

EBSRAY PUMPS



***Liquid
transfer
equipment
for
industry***



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The Ebsray experience, facilities and service

The Company...

Ebsray is today an acknowledged leader in the world's Pump Industry offering products of unparalleled quality, efficiency, innovation and reliability.

Commencing business as a precision engineering company in the late 1920's (then called VR Ebsary & Co), in 1938 the company turned to pump design and manufacture. Since that time, the commitment to the application, design, development, manufacture, and supply of specialist pumps has placed Ebsray in the Industries' front line.

Ebsray Pumps, as the name implies, has its primary focus on the manufacture of pumps and pumping equipment – predominantly for process and industrial 'niche' markets.

Process pump applications are as diverse as Petroleum liquids such as aviation fuels, bitumen, grease, LPG, lube oils, additives and solvents. In the Chemical Industry, aggressive, toxic, viscous and flammable liquids at high and/or low temperatures. Military, Mining, Food & Beverage, Pulp & Paper, Municipal & Utility Services, Sugar, and Paint Industries – to name but a few of the industries served.

Outside this primary 'pump focus', Ebsray has been involved in 'other' innovative engineering disciplines such as Biomedical Engineering – examples being Heart-Lung machines, unique Respiratory Apparatus and Hyperbaric Medical equipment.

Combine this with specialised Military/Defence equipment, sophisticated machining projects, special jigs, fixtures and tools – all shows the diversity of engineering capability for which Ebsray is renowned.

A philosophy of *Customer Service* combined with *Application Engineering* has proven pivotal to the successes enjoyed. Our skilled and experienced Application Engineers are trained to assess and recommend the correct pump – offering total support for all your pumping requirements.

Quality Assurance & Regulatory Compliance...

