

**Oil & Gas
Capabilities
Pack**

Dynapumps[®]

DYNAMIC PUMP SOLUTIONS



Company Profile

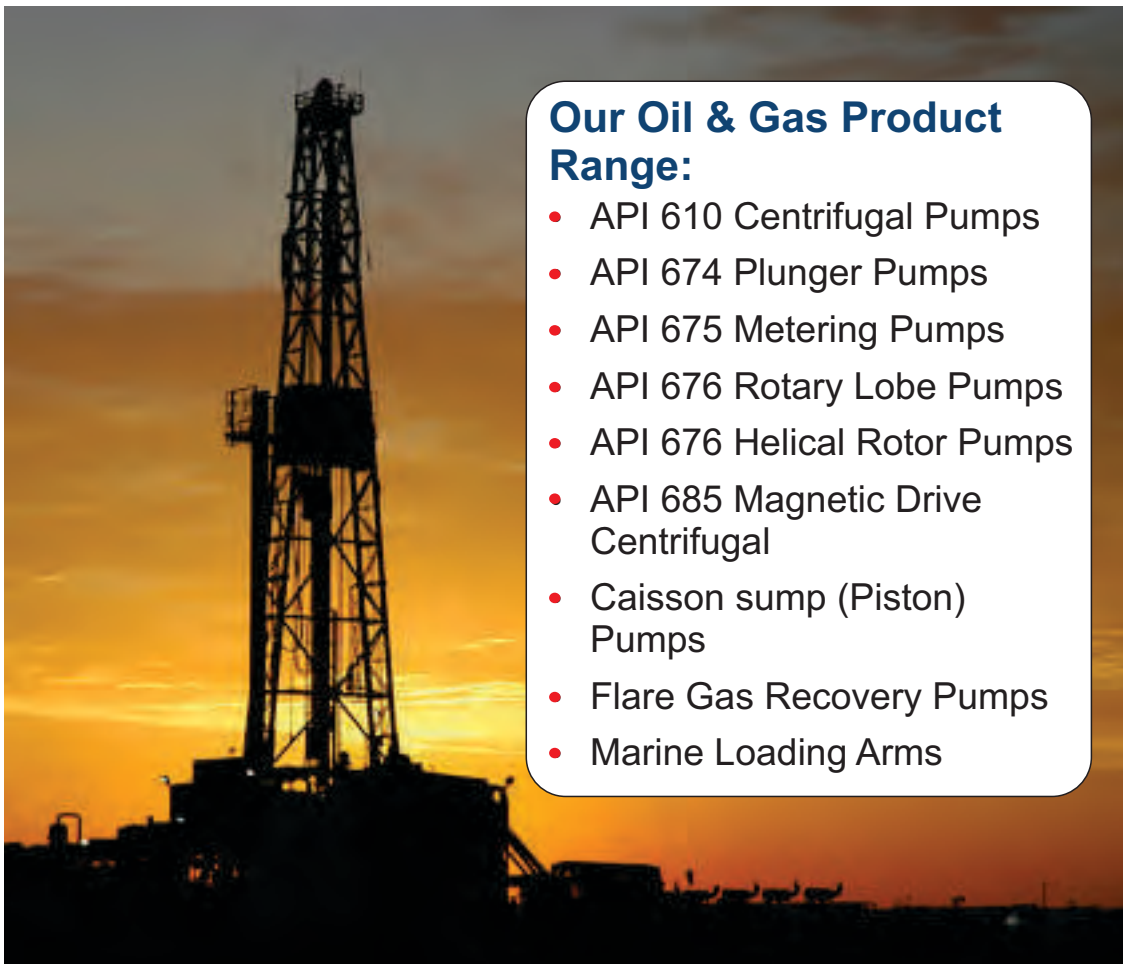
Pressure & Vacuum Pumps Specialist

Vision

To supply on time, high quality and recognised products to our clients as packaged equipment to their specifications with excellent after sales service and spares

Dynapumps Core Values

- Consulting with our clients to achieve satisfaction and improvement
- Training our staff to ensure high levels of competency
- Following the guidelines set down in our Quality, OHS and Environmental policies
- Providing high quality products at competitive prices
- Supplying service support to our clients for spare parts, programmed maintenance and repairs



Australia Wide

With offices in WA, NSW, VIC and QLD, Dynapumps are equipped to supply nationally and internationally

Company Background

Dynapumps commenced operations in December 1981 selling pumps and pump systems to mining companies and manufacturers in Western Australia. The company was started by two directors and has grown from a staff of four to fifty with a substantial increase in assets.

Dynapumps now represents a wide range of internationally recognised pump companies and specialises in the supply of complete project packages for mining, oil & gas and water supply & water treatment markets.

WESTERN AUSTRALIA

WA is the Head Office and has the largest turnover. It supports our central design and engineering office and has an integrated manufacturing and assembly plant. WA office is accredited to ISO9001:2008.

