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B-BBEE LEVEL 2 OFFICIALLY CERTIFIED

Introduction:

Since 2007, Process Vacuum has strived to supply our clients with the best possible service and products. Our products range from rough vacuum to ultra-high vacuum in every industry where vacuum is needed. Industries that we service include: Mining, Petro-chemical, Agri-culture, Scientific research, Smelters, power stations etc.

Our highly experienced team of specialists has over 120 years of combined experience to assist with any queries or questions, or obstacles you might have.

CE

ISO 9001:2015

Some of our clients

ANDRITZ, MINOPEX, vedanta, Metso, sasol reaching new frontiers, ingrain, AngloAmerican, mpact, ENGIE, DRA, jord proxa future focused, FOSKOR, pmc PALABORA MINING COMPANY, sappi Inspired by life, Botswana Ash (Pty) Ltd, MEDICLINIC, HASLER GROUP, ArdaghGroup, exxaro POWERING POSSIBILITY, IMPALA PLATINUM

Introduction and History

BOC Edwards as a part of BOC Limited U.K. appointed Process Vacuum on November 26th, 2006 as their sole representative in the South African process industry. Process Vacuum was formed and started trading on March 1, 2007 with many years' experiences as management having worked in the vacuum industry since 1986.

Understanding the various aspects of vacuum is critical as the vacuum system is in many cases the heart of the operation. Having equipment incorrectly sized due to insufficient system understanding and technical knowledge can result in huge costs to the end user. Process Vacuum is not a pump manufacturer but is a Vacuum/Compressor system specialist. We pride ourselves in our technical ability, vacuum, and system knowledge. Technical on-site back-up is another advantage as problem solving and commissioning is conducted worldwide. Process Vacuum personnel including Directors have assisted in areas from Botswana to Ghana, Germany, Norway, Spain, Namibia, Sierra Leone, Zambia, France, and DRC.

ISO 9001 was implemented in 2008, currently 9001:2015 and the CE certification was awarded in 2016 by SGS UK. Having successfully completed projects on time within budget in the Petrochemical and Filtration industries, Process Vacuum demonstrated the ability to comply with very stringent specifications and requirements.

Product overview

Process Vacuum specializes in vacuum and compressor systems for various industries and applications – Our product range of vacuum solutions and technologies are unique, allowing us to tailor the right solution to your needs. From steam ejectors and liquid ring vacuum pumps, to dry pumps and mechanical boosters.

Our liquid ring vacuum pump range varies from 10 m^3/hr up to 54,000 m^3/hr, vacua 33 mbar. Systems are available in Cast Iron, Stainless Steel, Bronze and internally coated.
Dry vacuum units are available with capacities from 80 to 4200 m^3/hr.
Double ended screw dry vacuum pumps with capacities up to 1000 m^3/hr.
Rotary vane oil pumps up to 300 m^3/hr.

Viability of the products and service

Process Vacuum ensures a comprehensive service which is based on in-depth knowledge of your industry and applications. The expertise is held in our highly focused applications team; a central applications group and a regional network of applications specialists.

Products and repairs completed carry a manufacturing warranty; and performance guarantees are also issued subject to client requirements.

From large pumps, compressors, steam and water ejectors for Power Plant Vacuum Systems,



To the most advanced Chemical Dry Pump Technologies available.



Extremely large liquid ring work horses for the paper and mining industry to very small rotary vane oil filled high vacuum units for industrial applications. Automatic ladle gas coupling systems for safety compliance and mechanical steel degassing systems.

Projects completed includes large liquid ring vacuum pumps for horizontal vacuum belt filters, drum filters, disk filters and pan filters with suction capacities up to 38,000 m^3/hr.



Systems in various materials including C.S. internally ceramic coated and 316L S.S. have been shipped to Asia, Russia, Australia, Europe, United Kingdom, Africa, and South America.









Large Mining units.



FGD units for a power plant.



