

Liquivac®



**For pumping liquids or
combinations of liquids, gas and
fine solids**

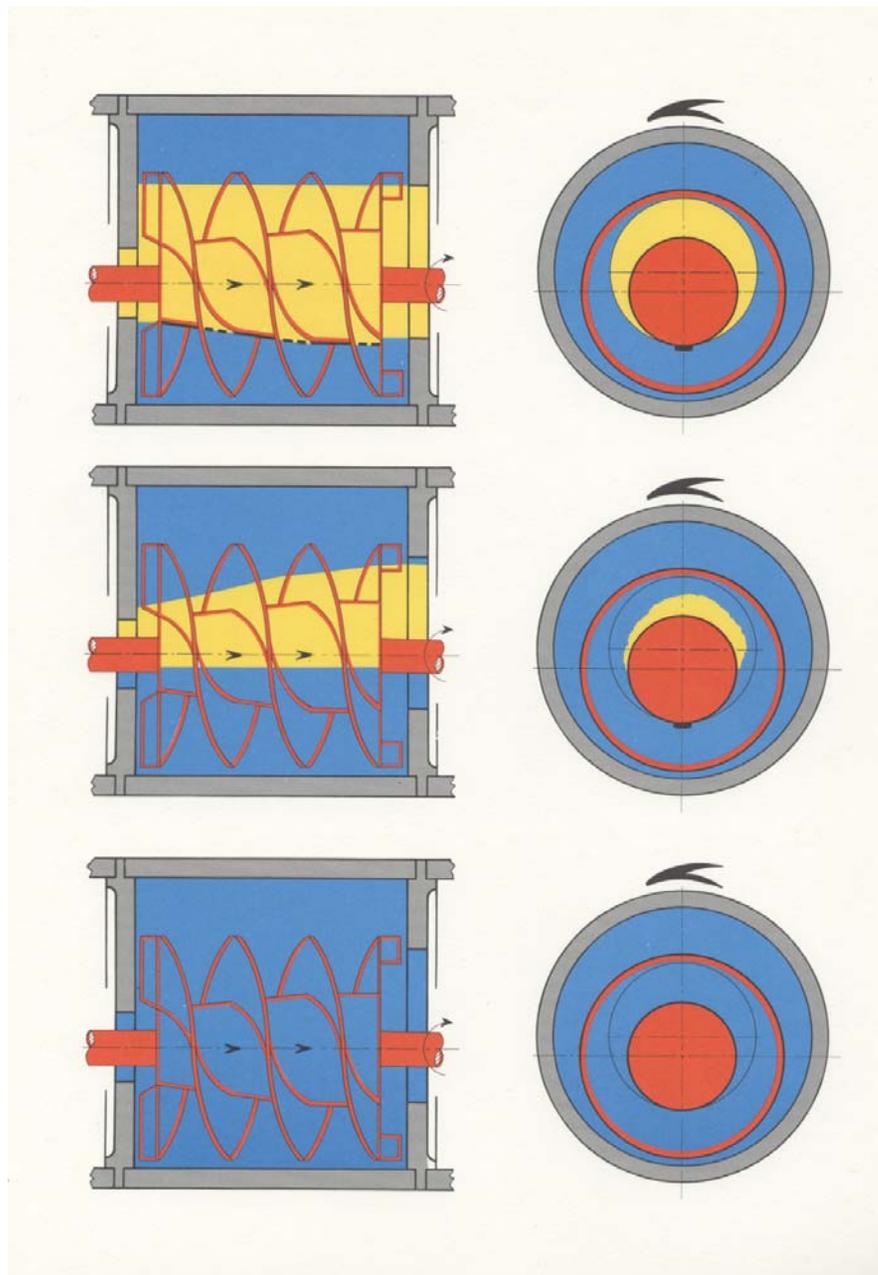
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- **LIQUIVAC IS A FAST SELF PRIMING LIQUID RING VACUUM PUMP DESIGNED TO PUMP LIQUIDS OR COMBINATIONS OF LIQUIDS, AIR AND FINE SOLIDS.**
- **LONG SUCTION LINES**
- **SUCTION LIFTS TO 8,5m**
- **DISCHARGE HEADS TO 3 Bar (300kPa)**
- **FLOW RATES TO 30m³/hour**