Ebsray's ISO 9001 : 2000 Quality Management System ensures that all

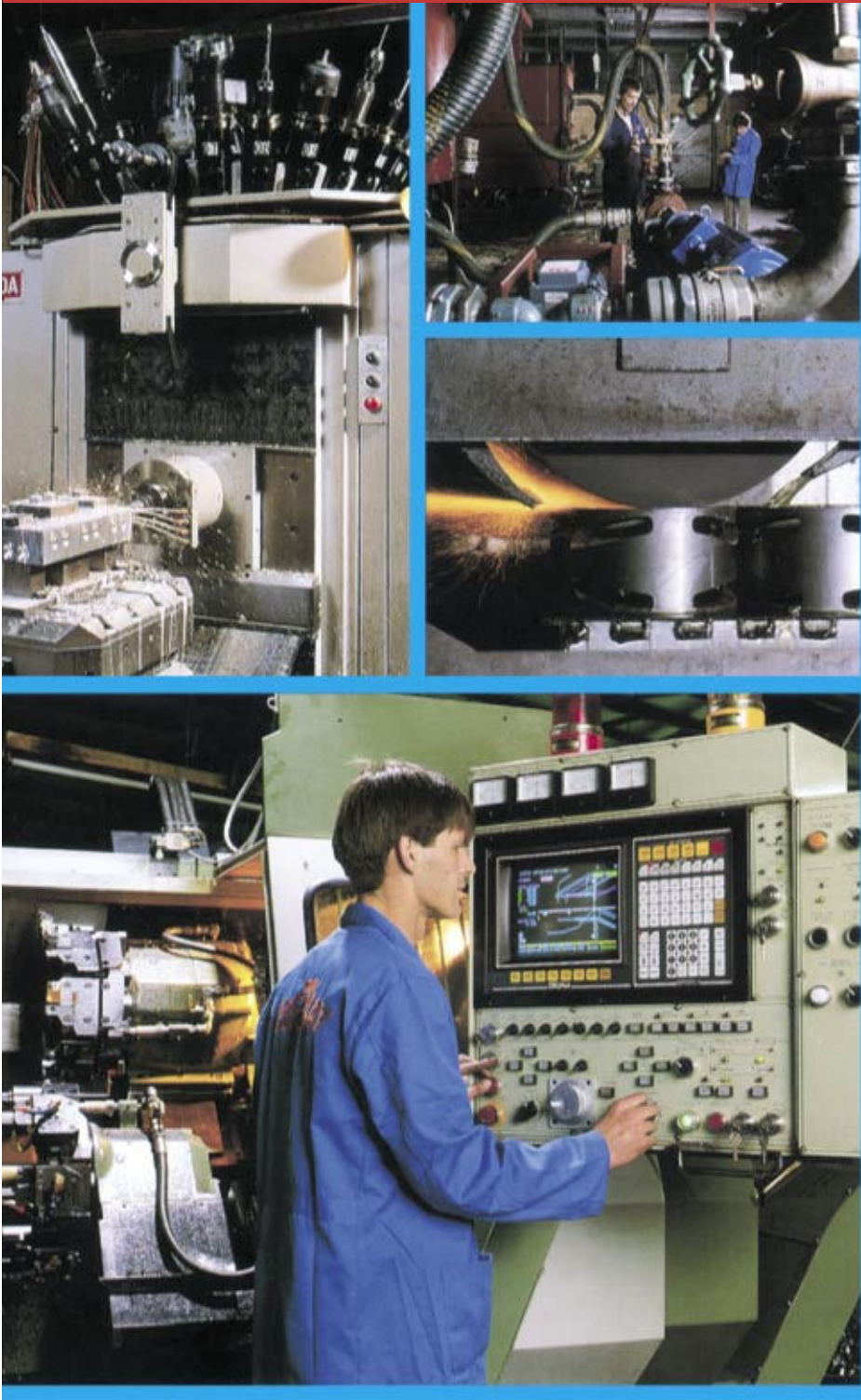


aspects in the overall process are carried out under strict management procedures and guidelines – ensuring product integrity and performance in accordance with the specifications.

Compliance with ATEX and other European (EU) Directives are also examples of the commitment Ebsray has to its expanding world markets.

Distributor Network...

Our international Distributor network is equipped to provide complete and prompt support of the complete range of our pumps. Being Ebsray-trained means the similar policies, principles and attitudes prevail that have enabled all Ebsray products to enjoy the highest reputation worldwide.



Stock / Spare Parts...

It is Ebsray's policy to manufacture most components and 'standard-build' pumps for stock, thus ensuring the fastest availability for the customer.

For correct supply of replacement pumps or any associated spare parts, accurate identification of even the oldest pumps is guaranteed by use of Ebsray's reliable and traceable pump serial number record system.

Repair and Overhaul Facilities...

To cater for the demanding needs for reliable after sales service and support, Ebsray offer a complete pump repair facility, able to react promptly to urgent requests or breakdowns.

In addition, we also repair a variety of differing pump types from other manufacturers.

R&D, Design and Manufacturing...

The latest generation analytical and machining facilities add to the resources relied upon by Ebsray's experienced in-house engineering/manufacturing team in producing only the highest quality products throughout all stages of design and production.

Customer Commitment...

Ebsray's reputation of being able to successfully apply, supply and support its range of industrial and process pumps comes down to a company-wide culture of '**Service to the Customer**'....

- **Service** through industry experience, engineering and technical support,
- **Service** through prompt and reliable supply,
- **Service** through on-going support and backup of the products supplied.
- Most of all, **Service** as a commitment to you – our customers!

Testing Facility...

Ebsray's modern pump testing facilities with liquids ranging from LPG to 10,000 cSt viscosity are equipped with sophisticated metrological equipment and software.

In addition to standard Works Testing conducted, certified and witnessed testing is available upon request including Hydrostatic, Performance and Inspection.



INTERNAL GEAR PUMPS

General Purpose application pumps utilising the renowned 'Internal Gear' principle – only two basic moving parts.

A complete range of highly efficient pumps which offer excellent self priming capabilities, quiet operation, smooth continuous flow, low shear, reversible flow, minimal maintenance and simplicity.

MD & HD SERIES

Fields of Application

Universal industrial pumps for handling the widest range of liquids for chemical, oil, food, ink, paint, paper, petrochemical, sugar, pharmaceutical and many other industries.

Constructional Features

- Mechanical seal/hydraulic packing.
- Accurate axial rotor control and adjustment.
- Heating/cooling jackets available.
- Heavy duty bearings.