A biogas compressor package was built for a local client (Petrochemical) which complied with very strict requirements. The unit was successfully commissioned early 2014.







27,000 m^3/hr liquid ring vacuum pump supplied to the Paper Industry.



Significant products and service

The Directors of Process Vacuum have been actively involved in the vacuum industry since 1986 and have extensive experience and system knowledge.

Our product range includes:

1. Liquid ring vacuum pump and compressor systems, flat sided and conical.
2. Chemical dry pump systems, including mechanical boosters dependent on requirements.
3. Ejector systems.
4. Steel degassing systems for the steel industry as well as Argon hook-ups.
5. Rotary vane oil filled high vacuum pumps.

Bareshaft pumps/compressors are imported from various suppliers. Each system is sized and designed by Process Vacuum using Autocad and Inventor software based on the customers' requirements. Packages are built at our Henley on Klip factory and shipped to site.

Airtec Rotary Vane Pumps

Airtec Rotary vane oil pumps are available from 10 - 300 m^3/hr reaching ultimate suction pressures of 0.1 mbara. Rotary vane pumps are also repaired and tested at our Henley on Klip factory.
Typical users – chemical & medical laboratories, universities, hospitals, packaging, refrigeration.







Edwards High vacuum rotary vane & chemical dry pumps

Edwards rotary vane pump from 0.9 to 178 m^3/hr, ultimate pressure 1.0 X 10^{-3} mbar.
Chemical dry pumps, claw and screw.
Mechanical boosters, dry pump booster combinations.





Services offered - Coatings

New and repair units which require internal coatings are stripped and shot blasted (in-house), pre-machined (in-house) prior to the coating application and then final machined to ensure drawing requirements are met.

Our recommended coating is a Chesterton ceramic coating. Various coating is available dependent on the process conditions.

Coatings are available for erosion damage. Parts are pre-machined; coating is applied 5 – 8mm thick and machined back to drawing size.

Corrosion coatings are brush applied and vary from 750 microns upwards. Please see samples.

Repairs

Port plated and conical liquid ring pumps are repaired at our Henley on Klip factory where pumps are brought back within drawing requirements to ensure efficiency.

All repair pumps are performance tested prior to despatch. A detailed data book including photographs of parts prior to and after coatings etc is issued for all repair units to enable our client to monitor the work completed. Various repair options are available dependent on the customer requirements and application.

Detailed QCP attached which details all the steps and processes.















On site performance testing & Vacuum system surveys

On site vacuum performance tests are conducted as well as vacuum system surveys. Having specific information available on the system, i.e., P&ID paper machine, filter sizing etc; a detailed report is completed based on results from the testing and survey to improve the existing vacuum system.

Commissioning and trouble shooting

Technical personnel are available at short notice to assist with on-site trouble shooting and commissioning anywhere in the world (subject to safety of personnel).

Market sectors and applications

Market sectors where our products and systems have been installed include:

Mining	: Filtration – Belt, drum, disc and pan filters
Chemical / Petrochemical / Pharmaceutical	: Drying, degassing, deodorising, distillation, reactor service, solvent recovery, polymerisation, evaporation, crystallization, corrosive gases, oil treatment, flammable gases, filtration
Paper	: Dewatering
Power	: Condenser Air Extraction (CAE), Flue Gas Desulphurisation (FGD), Turbine gland exhausting, fly ash handling, vacuum de-aeration
Food	: Packaging, processing, drying, edible oil
Steel Plants	: Steel degassing, Argon hook-ups
Waste water	: Liquid ring compressors
Biofuels	: Liquid ring compressors

Competitive advantage

Process Vacuum has an edge regarding understanding and supplying vacuum systems, and having access to the best liquid ring vacuum pump manufacturers in the world allows us to provide reliable solutions and to support.
We understand the important things –

- Performance
- Low maintenance
- Low cost of ownership
- Simple to use
- Safety
- System experience