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Principle of operation

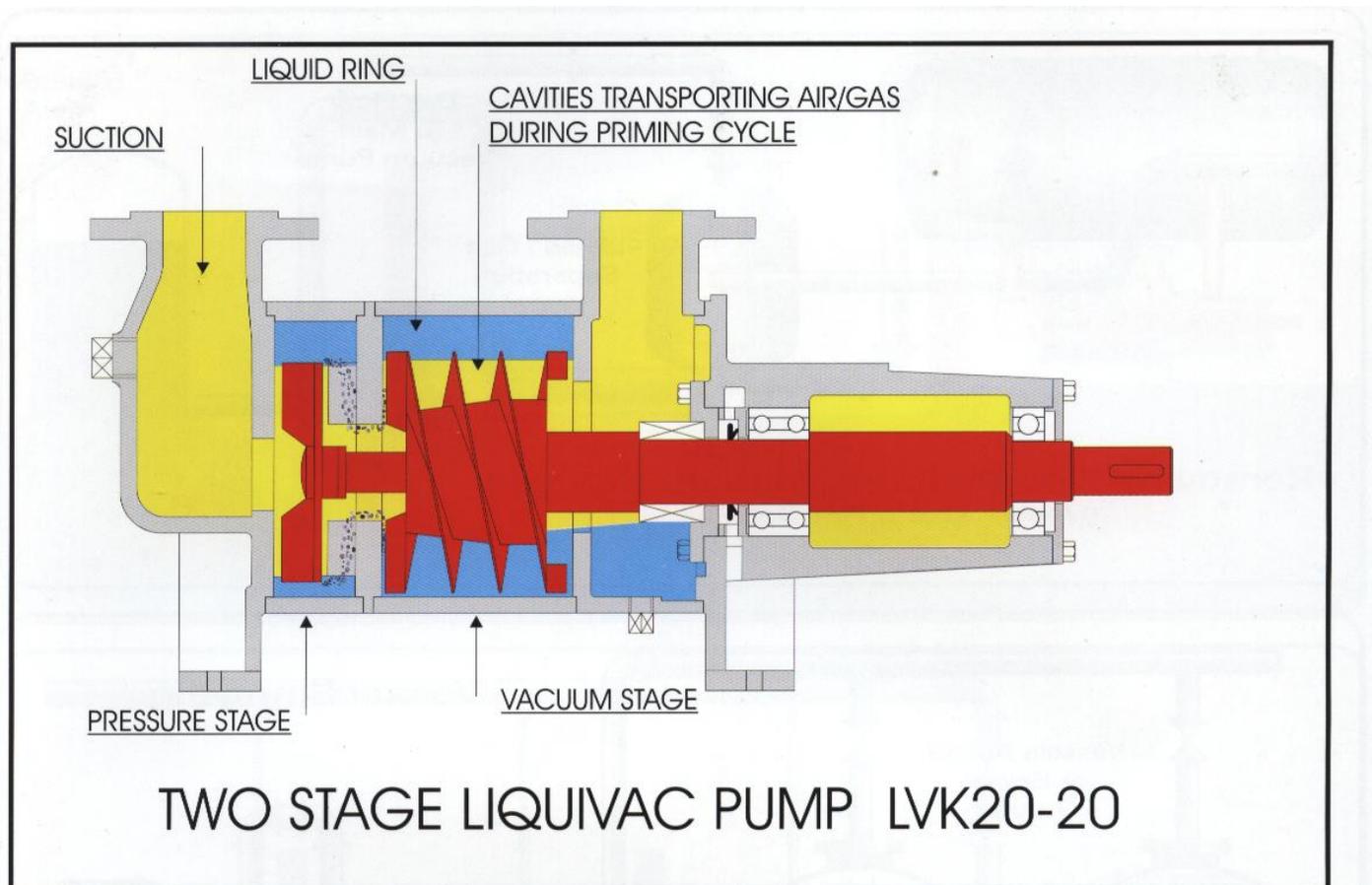
- The heart of all LIQUIVAC pumps is a twin start helical rotor mounted eccentrically in a cylindrical pump casing.
- On the initial installation the pump should be primed with a suitable liquid. During start up the liquid ring is formed creating a seal between the rotor and the liquid ring. It also creates a series of crescent shaped cavities traveling from suction to delivery. During the priming cycle air is drawn into the cavities, compressed and discharged through the pump. Once the pump is fully primed, cavities are filled with liquid which is discharged through the pump. Any product such as liquid, air, foam, emulsions or vapours exposed to suction would be drawn into these cavities and discharged through the pump.
- The large clearances between the rotating and stationary parts allow the pump to handle solids up to 2mm in diameter.



LIQUUVAC

How does it work?

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- If higher heads are required a centrifugal impeller is used in the pressure stage as shown in the diagram

STRENGTHS

- Robust
- Simple maintenance
- Tolerance of small solids
- Ability to pump foams

CAN ANY LIQUIDS BE USED?

“YES”

Subject to being compatible with the materials of construction and the vapour being evacuated.

EXAMPLES OF LIQUIDS USED

Whisky

Sea Water

Petrol

Diesel Fuel

Paraffin

Engine Oil at 110°C

Acetone at -30°C

Hexane

SUCSESSES

Ciba Geigy

Holmes Heaton

DTBA

MEL

CPL Industries

Glaxo

Sea Life Centres

Distillers

Phillips Petroleum

James Cropper

FAILURES

Western Board – trial pump felted up
with long paper stock

Sewage sludge on experimental
bioreactor

VISCOSITY

The maximum **recommended** viscosity is **100cps**.

Liquivac pumps are known to be operating routinely at much higher viscosities up to **500cps** and above.

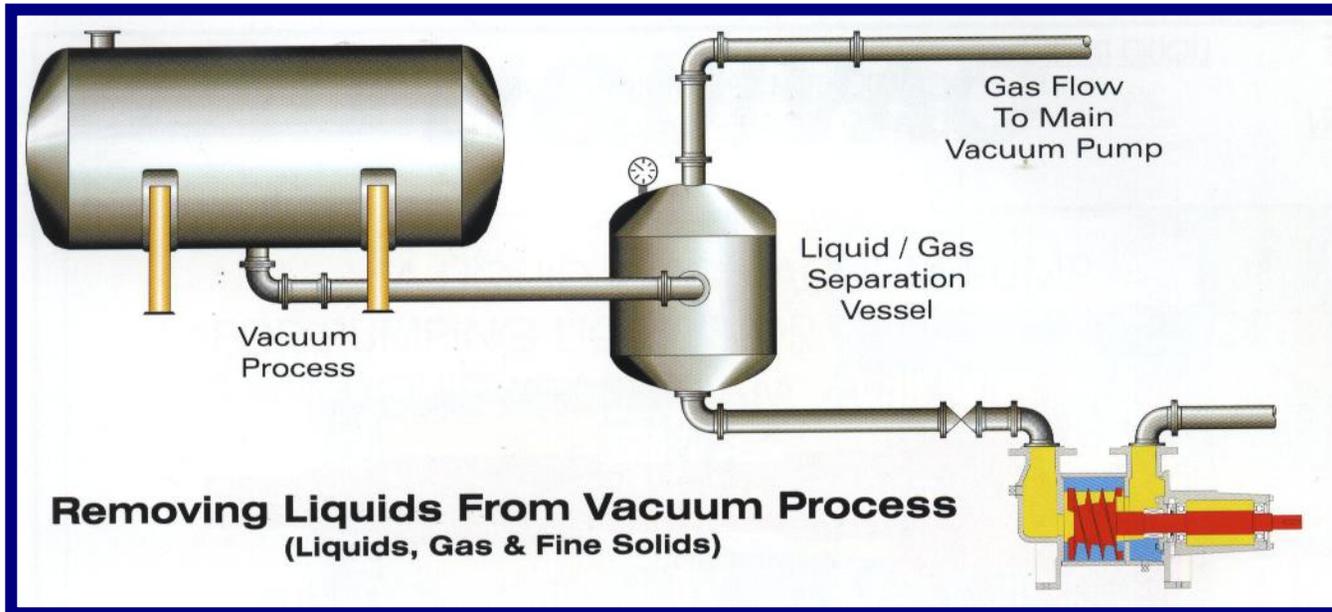
To work with these higher viscosities a larger motor must be installed.

