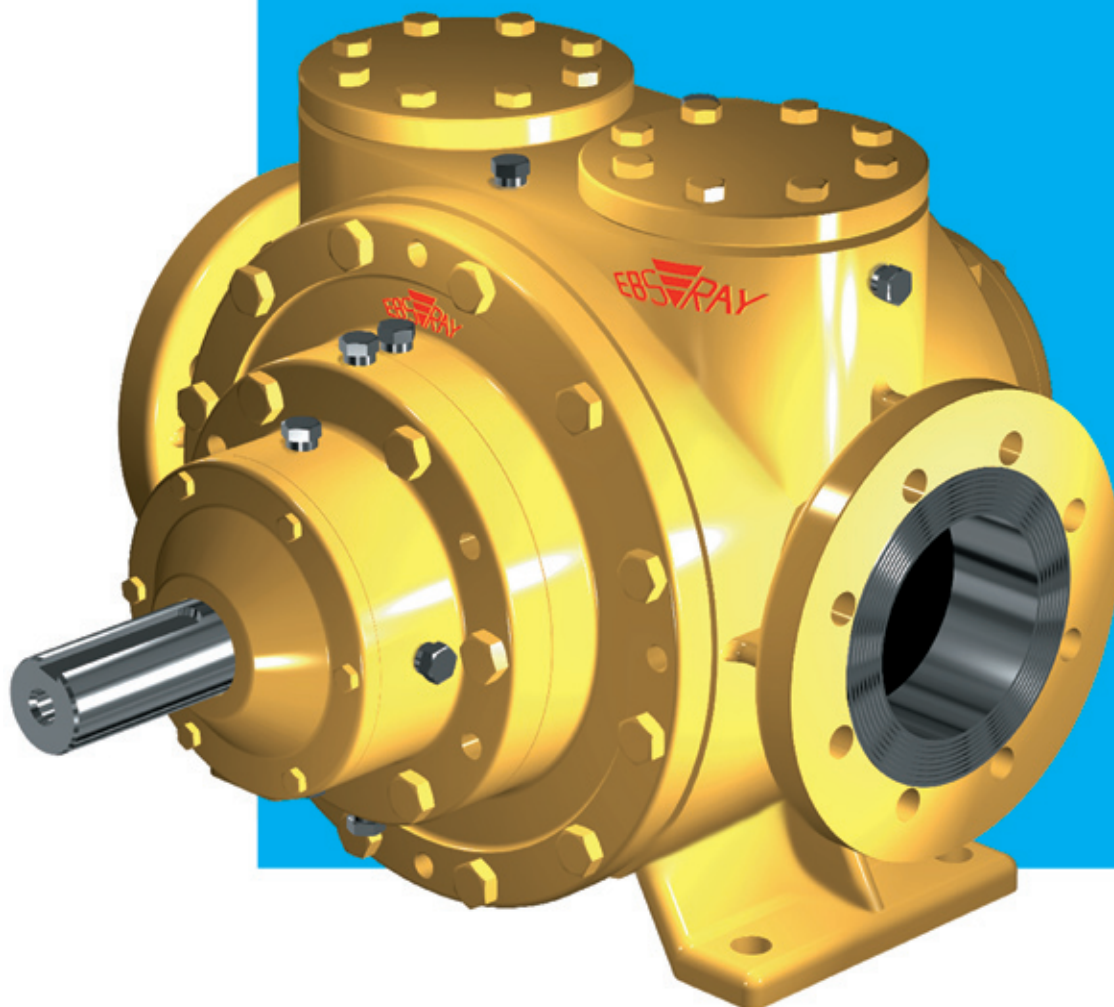


# EBSRAY PUMPS



## ***V Series*** ***Model V6000*** ***.....for Transfer/Process*** ***Applications***



Quality  
Endorsed  
Company  
ISO 9001  
Lic 3332  
Standards Australia

Head Office and Works



# V Series Model V6000



Refineries



Sugar Industry



Rail tanker bulk unloading facility



LPG carousel filling/bulk transfer



**Engineered in Australia**

Designed and precision built for efficient transfer of a variety of liquids over a wide range of viscosities and having lubricating or non-lubricating characteristics.