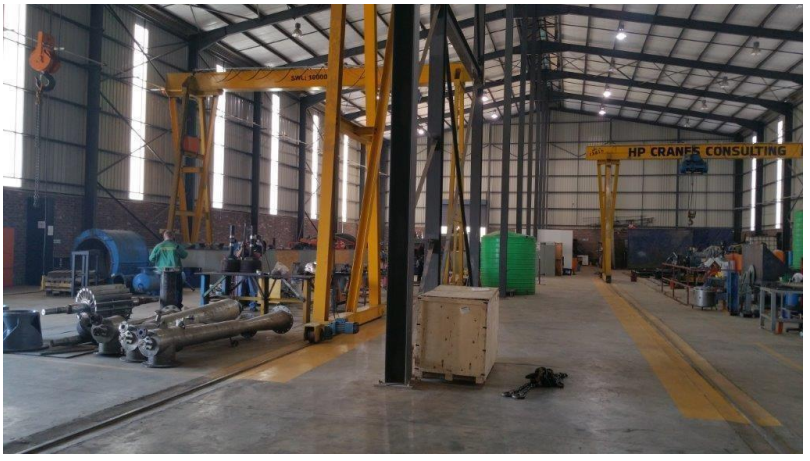
Customer base

Process Vacuum operates globally and have units installed in Asia, South America Chile, Brazil, Australia, Norway, UK, Germany, France, Russia, New Zealand, USA, Canada. Major clients include EPC's locally and overseas.

Factory

December 2015 Process Vacuum moved into their own factory of 2500m^2. Five cranes were installed ranging from 10, 15 and 20T. Five testbeds were installed with the largest unit being an 800HP engine which will enable us to performance test very large vacuum pumps. A custom designed testbed was also completed to performance test filtrate receiver/extraction pumps. A totally computerized testing facility is currently being installed.









Vacuum Filtrate/Extraction Pumps

The receiver mounted filtrate pump is designed to be mounted directly onto the receiver and operates under vacuum conditions. They are continuously self-priming and eliminate the usual concern of NPSH conditions. They operate from a trickle to full capacity.

Materials of construction:

1. Carbon steel with 27% Chrome impellers.
2. SS316L
3. Duplex CD4MCu
4. Carbon steel internally coated.

PERFORMANCE

a) Capacity range	0 – 420 m^3/hr
b) Head	10 - 40 m

Models

40-230
50-230
80-230
100-230
125-230











MINING SURFACE & UNDERGROUND VACUUM CLEANING SYSTEMS

The Recovac L series is an electrically powered industrial vacuum cleaner mounted onto a rugged frame with retractable legs. These units are ideal for plant maintenance and are designed to fit the customer's requirements. The unit can be used as a fixed system or could be moved around with a forklift to collect material and discharge into skip bins or big bags.

- Rugged design
- Automatic or manual discharge valve operation
- Filter system to handle wet and moist materials
- Filter cleaning system without compressed air
- Electrically driven 380 V / 525 V
- Control panel with Stop/Start
- Retractable legs that could be adjusted for skip bins on bags
- Different filter options
- 0.5 to 1.0m³ Collection bin
- Separate hopper/collecting bins

It can be used for various industrial cleaning applications like cleaning factory surface areas, spills, collection of valuable products in skips or big bags and general maintenance.

Suitable for the following industries

Surface cleaning, Shot blasting, Aluminium, Magnetite, Gypsum, Fertilizers, Cement,
Lime, Graphite, Coal, Phosphate, Shot, Plastics, Maize, Corn, Soya beans, Sugar etc.
Food industry, Steel mills, Foundries, Mines, Pulp and paper, Power stations, Saw mills, Bakeries,
Plastic etc.

