

Ebsray[®]

Expert
Solutions
for Bitumen
Handling

BITUMEN
Market Brochure (MEA)



Where Innovation Flows

INTERNAL GEAR PUMPS
HELICAL GEAR PUMPS
LOBE PUMPS



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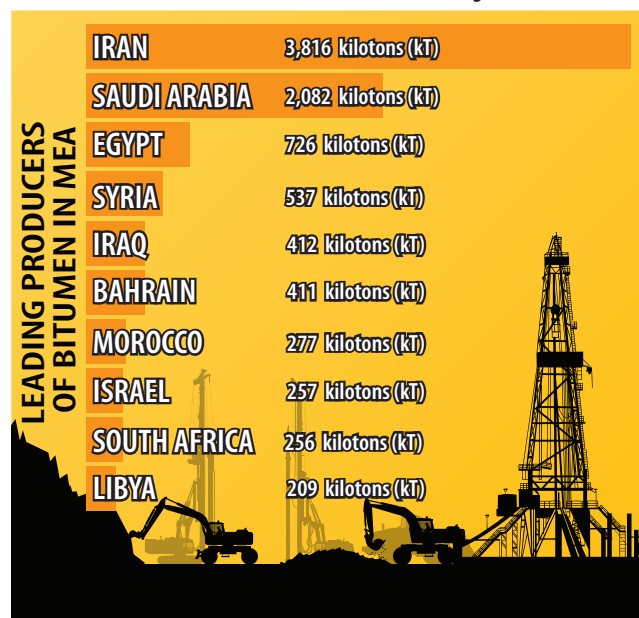
Expert Transfer Solutions in Bitumen-Handling Applications

For more than 70 years, Ebsray® Pumps Pty Ltd has built and burnished its reputation by focusing on the manufacture of pumps and pumping equipment that is targeted predominantly toward “niche” process and industrial markets. Ebsray has achieved its lofty status by adhering to a strict philosophy that combines customer service with best-in-class application engineering in order to provide the best solution for a myriad of pumping needs.

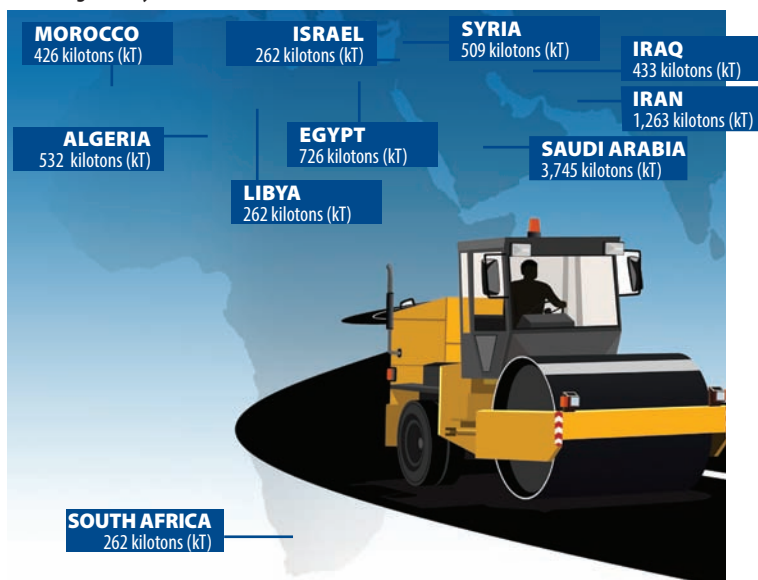
One market in which Ebsray Internal Gear, Helical Gear and Lobe Pump technologies have been setting the standard in reliable performance is the production, transport and handling of bitumen. A sticky, dense and highly viscous (similar to cold molasses) or semi-solid form of petroleum, up to 80% of bitumen is used in road construction or paving as a binder that is mixed with aggregate to form asphalt concrete.

Defining The Market

As of year-end 2010, the leading producers of bitumen in the Middle East and North/Sub-Saharan Africa (MEA) region were:



In terms of consumption, these were the largest users of bitumen in the MEA region at year-end 2010:



Looking Ahead

In June 2013, *Transparency Market Research* released a report on the future of the global bitumen market titled, “Bitumen (Paving, Oxidized, Cutback and PMB) Market for Roadways, Roofing, Adhesives and Insulation—Global Industry Analysis, Size, Share, Growth, Trends and Forecast, 2012-2018.”