E SERIES

Fields of Application

Economical, efficient and compact general purpose high speed series pumps designed for direct coupling to synchronous speed electric motors. Speeds 4-6-8 pole, 50 Hz and 60 Hz.

Constructional Features

- Mechanical seal as standard.
- Integral Pressure Relief Valve - optional.
- High efficiency.
- Precise and simple axial rotor control and adjustment.
- Rationalised range of components.

Z SERIES

Fields of Application

Low flow, general purpose industrial applications. Ideally suited for fuel oil transfer and injection processes - particularly OEM uses.

Constructional Features

- Mechanical seal/hydraulic packing.
- Integral Pressure Relief Valve - optional.
- Direct coupling to 4-6-8 pole motors.
- High efficiency.
- Robust, lightweight and compact.

- Integral relief valve - optional.
- Heavy duty design.
- Variety of porting configurations.

Materials of Construction

- Casing - Cast Iron, Ductile Iron, Steel, Stainless Steel
- Rotors - Cast Iron, Ductile Iron, Steel, Stainless Steel, Synthetic
- Shaft - High Tensile Alloy Steel, Stainless Steel
- Corrosion / abrasion resistant and special materials to specification.

Range of Performance - HD

Flows to 83 L/s
Diff. Pressures to 2,000 kPa
Viscosities to 500,000 cSt
Temperatures from -40°C to 350°C

Range of Performance - MD

Flows to 20 L/s
Diff. Pressures to 1,400kPa
Viscosities to 500,000 cSt
Temperatures from -40°C to 350°C

Materials of Construction

- Casing - Cast Iron
- Rotors - Cast Iron
- Shaft - High Tensile Alloy Steel, Stainless Steel.

Range of Performance

Flows to 11.5 L/s
Diff. Pressures to 2,000 kPa
Viscosities to 200,000 cSt
Temperatures from -20°C to 100°C

Materials of Construction

- Casing - Cast Iron.
- Rotors - Hardened Alloy Steel, Ductile Iron.
- Shaft - High Tensile Hardened Alloy Steel.

Range of Performance

Flows to 0.4 L/s
Diff. Pressures to 2,000 kPa
Viscosities to 10,000 cSt
Temperatures to 200°C



SLIDING VANE PUMPS

V SERIES

Highly efficient self priming Positive Displacement Sliding Vane Pumps, generally for low to medium viscosity lubricating and non-lubricating liquids. Designed and precision built to optimise all the advantages of the Sliding Vane Principle. Automatic compensation for vane wear assures the pump will maintain its superior priming characteristics and line stripping ability over a long service life. Smooth output flow ensures quiet operation within the NPSH range. The pumps can be direct-coupled to synchronous speed motors.

Fields of Application

Road tanker mounting or fixed installation for loading and unloading of Petroleum products such as: petrol, distillate, aviation fuels, lubricating oils, LPG, chemicals, solvents and edible oils.

Constructional Features

- Replaceable wearing components.
- Positive axial location of rotor.

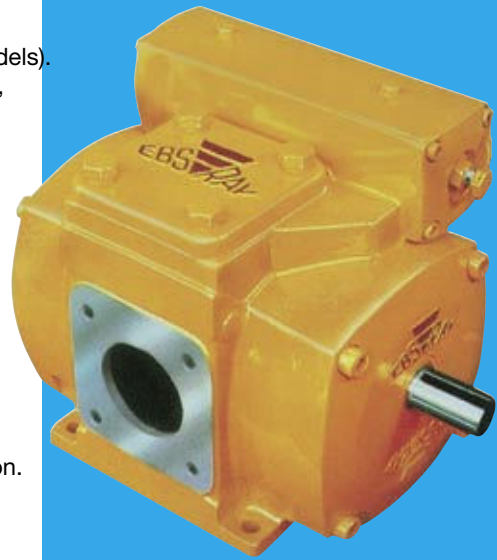
- Balanced mechanical seals, Shaft lip seals.
- Multi porting configurations.
- Double ended shaft (some models).
- Pressure Relief Valve - Integral, adjustable.
- Light weight or standard.
- Compact and robust.

Materials of Construction

- Casing - Cast Iron, Ductile Iron, Aluminium, Steel.
- Rotors - Cast Iron, Ductile Iron.
- Vanes - Synthetic, Univane.
- Liner - Cast Iron - toughened.
- Shaft - High Tensile Alloy Steel, Stainless Steel.
- Special materials to specification.