Recovac L1




GAS & WELDING
EQUIPMENT
Proudly Made
In South Africa


Process Vacuum
Future vacuum solutions now
Represented by

RecoVac L2

Central system & Underground mining units









Recovac C4 commissioned

Industrial Vacuum Trailer

The diesel power vacuum unit can be mounted on a trailer, tractor trailer or truck chassis. These units are ideal for plant maintenance and are designed to fit the customer's requirements. The unit can be connected to fixed pipework to operate as a central vacuum unit or single vacuum unit using pipes from 3" - 5 ".

- Rugged design
- Vacuum unit (up to 80 % vacuum)
- Filter system to handle wet and dry materials
- Filter cleaning system without compressed air
- Diesel engine
  Collection bin (various sizes 0.5m^3 up to 2 m^3)
- Additional free-standing cyclones of various sizes

It can be used for various industrial cleaning applications like cleaning out deep pits, spills under conveyors, cleaning of trenches, collection of valuable product and general plant maintenance. The unit is also ideal for Urban Search and Rescue as it is compact, easy to operate and various lengths of pipe can be fitted.

Suitable for the following industries

Aluminium, Copper, Gold, Platinum, Coal, Magnetite, Gypsum, Fertilizers, Cement,
Lime, Graphite, Phosphate, Shot and plastics.
Maize, Corn, Soya beans, Sugar etc.
Steel mills, Foundries, Mines, Pulp and paper, Power stations, Municipalities, Sugar Refineries,
Silo's, etc.
Urban Search and Rescue.















RecoVac T3 & T5 series

Diamond Industry – Kimberlite Dust

Automated vacuum system for Kimberlite Dust, fitted onto UV for underground recovery.



Latest solution – RecoVac TM3

Truck mounted TM3 RecoVac with removable hopper with automatic dump valve.





RecoVac TM3 with hopper and new Slurry Vac offering a total solution for mining slime dams.

Vacuum systems for underground Mining Shaft borer, 100% designed and built by Process Vacuum/Recovery Vacuum.





Recovery Vacuum System supplied – Reef borer




GAS & WELDI
EQUIPMENT


SWL: 15



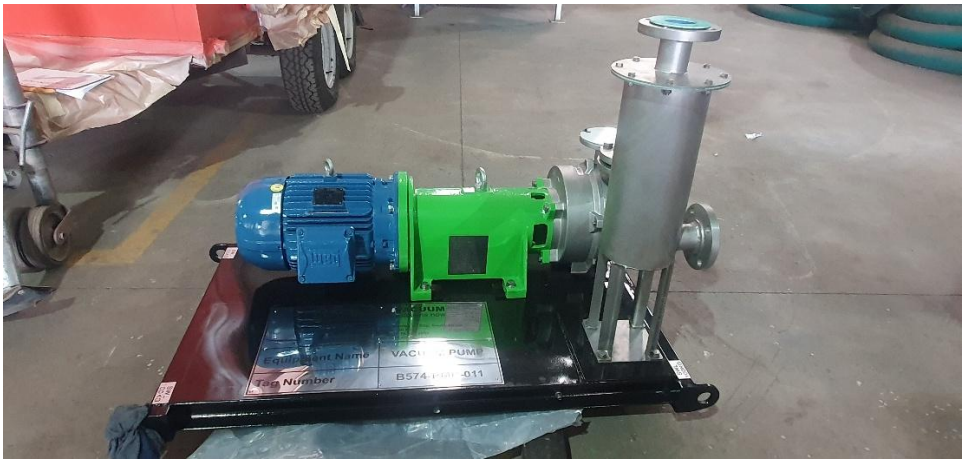
Liquid ring vacuum system exported to Brazil



