

# EBSRAY PUMPS



## *L Series Model L80*



Quality  
Endorsed  
Company

ISO 9001  
Lic 3332  
Standards Australia

HEAD OFFICE AND WORKS



# L Series Model L80



Bitumen load-out in Oil Refinery



Sugar Mills / Refineries



Molasses unloading facilities



Bunkering / unloading molasses



Sugar Terminal Installation



Sugar Industry - Molasses Processing

The EBSRAY MODEL L80 LOBE PUMP is designed and precision built for efficient transfer of medium to high viscosity clean liquids. It is especially suited for high viscosity liquids where increased efficiency is demanded.

## Specifications

Max Flow:	5,000 L/min
Max Differential Pressure:	2,000 kPa
Max Speed:	500 RPM
Viscosities:	100 cSt to 700,000 cSt
Porting:	
(Inlet and Outlet):	Flanged DN200 (8")

## Features

- ✓ High Overall Efficiency at high viscosities.
- ✓ Self priming, positive displacement.
- ✓ Low maintenance - Long life. Only two rotating elements.
- ✓ Rotation to suit fluid flow - CW or CCW, Reversible.
- ✓ Robust construction for heavy duty applications.
- ✓ Large diameter Sleeve Bearings lubricated by pumpage.
- ✓ Pressure Retaining Components - Cast Iron, Ductile Iron (ASTM A395) or Cast Steel. Other materials to specification.
- ✓ Mechanical Seal or Hydraulic Packed Gland.
- ✓ Heating Jackets (optional).
- ✓ Optional integral porting for Bypass/Pressure Relief Valves.

## Typical Industries

- Sugar Industry
- Petroleum Industry
- Chemical Industry
- Refineries
- Bunkering

## Common Liquid Applications

- ✓ Molasses
- ✓ Crude Oil
- ✓ Lubricating oils
- ✓ Bitumen
- ✓ Heavy Fuel Oil
- ✓ Additives
- ✓ Palm Oil
- ✓ Resins
- ✓ Most clean viscous liquids may be pumped.

## Assured Performance

EBSRAY's ISO 9001 Quality System assures compliance with high safety and quality standards. All Ebsray L Series 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.

**Engineered in Australia**

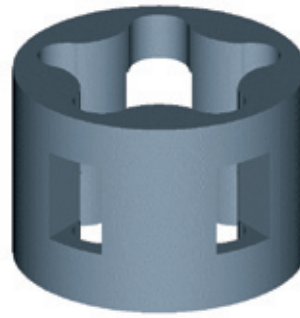
# Pumping Principle

The EBSRAY Model L80 Lobe Pump is a highly efficient positive displacement rotary pump which has only two moving parts to perform its pumping cycle.

## Description

The Outer Rotor is housed in the pump Body and rotates inside a replaceable Liner. The external surface of this Outer Rotor is cylindrical with an internal shape as shown in the adjacent diagram. Liquid enters and leaves the pump chambers during rotation through the radial ports as shown.

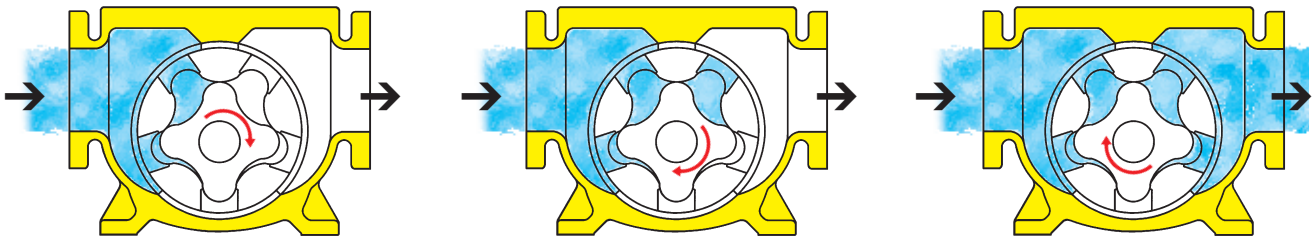
The Inner Rotor (which is attached to the



Outer Rotor

Shaft) passes eccentrically through the Outer Rotor thus creating the pumping action. The Inner Rotor/Shaft assembly is supported by large product lubricated Sleeve Bearings at both ends.

The geometry of the two rotors allows the Inner Rotor to rotate and drive the Outer Rotor whilst maintaining sealing contact where the two rotors mesh. Constant close clearances are maintained on the opposite side where the rotors are out of mesh to effect the seal between outlet and inlet.

