

Dynapumps

DYNAMIC PUMP SOLUTIONS

Vacuum & Pressure Pump Specialist

Tel: 1300 788 579 • Fax: 1300 799 139



ROTARY VANE

DIAPHRAGM

LIQUID RING

TURBOMOLECULAR



CLAW TYPE

DIFFUSION

BLOWERS

FREEZE DRYERS



VACUUM LIFTING



Water Treatment

Waste Water Treatment

Mining

Packaging

Hospitals

Food processing

Plastic Manufacturing

Chemical Manufacture

Petro Chemical

Pharmaceutical

Quality



Safety



Environment



Design



Testing



Service



Repairs



Since our inception in 1981 Dynapumps mission has been to supply high quality, recognised brands to our clients as a packaged product to your specifications and to give you excellent after sales service and spares.

We specialise in the design and supply of complete vacuum systems to suit your needs.

We can incorporate pumps, vacuum vessels, filters, knock out pots, silencers, valves, controls and installation when required. Once built, we perform full functional testing to ensure you are happy with the job.



Australia Wide

We have branches in Perth, Melbourne, Sydney and Brisbane.

All offices can supply the complete range of the Dynapumps products.

We have a team of engineers who can provide technical back up for all offices as well as a large manufacturing base for standard pump products and vacuum systems.

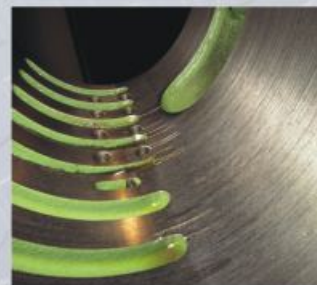


Programmed Maintenance

Our service staff are able to arrange fixed price, programmed service and maintenance calls to your site to take the worry out of maintaining your equipment.

We are able to monitor the condition of your pumps and provide you with a report that notes any problems that are evident or that might be expected in the future.

Call us to arrange a free pump audit so you can assess your pumping plant status.



Rotary vane pump cylinder showing score marks.

Guaranteed Repairs & Hire Pumps

When you send your pumps to Dynapumps for repair we know you want them be "just like new" so we repair them to the manufacturer's standards and test them before we return them to you.

If we can't repair them to "like new" condition we will let you know what options you have and provide a full report on their condition.

Once they are tested we paint them and ship them back to you as quickly as possible.

We have hire pumps available so your whole plant is not shut down.

All the products and services depicted in this brochure were available at the time of printing however please consult Dynapumps for the latest information.

Liquid Ring Vacuum Pumps

Close Coupled & Bare Shaft Pumps

Liquid ring vacuum pumps, single and two stage type with special valve design for high vacuum. The main features are that of simplicity and robustness. Other features include:

- high reliability
- the possibility to handle almost any gas and vapour (even with liquid carry over residuals)
- low maintenance
- oil free operation
- low vibrations
- silent running



| TYPE | Q M³/h Max | P (mbar) |
|----------------------|----------------|-------------|
| Close coupled pumps | 9 ~ 480 | 33 |
| Bare shaft pumps | 400 ~ 1950 | 33 |
| Bare shaft pumps | 2,500 ~ 30,000 | 33 |
| Two stage pumps | 18 ~ 3,150 | 25 |
| Lined chemical pumps | 20 ~ 400 | 33 |
| Magnetic drive pumps | 15 ~ 800 | 33 |
| Titanium pumps | 20 ~ 400 | 33 |

Vacuum Systems

MAXIMUM PRODUCTIVITY

Suitable for heavy duty applications, they can continuously separate and tolerate accidental carry over of dust and liquid.

Oil re-circulation systems have low maintenance costs and can operate for 10,000 hours without any oil replacement.



Mining & Industrial

Alumina Refinery Filter Vacuum Pumps

Ten (10) Liquid Ring Vacuum Pumps were fully assembled at our W.A. factory by our manufacturing team.

Using 315 kW motors, these have been the largest vacuum pumps Dynapumps have supplied to date and weighed over 10 tonne each.