Range of Performance

Flows to 100 L/s
Diff. Pressures to 1,400 kPa
Viscosities to 10,000 cSt
Temperatures to 100°C



REGENERATIVE PUMPS

R RB RC RX SERIES

Fields of Application

Specially designed for low flow, high pressure duties on low viscosity liquids such as LPG, Propane, Butane, DME, CO₂, Anhydrous Ammonia, Boiler feed etc. Exceptional performance and reliability even under extremely low NPSH operating conditions combined with the ability to handle entrained vapours without undue loss of efficiency or internal damage. Underground, aboveground and submersible LPG pumping performance is exceptional.

CE marked, ATEX compliant

Constructional Features

(Not Applicable to all models)

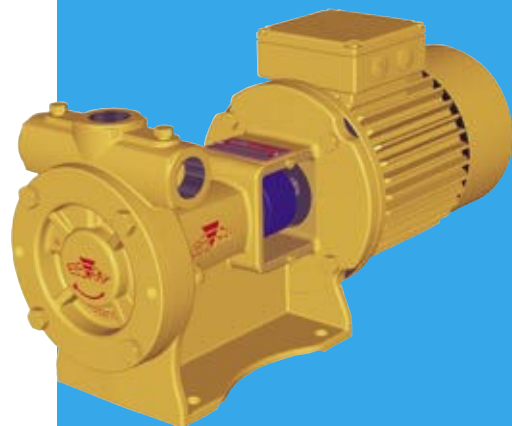
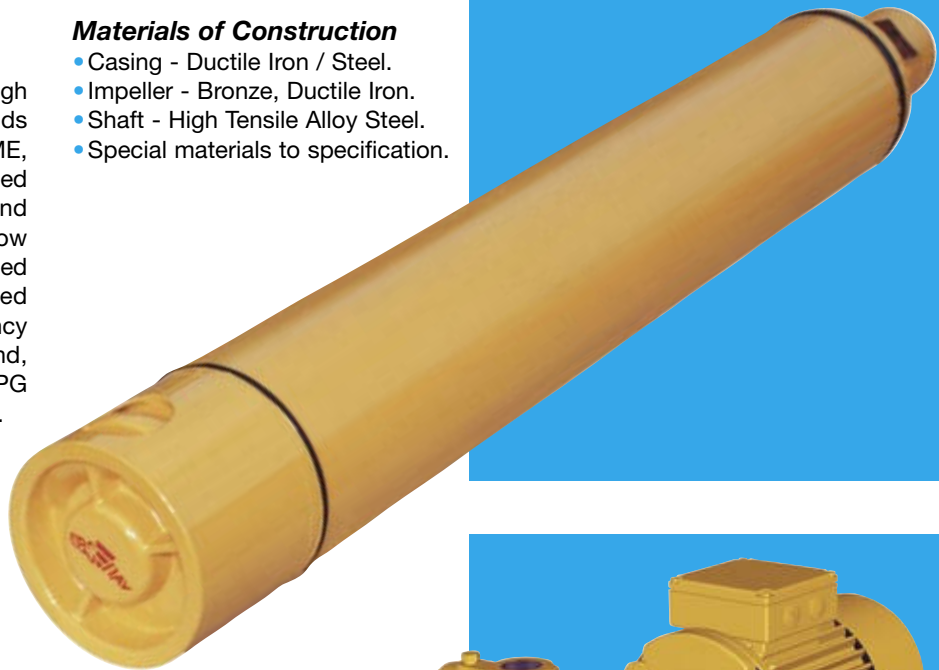
- Direct coupling to synchronous speed electric motors. 50Hz/60Hz
- Heavy duty sealed for life bearings – can accept belt drive loads.
- Self-venting robust casing design.
- Balanced mechanical seal - simple, reliable.
- Throttle bush as standard - added safety feature.
- Extremely quiet operation.

Materials of Construction

- Casing - Ductile Iron / Steel.
- Impeller - Bronze, Ductile Iron.
- Shaft - High Tensile Alloy Steel.
- Special materials to specification.