## Specifications

Flows to ..... 3,750 L/min  
Differential pressures to ..... 1,100 kPa  
Viscosity range ..... 0.1 to 20,000 cSt  
Temperatures to ..... 150°C  
Porting ..... Flanged DN 150 (6") ANSI Class 150  
(ANSI Class 300 Optional)

## Features

- ✓ Meets API 676 requirements.
- ✓ Quiet operation, low NPSHR.
- ✓ High overall efficiency.
- ✓ Low maintenance - long life.
- ✓ Internal wearing parts replaceable without removing pump from system.
- ✓ Vanes positively actuated, self compensating for wear.
- ✓ Self priming, excellent vapour handling.
- ✓ Integral/alternative top porting for Bypass/Relief valve.
- ✓ Drive options available to suit many applications
- ✓ Shaft Sealing - Balanced, fully retained, multi-spring standard shaft sealing ensures simple maintenance. Optional tandem or double arrangements available to suit your application.

## Typical Services / Industries

- Rail and Road Tanker Loading/Unloading
- Petroleum and Fuel Oil Industries - bulk transfer
- Liquefied Gas Industries
- Chemical and Pharmaceutical Industries
- Lubricating oil transfer and blending (LOBP)
- Paint Industry
- Public Utilities
- Power Stations
- Edible Oil Industry
- Sugar Industry

## Common Liquid Applications

- Fuel Oils
- Lube Oils
- Distillate/Diesel
- Petrol
- Kerosene
- L.P.G
- Transformer Oils
- Solvents
- Chemicals
- Vegetable Oils
- Aviation Fuels
- Oil Additives

## Assured Quality and Performance

EBSRAY's ISO 9001 Quality System assures compliance with high safety and quality standards. All Ebsray V Series Model V6000 pumps and pumpsets are manufactured under strict guidelines and procedures. Quality inspections and tests during production guarantee pump integrity and pumping performance in accordance with the specifications.

# Operating Principle



## Pumping principle

The EBSRAY Model V6000 Vane Pump is a highly efficient rotary positive displacement pump using the Sliding Vane Principle to perform its pumping cycle.

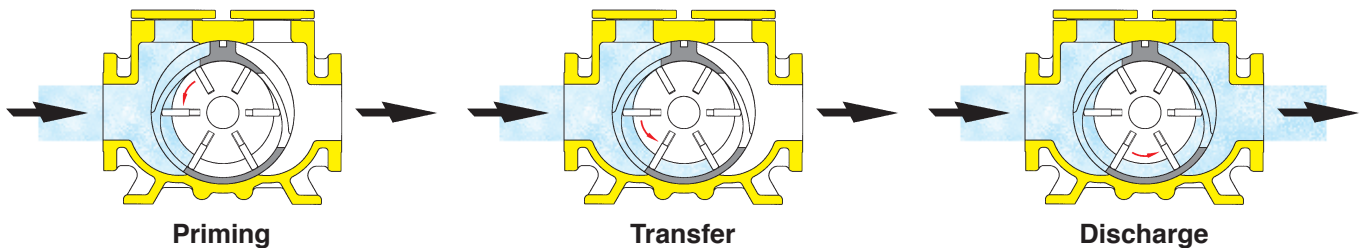
### Description of operation

A replaceable Liner is housed in the pump Body. The internal shape of the Liner is a computer optimised cam form with high efficiency inlet and outlet porting.

The Rotor which is attached to the Shaft is eccentrically located relative to the Liner. Six Vanes are housed in

slots in the Rotor, and each pair of opposite Vanes has two Pushrods between them. Vane actuation is initiated at low speeds by the Pushrods. At increased pump speeds and when pressure is developed, the Vanes also become hydraulically actuated.

The Pushrod function ensures that the initial Vane movement is positively actuated as each Vane progresses from the seal zone to the inlet zone during rotation.