Contact Vac-Cent Services (Pty) Ltd for advice and additional information.

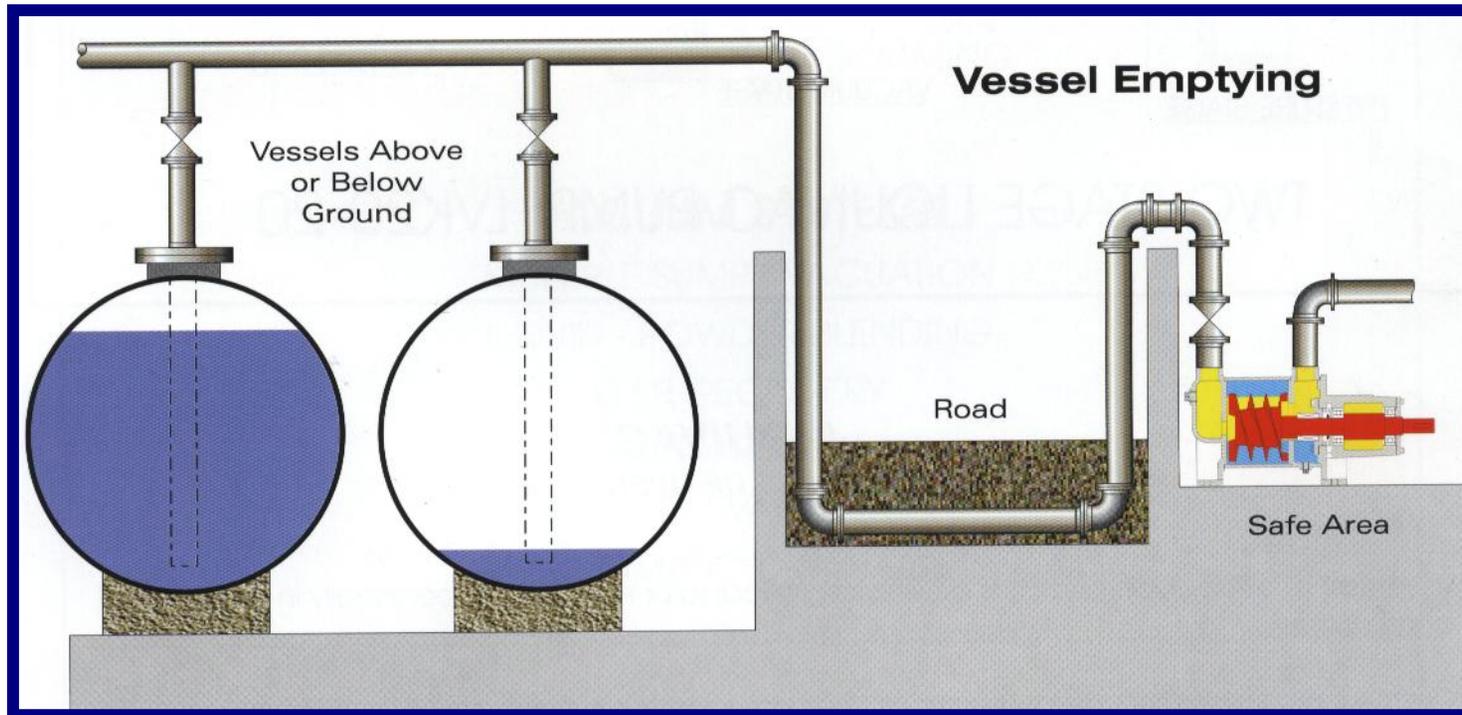
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Typical applications