**Central Vacuum
Systems**

De-aeration

Impregnation

**Condenser
Exhausting**

Distillation

Sterilization

Drying systems

Vapour Recovery

Filtration

Pump Priming

De-Gasification

Plastic Extrusion

Evaporation

Vacuum Packaging

Fish Cleaning

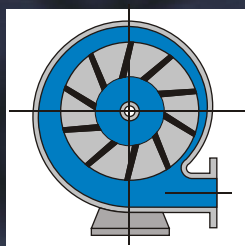
Rotary Vane Pumps & Compressors

Dry & Oil Flooded Rotary Vane

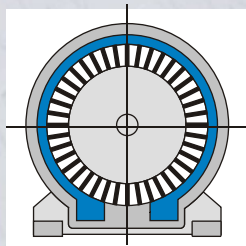
This design is used for industrial applications at coarse and fine vacuum. The increased ability of these smooth running pumps offers high efficiencies and silent running.



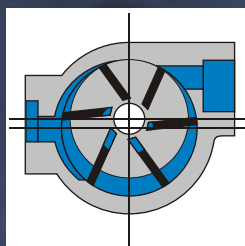
| TYPE | Q M ³ /h Max | P (mbar) |
|------------------|----------------------------|-------------|
| Rotary Vane Mini | 9 ~ 480 | 2.0 |
| Rotary Vane | 400 ~ 1950 | 0.5 |
| Claw Type | 60 ~ 600 | 150 |



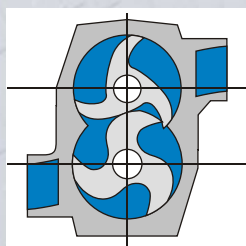
radial



side channel



rotary vane



claw

Side Channel Blower

Transforms flow energy into pressure energy. The side channel design is suited for applications that require both pressure and vacuum with high flows.

Diaphragm Pumps & Compressors

Dynapumps provides diaphragm pump and or compressor solutions to serve a variety of applications and environments for smaller flows.

Claw Vacuum Pumps

Operates through the principle of static compression by internal volume reduction. This design gives extremely good operational possibilities and a high efficiency dry pump.



Small Specialty Vacuum Pumps

Medical

Environmental

Laboratory

Oil-free pumps and compressors

Our product range includes WOB-L and articulated piston, linear, diaphragm, rotary vane, peristaltic and liquid technologies. We can offer custom-built solutions to meet or exceed your requirements.

Flows up to 365 l/min (22 m³/h)



Positive Displacement Blowers

There are many applications which require compressed air and listed below are some of the most common ones:

- Aeration of liquids in water treatment plants
- To convey powders, flours and similar materials
- To convey gases and/or vapours in chemical processes, in food processes and the beverage industry
- To convey natural gases at low pressure and to transfer them in gas distribution systems
- To dry out materials or to condition agricultural products
- For any kind of pneumatic transport of materials



Three-Lobe positive displacement blowers equipped with a patented pulsation and vibration dampener. They are available in many sizes, in bare shaft version or assembled package units with ventilated noise enclosure specifically designed for outdoor installation.

**Flows from 50 – 2300 m³/h
Pressures up to 1000 mbar**



Aeration of liquids

Powders

Chemical gases

**Low pressure
natural gases**

Drying

**All pneumatic
transport**

Industrial & Scientific

Dry Pumps

Dry Pumps are a very robust pump, utilising reverse claw mechanism. They have a short, high conductance gas path, making them an ideal pump where moisture and dust are in the gas stream. This provides:

- Increased Performance with up to 30-40% faster cycle times
- Reduced Maintenance cost
- Elimination of pollution as there is no oil, steam or water in the process volume



Products

Dry Pumps & Systems
Scroll Pumps
Leak Detectors
Measurement and Control
Oil-sealed Pumps
Turbomolecular Pumps
Valves, Fittings and Oils
Diffusion Pumps
Sputter Ion Pumps
Cryogenic Heads
Thin Film Coating
High Vacuum & Ultra High Vacuum