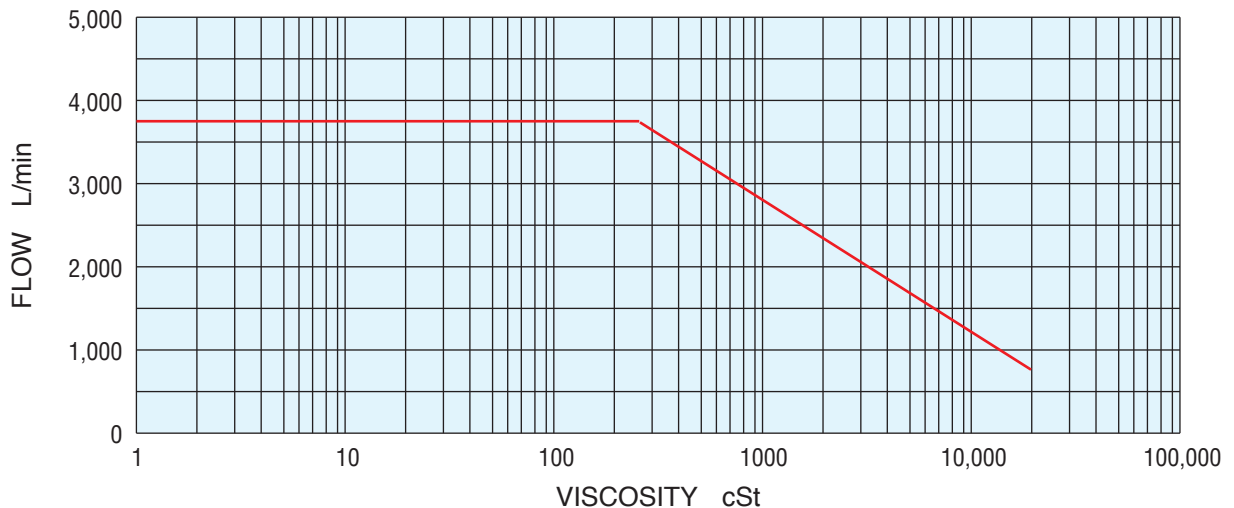


1. As the Rotor/Shaft/Vane assembly rotates from the seal zone towards the transfer zone, the cell between the Rotor, Liner and each two adjacent Vanes increases in volume. The increase in volume creates a negative pressure which induces the cell to fill with liquid (or vapour) via the inlet port.

2. As each cell moves through the transfer zone, it carries the liquid (or vapour-when priming) towards the outlet (discharge) side of the pump.

3. On the discharge side, as each filled cell moves from the transfer zone towards the seal zone, its volume is decreased and the liquid (or vapour) is forced through the outlet (discharge) port.

## Flow/Viscosity



The above graph shows the performance envelope of the EBSRAY V6000 Vane pump.

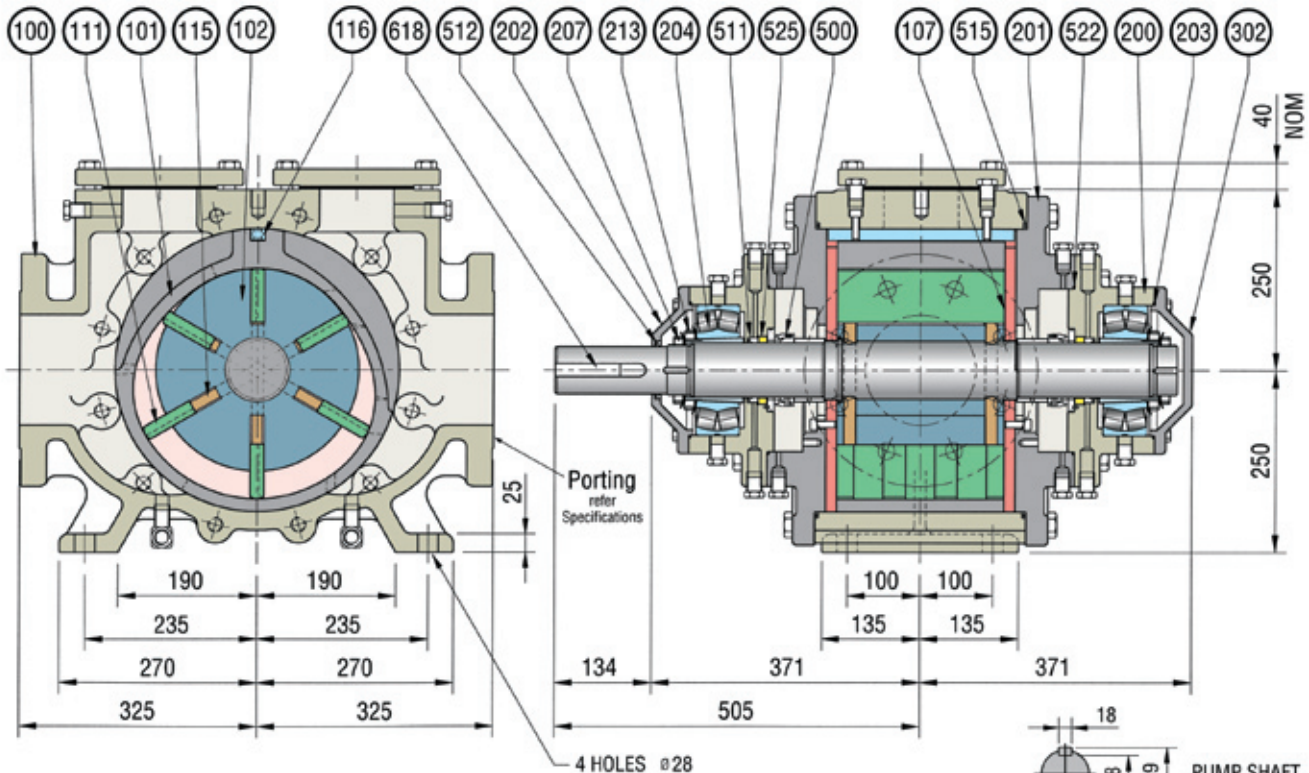
For actual Performances - refer specific Performance Curves.