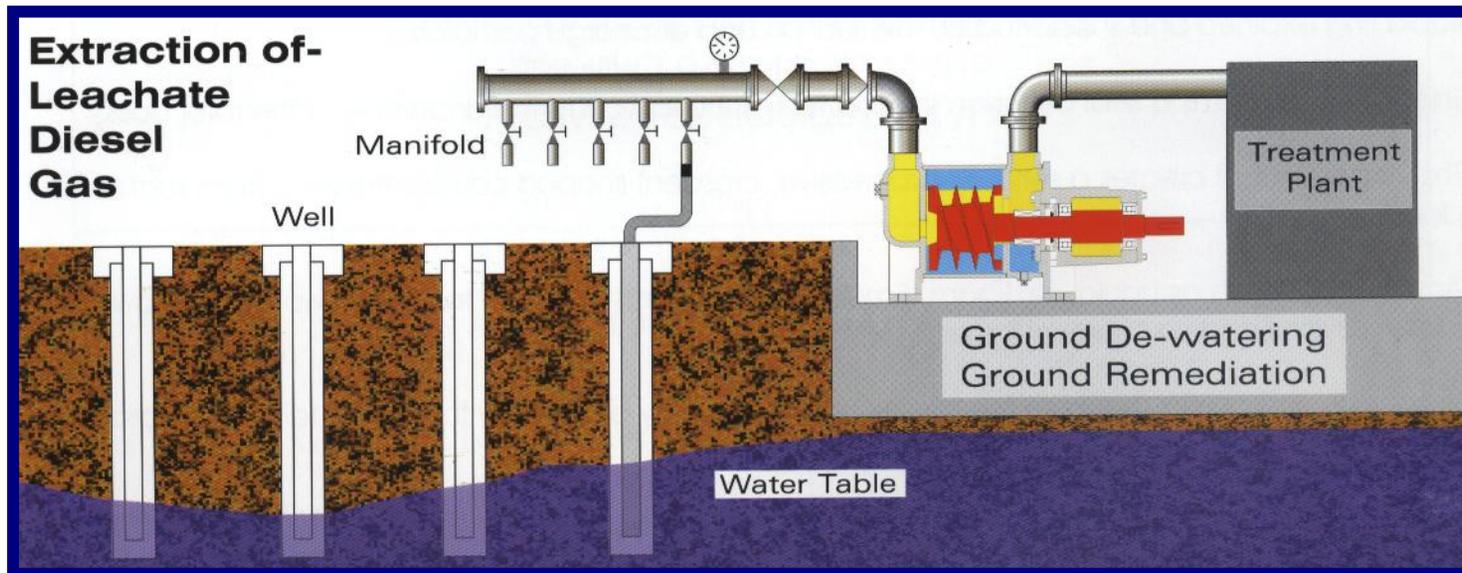
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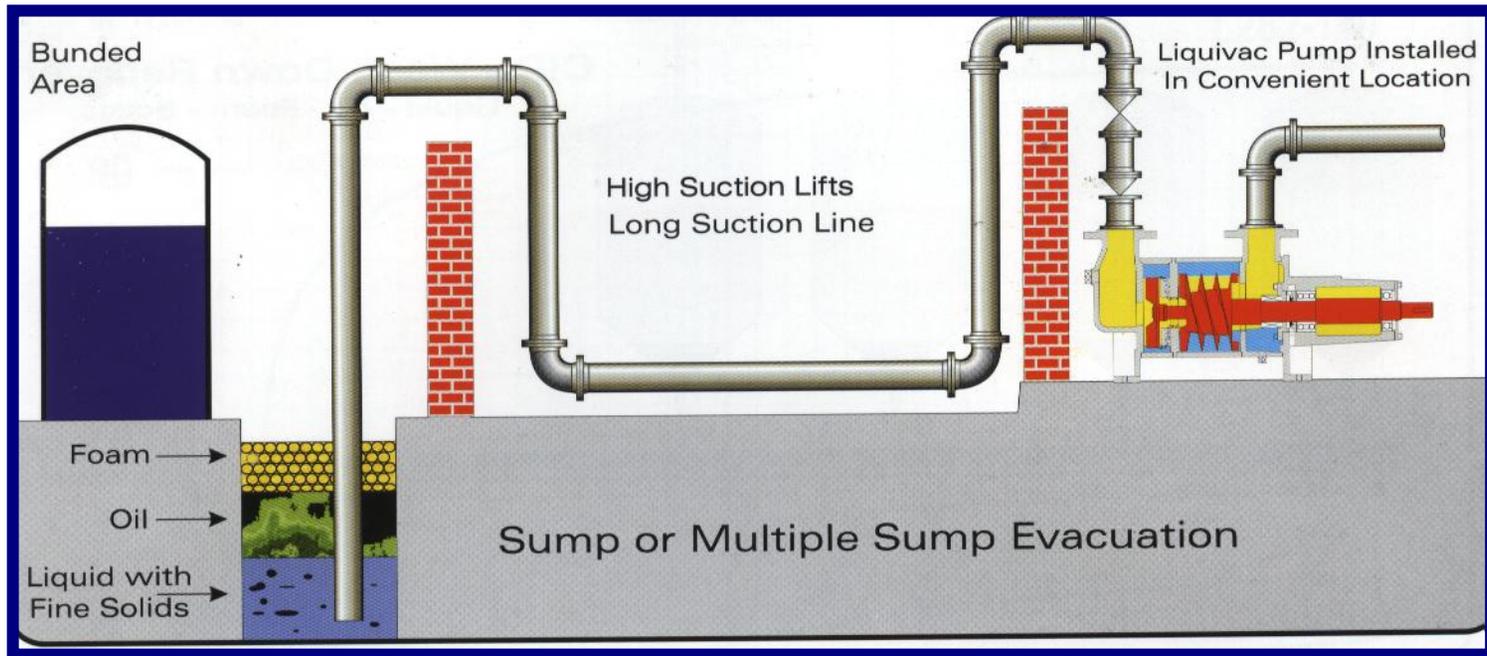
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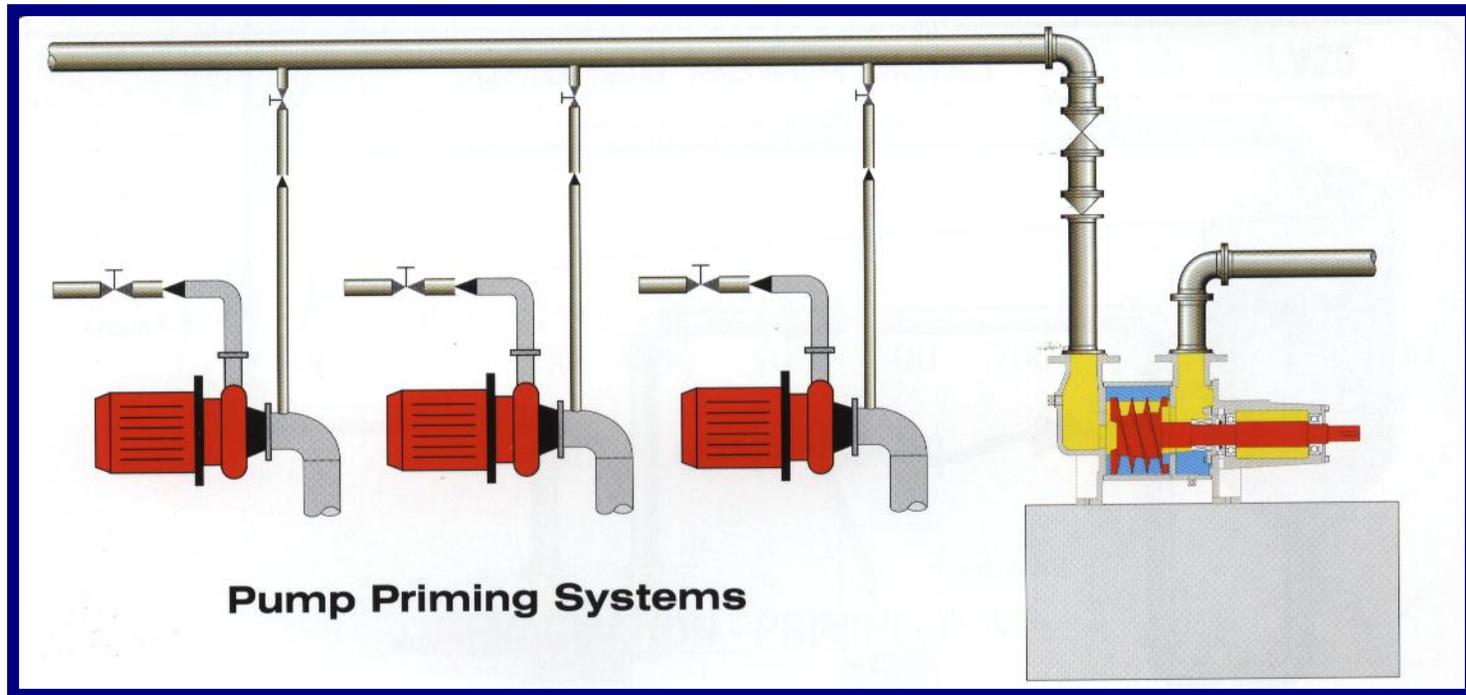
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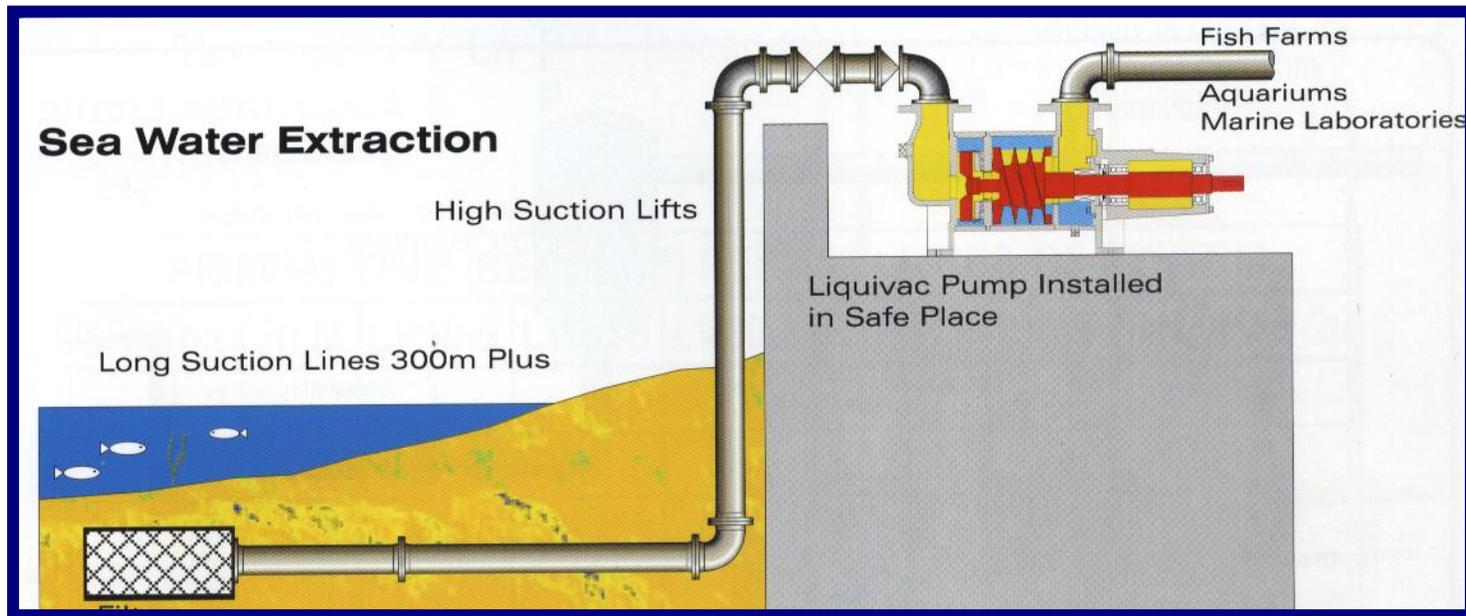