Heat Treatment

**Melting, Casting
Metallurgy**

Coating

**Food Processing
& Packaging**

General Industrial

**Printing & Paper
Handling**

Materials Handling

Central Vacuum

**Drying &
Impregnation**

**Gas Recovery,
Recirculation**

Degassing

**Display &
IT Devices**

Semiconductor

**Compound
Semiconductor**

Nanotechnology

Process Vacuum

Industrial Vacuum

Thin Film Coating

**Scientific
Instruments**

**Pressure /
Environmental**

Scientific Pumps & Accessories

Rotary Vane High Vacuum Pumps

RV pumps are unique in their ability to being able to deliver high or low throughputs with ultimate high vacuum. When combined with ultra low noise levels, makes them the ideal pump for a wide range of applications and environments.



Vacuum Lifting

Dynapumps can supply a wide range of standard and custom vacuum lifters that provide material handling solutions for all applications.

**Material Handling
Equipment**

**Specialized
Handling Equipment**

**Worksite
Attachments**

**Vacuum Tilter
& Rotators**

**Industry Specific
Lifters**

**Vacuum Tube
Lifters**

**Self Powered
Battery Lifters**

**Associated Lifting
Equipment**



We offer a full range of vacuum system components, from suction cups, air, mechanical and electric vacuum pumps and vacuum generators, vacuum gauges, and ergonomic vacuum lifters, to complete vacuum lifting systems. Dynapumps manufactures the complete system and can arrange for easy installation and commissioning.

Vacuum Systems for Industry

A Dynapumps-designed vacuum sweeper for a brick factory eliminated the need for manual dust removal and improved safety in the plant.

Dynapumps can design and build systems to meet your needs and specifications.

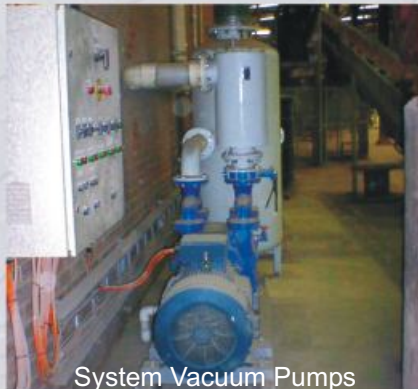
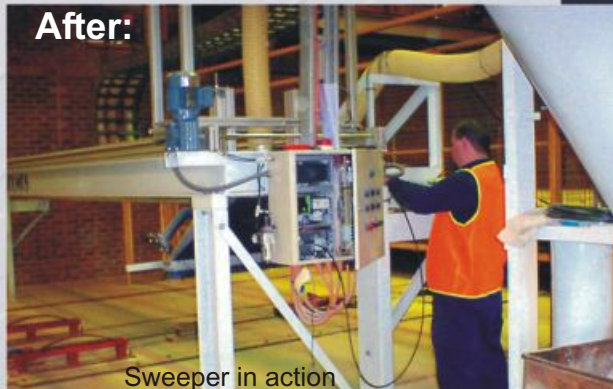
Our team of Engineers work within our ISO 9001 Quality System to provide peace of mind for you.

Vacuum sweeping

Before:



After:



System Vacuum Pumps



Odour Control

Liquid ring compressors are used for aeration in a metropolitan sewage treatment plant to remove noxious odours.

The pumps are fitted with 45kW Ex'd motors for use in a hazardous area.

Sewage treatment

Vacuum Systems for Holding and Forming

Vacuum is used to hold wood, metal and plastics for forming and shaping with either individual vacuum pumps or by using a central vacuum system.

Typical industries are cabinet makers, joineries and laser cutting for metal or plastic.

Holding And Forming



Vacuum Systems for Hospitals & Universities



Hospitals depend on 24 hour availability for their vacuum systems and Dynapumps are able to provide high quality systems to meet the Australian Standard. Before we build the system, we ask you to approve the General Arrangement Drawing. A duty and standby pump plus Dynapumps programmed servicing ensures round the clock reliability.

