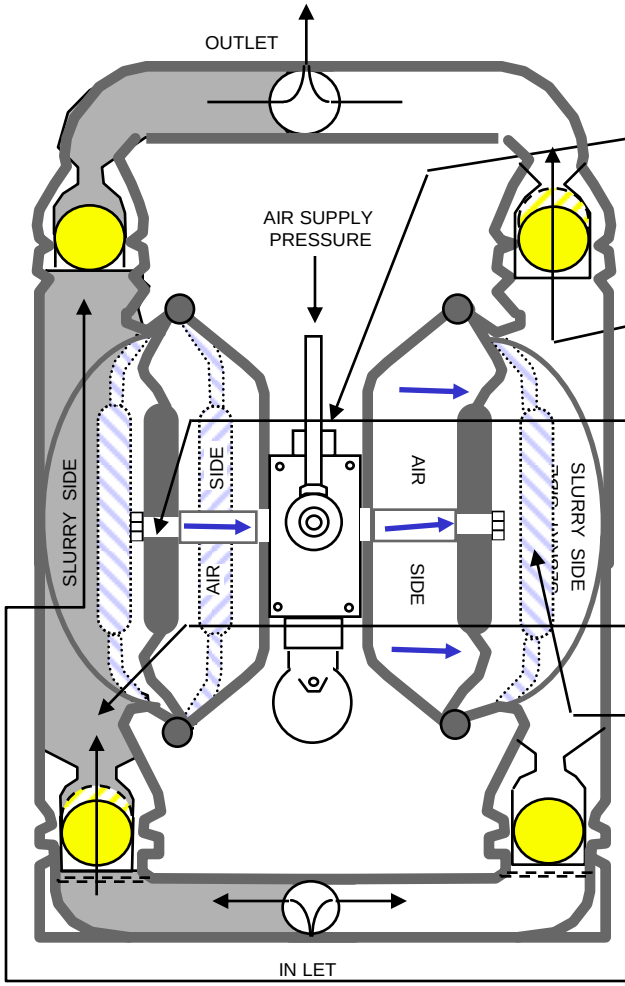
The Wilden Pump



Patented, one-moving-part air valve directs air supply to back side of diaphragm

Slurry is pushed out of liquid chamber through pump outlet

At the same time, opposite diaphragm is pulled in by shaft connected to pressurised diaphragm

Suction created draws slurry into liquid chamber through pump inlet

When pressurised diaphragm reaches limit of stroke, air valve shifts air supply pressure to air side of opposite diaphragm

Slurry is then pushed out of liquid chamber through pump outlet

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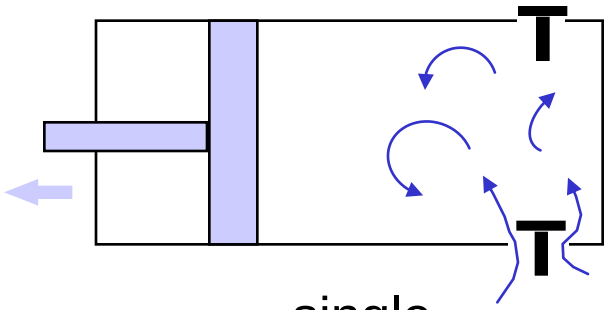
Alternating Volumetric Pumps

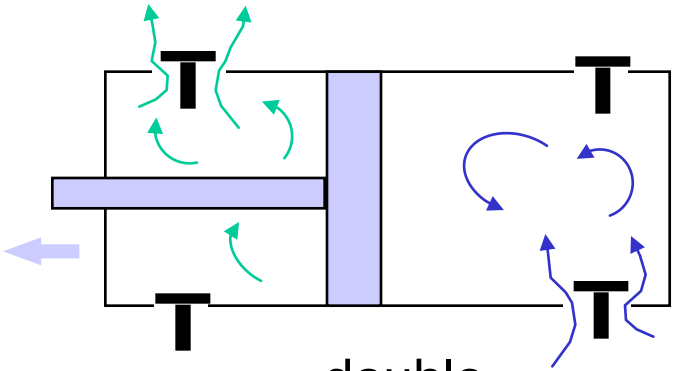


single

- All work on a linear or alternating movement
- simple & sturdy
- can pump high viscosity liquids at high pressures

Types :

- double or single acting
- plunger
- diaphragm



double

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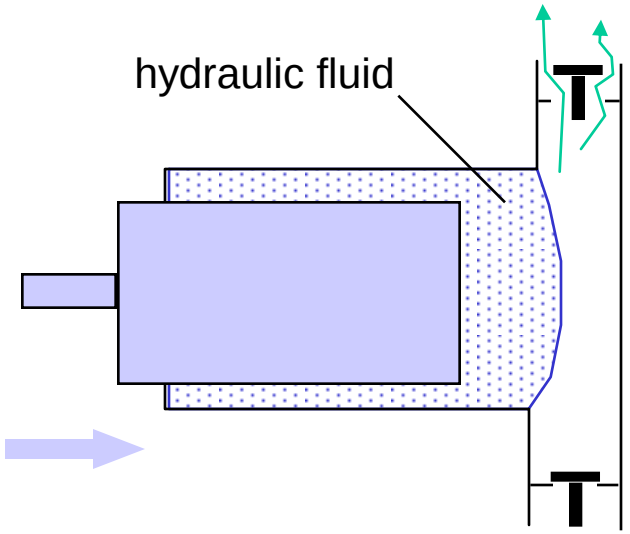
Alternating Volumetric Pumps



diaphragm pump

Disadvantages:

- Big & cumbersome compared to centrifugal pumps
- They give a pulsed flow
- can create dangerously high pressures if the discharge is restricted

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