Range of Performance

(Not Applicable to all models)
Flows to 3 L/s
Heads to 300 m (3,000 kPa)
Viscosities to 50 cSt
Temperatures from -40°C to 100°C



HELICAL GEAR PUMPS

G SERIES

A robust design particularly suitable for pumping bitumen/asphalt in the toughest of environments i.e. bitumen transfer, road sprayers, tanker duties.

Constructional Features

- Internal (submersible) or external tank mounting.
- Reversible rotation.
- Helical cut gears.
- Extra heavy duty build.
- Simplicity of design.

Materials of Construction

- Casing - Cast Iron.
- Rotors - Cast Iron.
- Shaft - Extra High Tensile Alloy Steel.
- Special materials to specification.

Range of Performance

Flows to 21 L/s
Diff. Pressures to 2,000 kPa
Viscosities to 500,000 cSt
Temperatures to 350°C



LOBE PUMPS

L & T SERIES

Fields of Application

All viscous products in chemical, oil, paint, resin, petrochemical and sugar industries.

Constructional Features

- Mechanical seal/hydraulic packing.
- Heating/cooling jackets.
- Reversible rotation and flow.
- Integral relief valve - optional.
- Heavy duty design.

Materials of Construction

- Casing - Cast Iron, Steel.
- Rotors - Cast Iron, Ductile Iron.
- Shaft - High Tensile Alloy Steel, Stainless Steel.
- Special materials to specification.

Range of Performance

Flows to 83 L/s
Diff. Pressures to 2,000 kPa
Viscosities to 700,000 cSt
Temperatures from -40°C to 350°C



BYPASS VALVES

RV SERIES

In-line design Bypass/Pressure Relief Valves for a wide variety of industrial services. Adjustable differential pressure is attained for accurate and repeatable performance in return-to-tank or bypass systems. This enables full pump flow whilst maintaining controlled preset maximum pressure. Suitable for a wide range of services from LPG to bitumen. Manufactured to Australian Standards and Codes.

Constructional Features

- 90° flanged porting.
- Screwed Ports (certain models)
- Adjustable pressure setting within spring range.
- Low pressure rise.

Materials of Construction

- Casing - Cast Iron, Ductile Iron, Steel.
- Special materials to specification.

Range of Performance

Flows to 40 L/s
Diff. Pressures to 2,000 kPa
Temperatures from -40°C to 350°C



PFM SYSTEM EQUIPMENT (Pressure and Flow Modulating)

For applications in pumping systems which demand accurate and repeatable Constant Pressure Control (CPC) or Flow Modulation/Control irrespective of changes in product viscosity.

Constructional Features

- In-line or Integral (pump mounted) types available.
- Simple design, instantaneous response, smooth vibration-free operation.
- Pneumatic or hydraulic operation.
- Manual, Automatic or PLC controlled.

- Local or remote control to suit application.

Materials of Construction

- Casing - Ductile Iron or Cast Steel.
- Internals - Cast Iron / Steel.
- Elastomers - Nitrile / Viton.
- Piston Seals - PTFE.

Range of performance

Flows to 50 L/s
Viscosities to 500,000 cSt
Pressures to 1,850 kPa
Temperatures to 150°C



INTERNALLY GEAR TIMED LOBE PUMPS

Fields of Application

Chemical, food, dairy, meat, pharmaceutical, cosmetics, confectionery, wine, bakery and other process industries.

Constructional Features

- Trilobe, bilobe or bladed rotors.
- Mechanical seals/packed glands.
- Non contact rotating pumping elements.
- Reversible flow.
- Helical external timing gears.
- Heating/cooling jackets.
- Horizontal and vertical porting.
- Heavy duty shaft and bearings.

- Pressure relief valve - optional.
- Replacement rotors may be fitted without other adjustments being necessary.

Materials of Construction

- Casing - AISI 316 Stainless.
- Rotors - AISI 316 Stainless.
- Shaft - AISI 316 Stainless.

Range of Performance

Flows to 41 L/s
Diff. Pressures to 2,000 kPa
Viscosities to 110,000 cSt
Temperatures to 200°C



FILTERS – STRAINERS

F SERIES

A range of extremely low pressure drop in-line suction strainers for use in a wide variety of industrial applications in the Petroleum Industry. For pump protection in road/rail tanker unloading/loading of petrol, distillate, heating oil, bitumen, fuel oil etc.