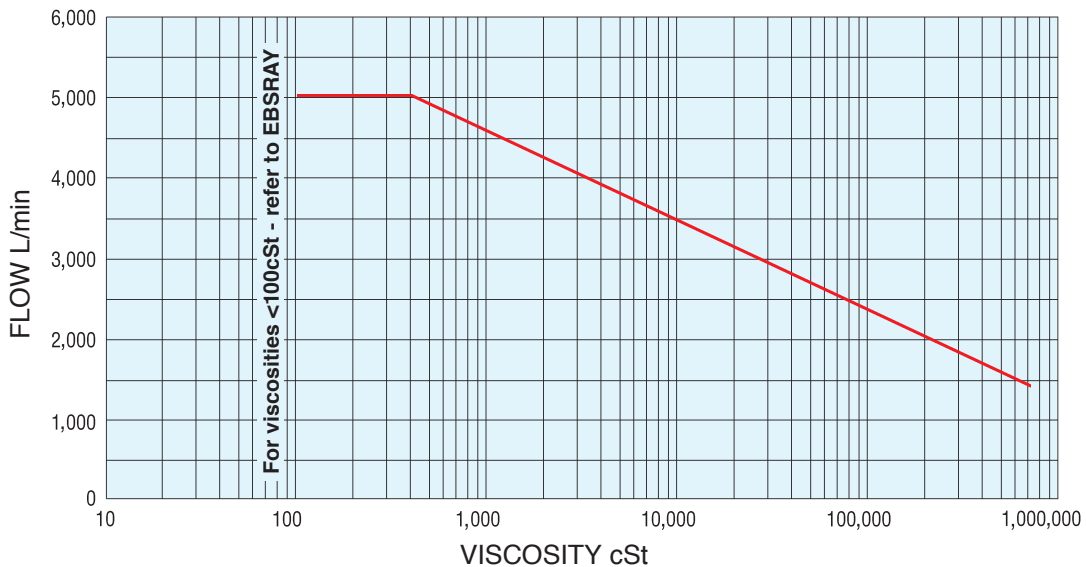


1 As the rotor lobes move out of mesh, they create a low pressure zone which draws the liquid into the pump inlet port.

2 As rotation continues, the liquid is transferred across the seal zone to the outlet side of the pump.

3 As the lobes come back into mesh, liquid is forced out through the pump outlet port.

## Flow/Viscosity

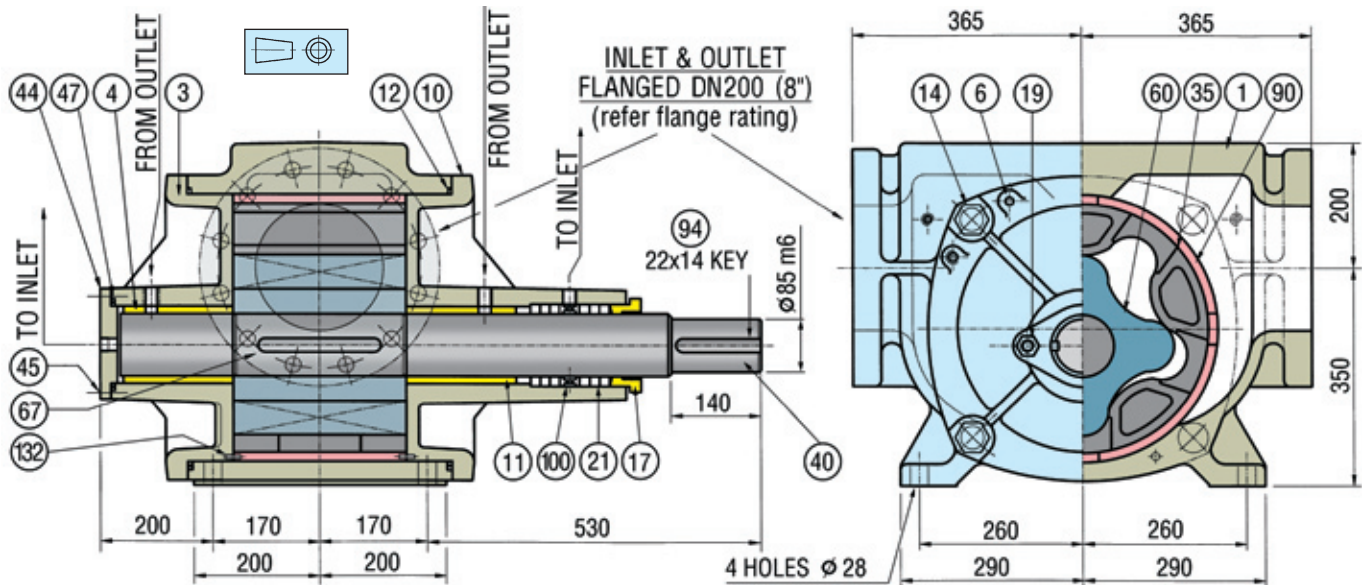


The above graph shows the performance envelope of the EBSRAY L80 Lobe pump.

## 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). Check with EBSRAY or your local Representative as required.
- Shear sensitive liquids may require slower speeds.
- For Kinematic Viscosity greater than 50,000 cSt we recommend conferring directly with EBSRAY or local Representative.
- For flows greater than 5,000 L/min, refer to EBSRAY or local Representative.
- For flows less than 500 L/min, refer to EBSRAY T Series selection graph.
- 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 casing/rotor materials, and/or, b) product temperature, and/or, c) product viscosity, and/or, d) Shear sensitivity of product.

# Dimensions & Materials



Pump Weight approx. 750 kg (depending on features)

Cat #	Description	Material
1	BODY	Cast Iron, Ductile Iron or Cast Steel
3	COVER - INSPECTION END	Cast Iron, Ductile Iron or Cast Steel
4	ROTOR BEARING - INSPECTION END	Bronze
6	LOCATING PIN - COVER	Mild Steel
10	COVER - DRIVE END	Cast Iron, Ductile Iron or Cast Steel
11	ROTOR BEARING - DRIVE END	Bronze
12	'O'RING - COVER	Nitrile, Viton or as required to suit product pumped
14	SETSCREW - COVER	High Tensile Steel
17	GLAND PLATE	Bronze or Steel
19	STUD AND NUT - GLAND PLATE	Mild Steel
21	HYDRAULIC PACKING/MECHANICAL SEAL	As required to suit product pumped
35	OUTER ROTOR	Cast Iron
40	SHAFT	Stainless Steel
44	BEARING CAP	Mild Steel
45	SETSCREW - BEARING CAP	High Tensile Steel
47	'O'RING - BEARING CAP	Nitrile, Viton or as required to suit product pumped
60	INNER ROTOR	Cast Iron
67	KEY - ROTOR	Keysteel
90	LINER	Cast Iron
94	KEY - COUPLING	Keysteel
100	LANTERN RING	Bronze
132	LOCATING PIN - LINER	Mild Steel

**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

DISTRIBUTED BY:

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