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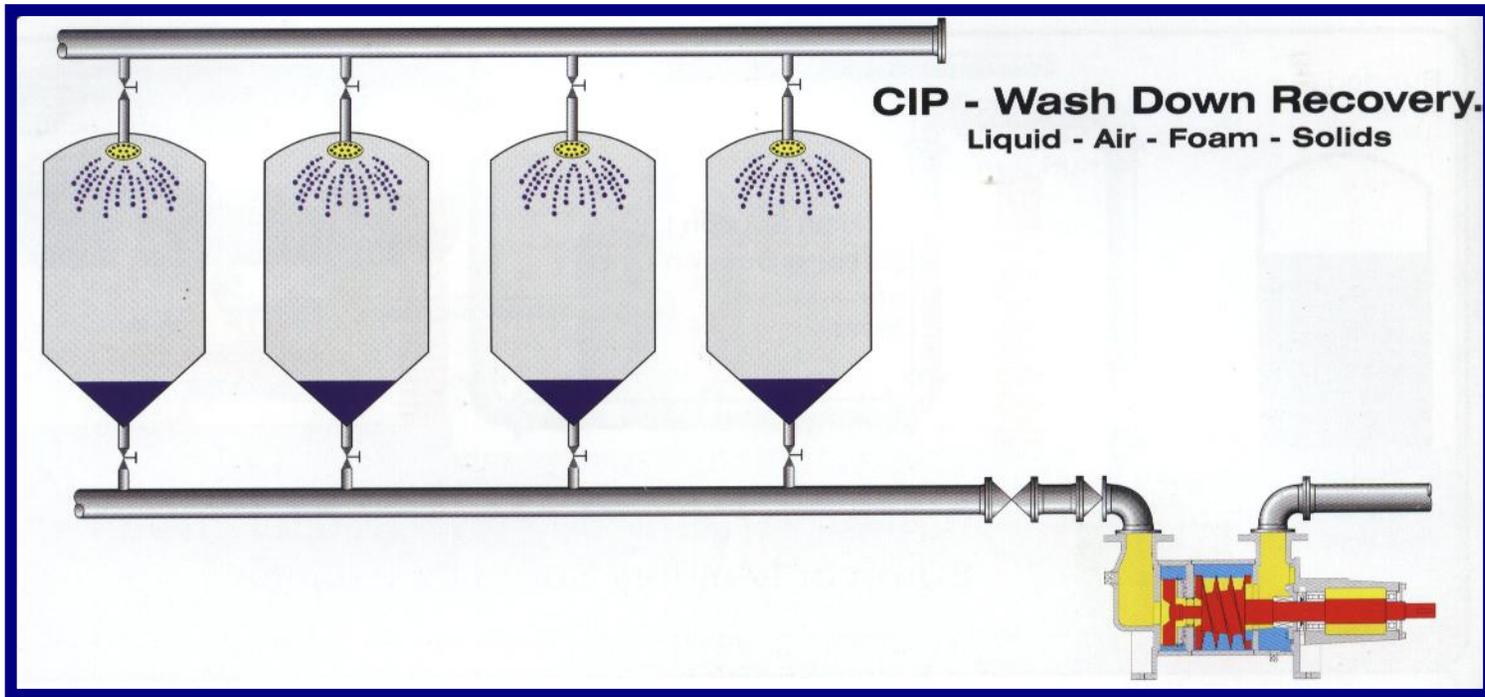
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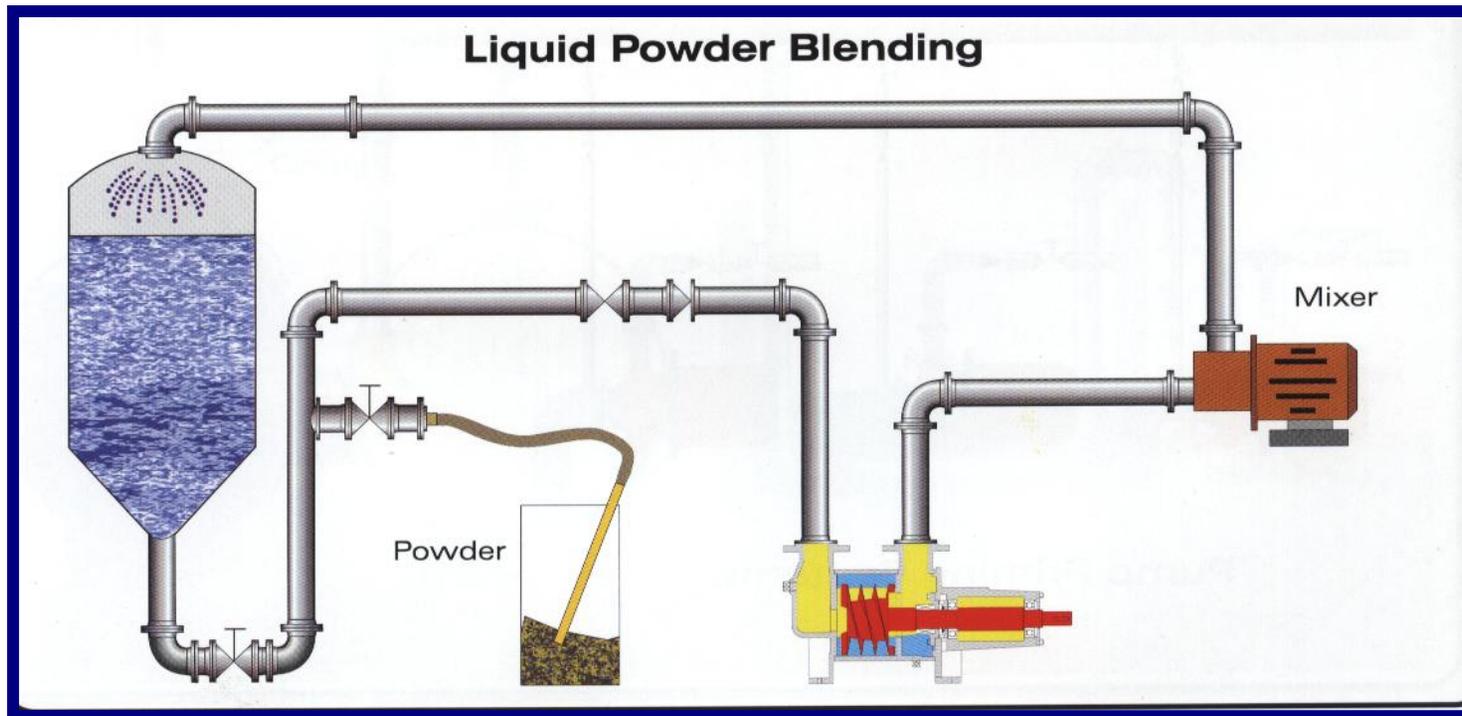
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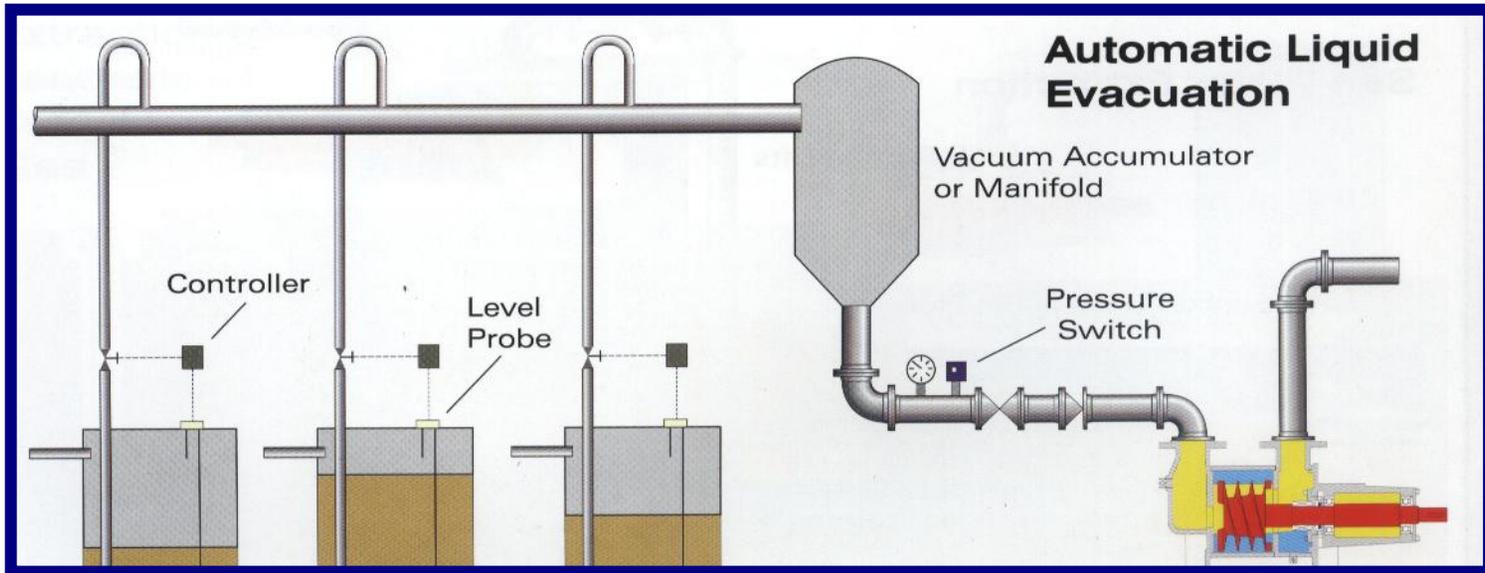