Constructional Features

- Fabricated steel for safety.
- Simplicity of design.

- Ease of maintenance.
- Flanged connections.
- Drain connection fitted.

Materials of Construction

- Casing - Steel.
- Element - Steel.
- Special materials to specification.

Range of Performance

Flows to 90 L/s
Temperatures to 350°C



VERTICAL TURBINE HYDROCARBON PUMPS

HC SERIES

The Ebsray 'TurboMaster' range is a Series of mixed flow vertical turbine centrifugal pumps exhibiting low NPSH characteristics for in-tank mounting.

Fields of Application

Hydrocarbon services, petroleum terminals and depots, tanker and barge unloading/loading, aviation.

Constructional Features

- Fully shrouded mixed flow design impellers.
- ISO flanged motor connection.

- Throttle bush – meets API 610.
- Vented Mechanical Seal – easily accessible.
- Heavy duty thrust bearing.

Materials of Construction

- Discharge Head - Ductile Iron.
- Pump Shaft - Stainless Steel.
- Impellers - Bronze, Niresist.
- Bowls - Cast Iron, Ductile Iron.
- Special materials to specification.

Range of Performance

Flows to 55 L/s
Heads to 350 m
Temperature to 100°C



BASEPLATES

Ebsray designs and manufactures standard and special Baseplates complying with API 676 or other standards and specifications as required.

Ebsray engineered Baseplates are fabricated to exacting requirements and machined to precise tolerances ensuring accurate alignment of pump, driver, transmission, etc.

Materials of Construction

Cast Iron, Fabricated Steel, Stainless Steel, Aluminium.

Specifications

Ebsray standard, API 676, API 610 and custom baseplates to suit customer requirements.

BITUMEN SPRAYING EQUIPMENT

SB SERIES SPRAYBARS



Range of Performance / Size

Flows to 1500 L/m

Lengths to 8 m (78 taps)

Fields of application

Ebsray manufactures a range of engineered Spraybars (Previously called "Continental Spraybars") for all grades of bitumen, cutback, emulsion, etc. which feature internal product recirculation operation for truck or trailer mounting in the toughest road spraying environments. Spraybars are used in conjunction with Ebsray's range of purpose built heavy duty bitumen pumps - either internally tank mounted or externally on tanker.

Constructional/Operational Features

- Recirculation system for liquid temperature maintenance eliminates tap blockages.
- Environmental requirements met by eliminating the need to 'dump' product during cleaning operations – no blowing required.
- Cleaning procedures greatly simplified. Modular construction to suit a variety of configurations, bar lengths, capacities, etc.
- Zero leak precision taps incorporating spindle 'O' rings for positive sealing, eliminating tap lock-up, and allowing low torque actuation.
- Accurate spraybar alignment with machined flanges and extension connections.
- Custom design (if required) to suit unique installations and applications.

CENTRIFUGAL PUMPS

Ebsray "Streamline" pumps are designed to International Standard DIN 24255 featuring Back Pull Out (BPO) construction. This range has 33 models with grease lubricated bearings and an option of oil lubricated bearings on certain high speed models.

The range covers both 2 and 4 pole speeds for 50 Hz and 60 Hz operation.

Pumps to other Standards e.g. ISO, ANSI, etc. are also available.



Ebsray also offer the following specialised services

- Pumping Advisory Service – Aided by the latest fluid flow/hydraulics computer software, our experienced Application Engineers can assist in your system design and resolution of pumping problems.

REPAIRS/SERVICE FACILITY

- Complete pump maintenance and repair service for most types/brands of industrial/process pumps.
- Pump Test Facility for LPG to high viscosity products.

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

EBS-RAY PUMPS PTY. LIMITED

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AIR OPERATED DIAPHRAGM PUMPS

Ebsray stocks and services Air Operated Diaphragm Pumps supplied by the world's leading manufacturers of AOD Pumps.

An engineered range of robust, quiet and economical Air Operated Double Diaphragm Pumps in sizes from 6 mm to 75 mm (1/4" to 3")



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