Vessel mounted vacuum filtrate pump for Brazil



Exports of smaller liquid ring systems, Canada & USA





Recovery Dust extraction system for Namibia



Recovery vacuum system for Packaging in Sugar Industry



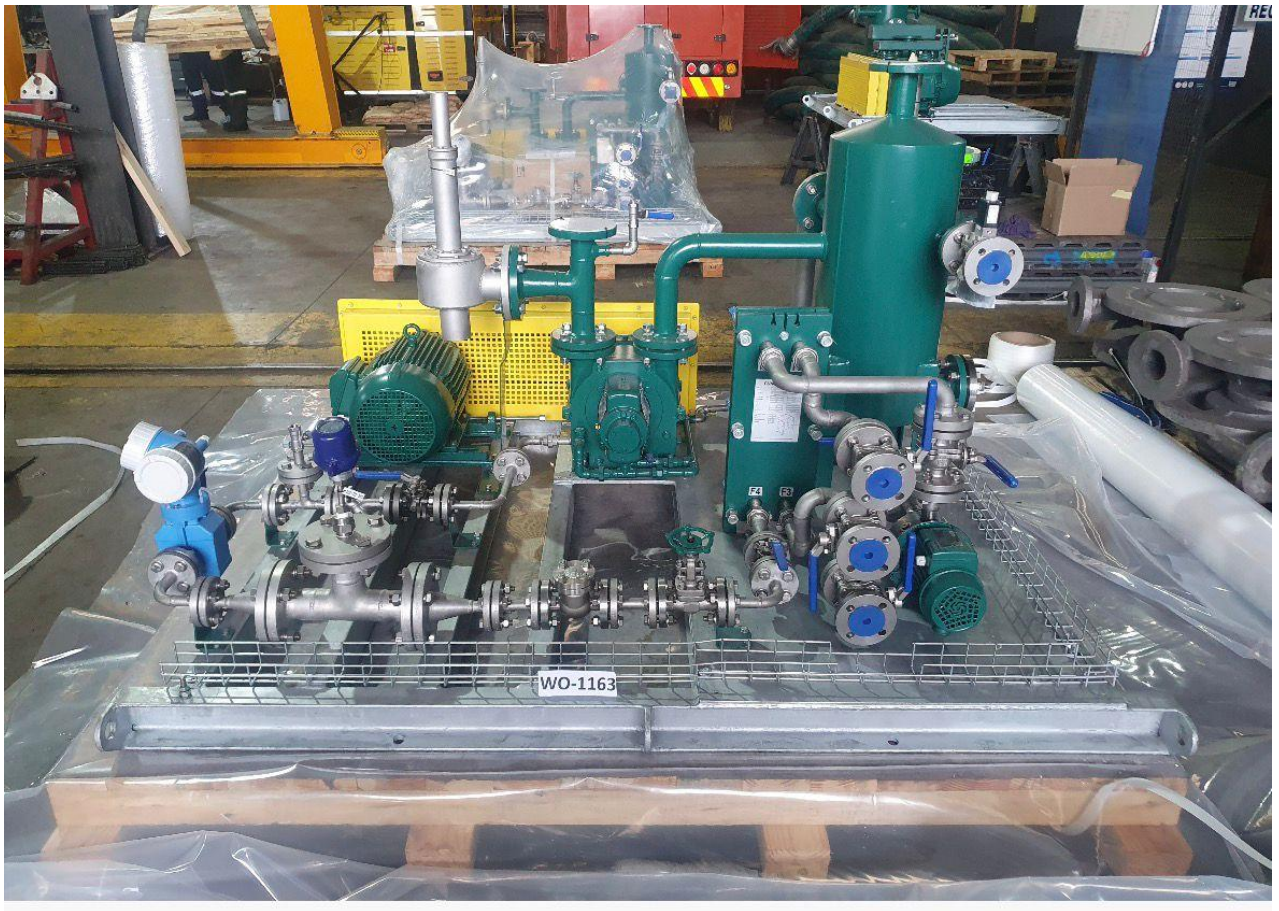


High vacuum rotary vane pump for Telescope coating system



Liquid Ring Vacuum Pump systems exported to Europe





Vessel mounted vacuum filtrate pumps for Europe





RecoVac T5 vacuum recovery unit with collector bin delivered to the Copper Belt in Zambia.