### NOTES

- Selection is dependent upon adequate NPSHA (Available) for optimum performance and operation at selected speed.
- Suitability may be affected by Discharge Pressure (Casing pressure), Differential Pressure (Bearing loading), Viscosity of product (Shaft size/torque limitations, Shaft Seal specifications). Check with EBSRAY or your local Representative as required.
- For Kinematic Viscosity greater than 20,000 cSt, we recommend conferring directly with EBSRAY or local Representative.

- For flows greater than 3,750 L/min, refer to EBSRAY or local Representative.
- For flows less than 750 L/min, refer to EBSRAY V Series selection graph for smaller pump models.
- Internal pump clearances will affect hydraulic slip. Therefore, slip calculations must be considered for final pump speed determination in every selection. Clearances are determined by: a) pump materials of construction, and/or, b) product temperature, and/or, c) product viscosity, and/or, d) shear sensitivity of product.

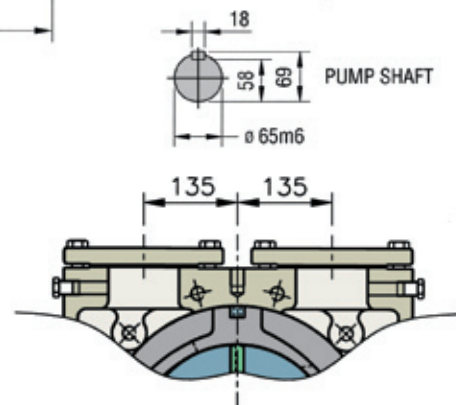
# Dimensions



## MATERIALS OF CONSTRUCTION

Cat #	Description	Material	Qty
100	BODY	Ductile Iron or Cast Steel	1
101	LINER	Cast Iron	1
102	ROTOR ON SHAFT	Ductile Iron/Stainless Steel	1
107	WEARPLATE	Cast Iron	2
111	VANES	Univane	6
115	PUSHRODS	Unirod	6
116	BODY KEY	Key Steel	1
200	BEARING HOUSING	Ductile Iron or Cast Steel	2
201	BODY COVER	Ductile Iron or Cast Steel	2
202	DUST CAP (DRIVE END)	Ductile Iron	1
203	O-RING (DUST CAP)	Nitrile	2
204	ROLLER BEARING	Commercial	2
207	LOCKNUT	Mild Steel	2
213	LOCKNUT (ADAPTOR SLEEVE)	Mild Steel	2
302	DUST CAP - INSPECTION END	Ductile Iron	1
500	MECHANICAL SEAL ASSEMBLY	Seal Faces available: SiC, TC, Carbon Elastomers: Nitrile, Viton, Kalrez or PTFE	2
511	OIL SEAL (BEARING HOUSING)	Nitrile	2
512	OIL SEAL (DUST CAP DRIVE END)	Nitrile	1
515	O-RING (BODY COVER)	Nitrile or Viton	2
522	O-RING (BEARING HOUSING)	Nitrile or Viton	2
525	THROTTLE BUSH	Bronze	2
618	COUPLING KEY	Key Steel	1

Other materials are available to suit almost any application. Please contact your EBSRAY Representative.



Optional alternate Bypass/Outlet ports to suit DN 100 (4") ANSI CLASS 150. Available with with certain configurations only. Refer EBSRAY.

## Warranty

All Ebsray manufactured pumps and equipment are warranted for a full 12 months against faulty workmanship and/or materials. Refer to Ebsray or Factory Appointed Representative.

## Note

All specifications and illustrations are typical only and subject to revision without notice. Certified data available on request

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