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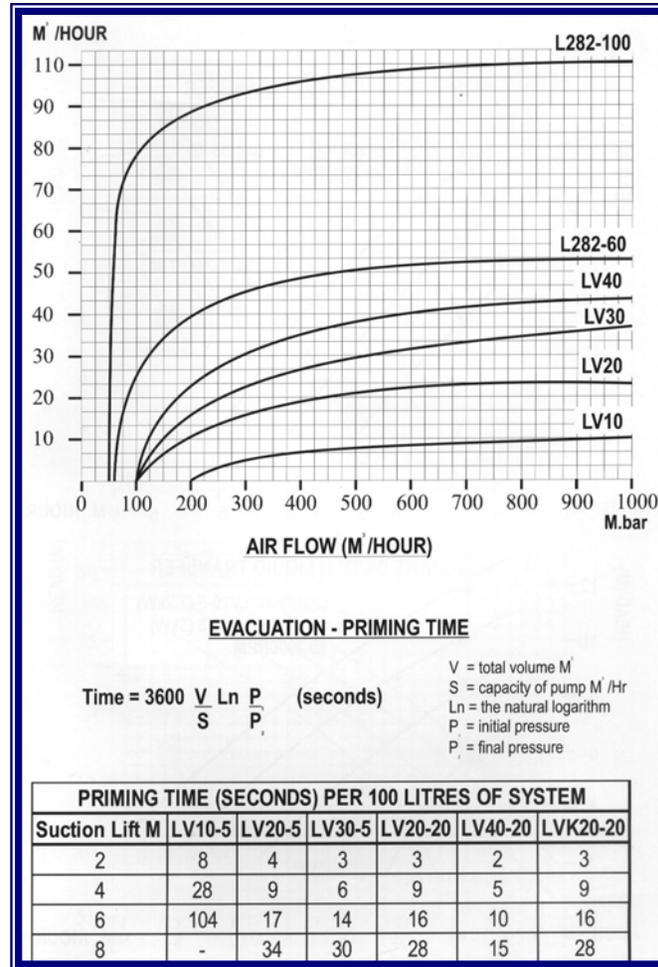
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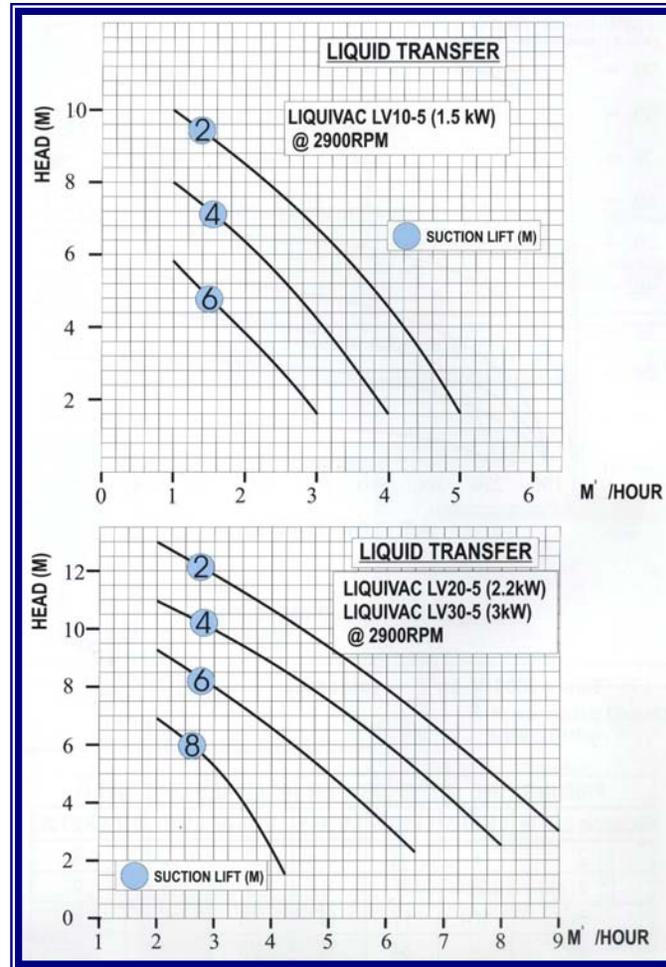
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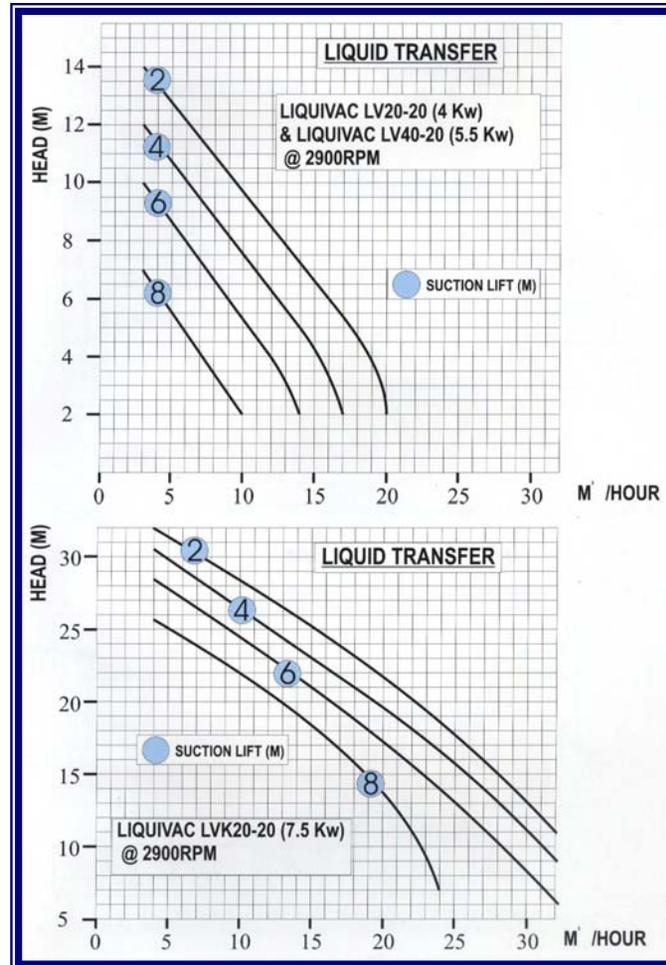
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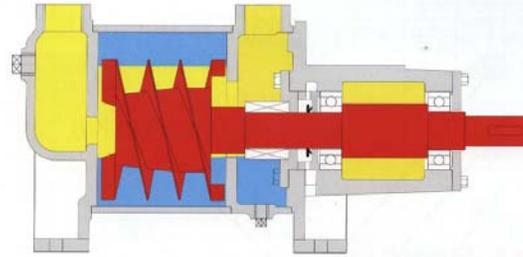
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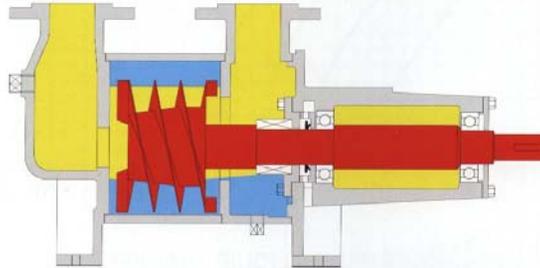
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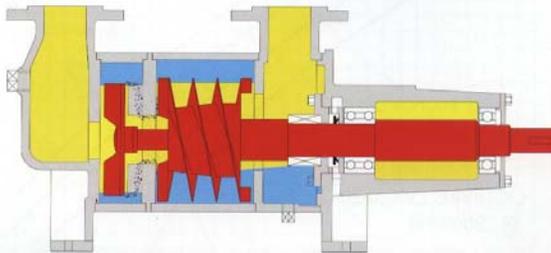
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LIQUIVAC PUMP. LV10-5, LV20-5, LV30-5