24 hour reliability

Central Vacuum Systems to Your Design

Instead of having many small pumps, central vacuum systems with larger pumps can reduce maintenance and downtime. Dynapumps build them to enable plug and play installation saving time and money for you. Such systems are supplied for:

- Hospitals and Dental Surgeries
- Universities & Laboratories
- Research & Development Industry
- Vacuum Bagging Systems
- Plastic Extrusion & Moulding Systems
- Cabinet Making & Wood Working



Programmed Maintenance for Vacuum Systems

Programmed maintenance is provided for hospital vacuum systems, printing presses, food processing and general industries within the metropolitan area and selected country locations.

Our OHS system ensures that Job Safety Analysis (JSA) reports are prepared before we start work to ensure that your company and our employees are safely cared for.

Programmed Maintenance



Vacuum Systems for Mining

Pan Filter Vacuum Pump

Application

To capture and collect filtrate removed from gold sludge in a vacuum pan.

Process

The vacuum pump is used to initially evacuate the filtrate receiver (tall vessel in picture), which in turn provides a negative pressure at the pan filter. The pump remains running during this process.

Filtrate is drawn through the pan filter and into the filtrate receiver. The filtrate level in the vessel rises during operation until a high level alarm sounds to alert the operator or shut down the vacuum pump motor. The collected filtrate is drained from the receiver after the pressure in the vessel is returned to atmospheric.



Automatic Vacuum Priming System for Process Water Pumps comprising:

316SS Liquid Ring Vacuum Pump

316SS Level Switch & Reservoir

Control panel with digital output for "system primed" indication

Internal piping and cabling

Vacuum Systems for Oil & Gas

Gas Pipeline Drying

Rotary vane pumps coupled to a roots type blower are used to remove water and water vapour from within oil & gas pipelines after they have been hydrostatically tested.

The vertical knock out pot collects the water and the water vapour is boiled off.

Dynapumps can design and build the skids complete with weld and lifting lug certification to comply with the strict offshore conditions in the oil and gas industry.

Our service staff have undertaken HUET (helicopter & underwater emergency training) and can be mobilised for quick offshore and onshore service and repair work.

Soil Remediation System

One of eight (8) claw type vacuum pump skids for a soil remediation system, at a Western Australian oil refinery. This vapour recovery system was designed with a knock out pot, activated carbon filter, flame arrester, pressure relief valves and flare pipe.



Vacuum Pump Service & Repairs

Save money and minimise downtime

Dynapumps has a dedicated team of experienced fitters in our service and repair facilities. If you do run into problems, we can get your business back on track as soon as possible. With service centres in Perth, Sydney, Melbourne and Brisbane, we offer you qualified advice, installation and commissioning and fast turnaround on spares and repairs. Another way you can save money is by having regular services on your machine. This is the best way to prolong the life of your equipment and avoid production downtime. Take advantage of Dynapumps on site pump surveys and programmed maintenance:

- routine contracts (after hours if required)
- a range of hire pumps
- all repairs fully tested and guaranteed
- repairs to all makes and models

Spare Parts when you need them

Dynapumps stocks spare parts to ensure we can get your machine working again. Call our Customer Service Department for prompt quotations and quick deliveries.

Commitment to safety

Dynapumps has a test facility to ensure no contamination enters the pumps. Decontamination is carried out on toxic pumps and Job Safety Analysis is performed to ensure safety for your staff and our service people.

Programmed On-Site Maintenance Contracts

Dynapumps not only builds the vacuum system but we back this up by providing on site maintenance.

We can provide a fixed price contract to maintain your equipment in good working condition within the metropolitan area and selected country locations.

Because we care about your safety and ours a Job Safety Analysis (JSA) report is prepared for your approval before we start work.