According to the report, global bitumen demand was 103.94 million tons in 2011 and is expected to grow to 121.99 million tons in 2018, an annual growth rate of 2.3%. In terms of revenue, the global bitumen market was valued at \$66.7 billion in 2011 and is expected to grow at an annual rate of 3.5% through 2018 to a total value of \$84.4 billion.

The main drivers of this expansion are expected to be the continued increase in construction activities in the fast-growing regional markets of China and India. Construction markets in the Middle East are also expected to record above average growth in both volume and revenues over the length of the forecast period.

Ebsray® Pumps: Providing Value for Critical Bitumen Applications

Ebsray manufactures a family of premier pumps that are a superior choice in bitumen-handling applications. They offer a host of value-added operational characteristics that are important to maintain uptime and consistent performance under demanding conditions. Customers rely on Ebsray pumps for:

- *High-viscosity/high-temperature product handling*
- *Pulse-free product flow*
- *Extended service life, low cost-of-ownership*
- *Heavy-duty construction*

MD/HD Series Internal Gear Pumps

The MD/HD Series is a positive displacement pump designed for use in medium and heavy-duty fluid-transfer applications in bitumen refineries, terminals, hot-mix plants and manufacturing. MD/HD Series pumps can be customized to meet the specific duty needs of the end-user.



Features and Benefits:

- Only two major moving pumping elements
- Choose from ductile-iron, cast-iron, stainless-steel or high-tensile alloy steel materials
- Various jacketing and shaft sealing options available
- Self-priming and vapor-clearing ability
- Ability to pump viscous and non-viscous fluids
- Reversible operation
- Hydraulic balance that eliminates axial thrust
- High-pressure capability
- Self-compensation for wear

Performance Range:

HD Series:

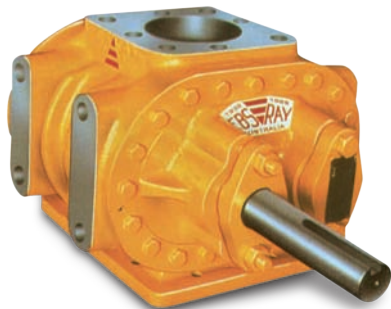
- Flow rate to 5,000 L/min (1,321 gpm)
- Differential pressure to 20 bar (290 psi)
- Viscosities to 1,000,000 cSt
- Temperatures from -40°C to 350°C (-40°F to 662°F)

MD Series:

- Flow rates to 1,200 L/min (316 gpm)
- Differential pressures to 13 bar (188 psi)
- Viscosities to 1,000,000 cSt
- Temperatures from -40°C to 350°C (-40°F to 662°F)

G Series Helical Gear Pumps

Positive displacement G Series pumps are for use on bitumen sprayers and bulk transport tanker trucks. They are supplied as a bare-shaft pumps and driven using hydraulic motors.



Features and Benefits:

- Constructed of cast-iron and high-tensile alloy steel
- Resistant to low-temperature starts and pressure spikes
- Hardened gears for longer life
- Designed for internal mounting on the sprayer/transport - no external heating of the pump is required
- Self-priming operation
- Quiet operation

Performance Range:

- Flow rates to 1,250 L/min (333 gpm)
- Differential pressure to 20 bar (290 psi)
- Viscosities to 1,000,000 cSt
- Temperatures from -40°C to 350°C (-40°F to 662°F)

L Series L80 Model Lobe Pump

The L Series L80 Model is an 8-inch positive displacement pump, precision-built for the high-efficiency transfer of medium to high-viscosity liquids at extremely high volumes and high differential pressures, conditions that are oftentimes present during bitumen production and transfer.



Features and Benefits:

- Choose from ductile-iron, cast-iron, stainless-steel or high-tensile alloy steel materials
- Only two rotating pumping elements
- Self-priming operation
- Clockwise, counter-clockwise or reversible operation
- Sleeve bearings lubricated by pumpage
- Mechanical or hydraulic packed gland
- Optional integral bypass/pressure relief valve

Performance Range:

- Flow rates to 5,000 L/min (1,321 gpm)
- Differential pressures to 20 bar (290 psi)
- Viscosities to 2,000,000 cSt
- Temperatures from -40°C to 350°C (-40°F to 662°F)

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