LIQUIVAC PUMP. LV20-20, LV40-20



TWO STAGE LIQUIVAC PUMP. LVK20-20

FIT A PRIMING POT

The priming pot acts both as a reservoir of cooling liquid and a gas/liquid separator.

When the pump and priming pot are filled with liquid and is started excess liquid is discharged from the delivery to the drain.

The gas /liquid mixture entering the priming pot separates with the gas rising to the surface and the liquid remaining in the pot.

The liquid then flows back to the pump suction via the service liquid.

PRIMING POTS

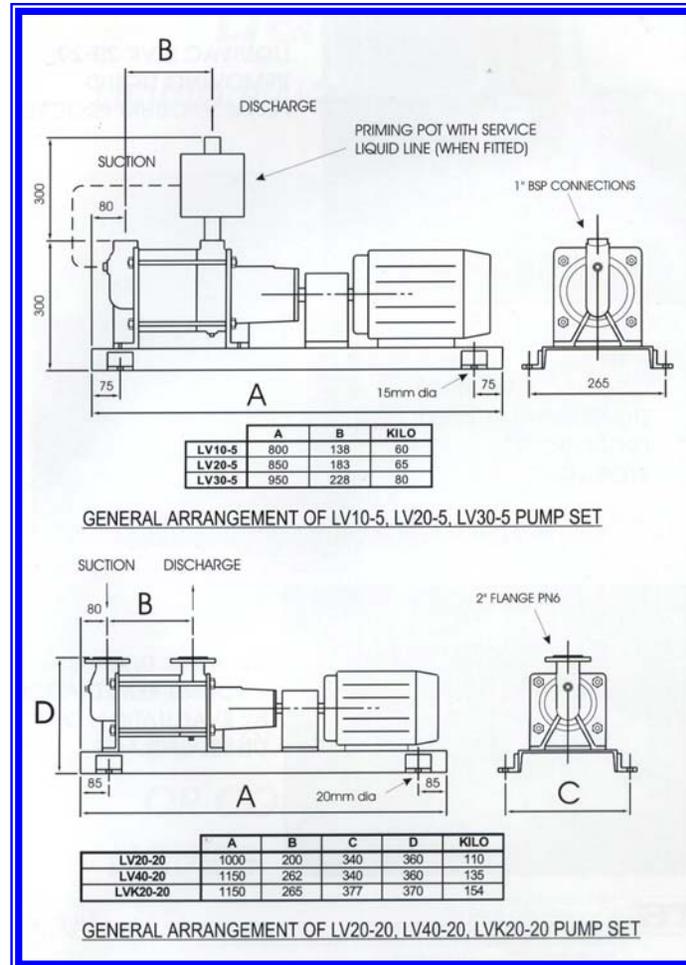
The pot size can be increased in volume to provide longer dry run times before the temperature rises too high to ensure correct operation

MAINTENANCE

- Short stiff shaft gives maximum support to seal faces
- Standard metric "sealed for life" bearings
- 3 sizes of seals – 30, 35 and 40mm
- Damaged rotors can be refurbished
- Use surface plate to build pumps on
- Silicon sealant for joints
- Stainless steel internal fasteners

*** ALL PARTS CARRIED ON STOCK AT TH ***

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Vac-Cent Services (Pty) Ltd

Liquivac pumps are imported and distributed
by Vac-Cent Services in Africa

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