A standard checklist is used to ensure all items are covered during the maintenance check and a copy of the report is mailed to you for your records



Dynapumps
DYNAMIC PUMP SOLUTIONS
VACUUM PUMP CHECK LIST

| COMMISSION | | SERVICE | | PUMP No |
|-----------------|--|-------------|--|---------|
| CLIENT: | | CONTACT: | | |
| PUMP MAKE: | | DATE: | | |
| PUMP MODEL: | | SERIAL No: | | |
| SERVICE PERSON: | | SIGNED OFF: | | |

| ITEM | ACTION | | | |
|-----------------|----------------|--------------------|---------------|-----------------|
| | BEFORE SERVICE | SINCE LAST SERVICE | AFTER SERVICE | CURRENT READING |
| COMMISSION | | | | |
| ENVIRONMENT | | | | |
| OIL | | | | |
| POWER | | | | |
| RUN | | | | |
| HOURLY METER | | | | |
| READING | | | | |
| HOURS RUN | | | | |
| OIL LEVEL | | | | |
| OIL CONDITION | | | | |
| OIL FILTER | | | | |
| INLET SCREEN | | | | |
| EXHAUST FILTERS | | | | |
| TEMP deg C | | | | |
| END VACUUM | | | | |
| OIL LEAKS | | | | |
| GEN. CONDITION | | | | |

WORK CARRIED OUT / ACTION REQUIRED

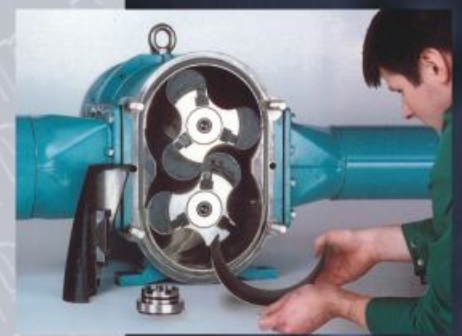
NEXT SERVICE

Pressure Pumps

We also supply a huge range of pressure pumps for mining, chemical, oil & gas, fire pumps and general industry.



Pressure Pumps for
Mining
Chemical
Oil & Gas
Fire Pumps
General Industry



Handy Vacuum & Pressure Conversions

Pressure

| | Pa (N/m ²) | kpa | bar | mbar | Torr (mm/hg) | psi |
|--------------------------|------------------------|--------|--------------------|-------|----------------------|-----------------------|
| 1 Pa (N/m ²) | 1 | 0.001 | 1x10 ⁻⁵ | 0.01 | 7.5x10 ⁻³ | 1.45x10 ⁻⁴ |
| 1 kpa | 1000 | 1 | 0.01 | 10 | 7.5 | 0.145 |
| 1 bar | 1x10 ⁵ | 100 | 1 | 1000 | 7.5x10 ² | 14.5 |
| 1 mbar | 100 | 0.1 | 0.001 | 1 | 0.75 | 0.0145 |
| 1 Torr (mm/hg) | 133.3 | 0.1333 | 0.00133 | 1.333 | 1 | 0.01934 |
| 1 psi | 6895 | 6.895 | 0.06895 | 68.95 | 51.71 | 1 |

Pumping Speed

| | m ³ /h | l/min | l/sec | cfm |
|---------------------|-------------------|--------|--------|--------|
| 1 m ³ /h | 1 | 16.667 | 0.278 | 0.589 |
| 1 l/min | 0.060 | 1 | 0.0167 | 0.0353 |
| 1 l/sec | 3.60 | 60 | 1 | 2.119 |
| 1 cfm | 1.699 | 28.32 | 0.472 | 1 |

Ranges of Vacuum

| | mbar | Pa |
|-------------------|---|---------------|
| Low Vacuum | 1013~1mbar | 100 kPa~100pa |
| Medium Vacuum | 1mbar~10 ⁻³ mbar | 100pa~0.1pa |
| High Vacuum | 10 ⁻³ mbar~10 ⁻⁷ mbar | 0.1pa~10upa |
| Ultra High Vacuum | 10 ⁻⁷ mbar~Less | 10upa~Less |

Pressure Terms

Absolute Pressure

Is the pressure above absolute zero, and equal to the barometric pressure plus the gauge pressure.

Barometric Pressure

Is the atmospheric pressure at the altitude where it is measured.

Gauge Pressure

Is the pressure measured by a gauge and is the pressure above atmospheric pressure at the altitude being considered.

Vacuum

Is any pressure below atmospheric, i.e. a negative gauge pressure.