It processes all the other states accounting and has a main server with remote Citrix connection for the other offices and an offsite computer back-up system

NEW SOUTH WALES

May 1995 we opened our NSW office on the East Coast of Australia. In July 2001 we commenced manufacturing our own brand of "Flo-Max" turbine, propeller and submersible borehole pumps. In 2010 the Flo-Max range was extended to cover submersible sewage pumps. Flo-Max pumps are sold for use in mining, oil & gas and water supply & water treatment markets as well as farm irrigation through their country distributors.

QUEENSLAND

In November 2003 we opened a branch in Queensland to market our range of general pumps but in particular the range of metering pumps for the East coast of Australia. In 2005 we purchased our own premises in Yatala. They have their own engineering department and have secured major contracts in the mining industry for Queensland and overseas projects

VICTORIA

In March 2006 we opened a branch in Melbourne, Victoria to improve our National coverage and offer stock and service for our products in that state. Its aim is to promote the range of vacuum pumps in particular to East Coast companies and our products in mining and oil & gas markets. In 2011 we purchased modern, larger premises in Thomastown.

PERTH



BRISBANE



SYDNEY



MELBOURNE

Company Information

Providing clients with complete engineered solutions for all their pressure and vacuum requirements

Quality

Dynapumps is accredited to AS/NZS ISO 9001: 2008 and are audited annually by Bureau Veritas. We provide training for all our staff to ensure that they are aware of and capable of implementing our Quality System



OHS

Dynapumps has implemented an Occupational Health and Safety program to comply with Worksafe requirements. We will revise our system to comply with the new Safe Work Australia legislation as of 1st January 2012.



Environmental

Dynapumps is committed to ensure that we follow Government legislation for the protection of our environment and this is conveyed to all staff for their implementation.

Associations

Dynapumps has joined a number of organisations to better understand our clients and their needs. These memberships also provide further learning opportunities for our staff.



Australian Petroleum Production and Exploration Association



CHAMBER OF COMMERCE AND INDUSTRY WESTERN AUSTRALIA



Australian Drilling Industry Association



Pump Industry Australia



Vacuum Society of Australia



SolidWorks3D™

Dynapumps have invested in the latest in 3D technology to support our customers who are dealing regularly with multi-million dollar projects. Efficiency, cost containment and time are more crucial than ever, engaging with suppliers with SolidWorks3D™ capabilities can offer businesses a distinct advantage. Listing BP, Chevron, Woodside and many well known Oil & Gas consultants amongst our clientele, our drawings

integrate seamlessly into their systems in any number of drawing formats. Our clients have benefited from the notable reduction in fabrication costs, which has resulted from the ability to more thoroughly check the systems in 3-dimensional format.



On balance, SolidWorks3D™ has presented the opportunity for the engineering team at Dynapumps to fully harness their technical expertise and skills and as a result, the designs being received by our clients are more innovative, accurate and cost efficient.



Oil & Gas Specialist

Recent Oil & Gas projects

Below is a brief overview of some of the typical clients and projects supplied by Dynapumps in the oil & gas sector.



Year	Customer	Projects	Package
2011	PROCESS GROUP/ SANTOS FLUOR	GLADSTONE LNG PROJECT	- 14 x API 674 GLYCOL RE-GEN PUMP SKIDS
2011	ONGC- INDIA	G1 & GS15 GAS FIELD DEVELOPMENT	- 4 x CHEMICAL INJECTION SKIDS
2011	BECHTEL	GLADSTONE LNG PROJECT	- TEMPORARY FIRE PUMPS - PERMANENT FIRE PUMPS
2011	MONADELPHOUS/ CHEVRON	GORGON LNG PROJECT	- SPARE PERMEATE PUMP
2011	BJ SERVICES/ CHEVRON	GORGON LNG PROJECT	- 2 x SELF PRIMING PUMP SKIDS (DNV CERTIFIED)
2010	ENERFLEX	QUEENSLAND CURTIS LNG PROJECT	- 16 x API 674 GLYCOL RE-GEN PUMP SKIDS
2010	APACHE ENERGY	VARANUS ISLAND	- 3 x FMC Q1826 API 674 PUMP
2010	KJVG/ CHEVRON	GORGON LNG PROJECT	- AS2941 FIRE PUMPSET - POTABLE WATER SKID
2009	TECHNIP OCEANIA/ ORIGIN ENERGY	KUPE NEW ZEALAND PROJECT	- 9x CHEMICAL INJECTION SKIDS
2009	ROC OIL	ROC OIL	- FMC Q2826 CS API 674 PUMPSETS
2009	CTEC/ WESTERN ENERGY	KWINANA GAS TURBINE POWER STATION	- FUEL UNLOADING PUMP AND FILTER SYSTEM
2009	CTEC	KWINANA GAS TURBINE POWER STATION	- FLO-MAX WASTE WATER SUMP PUMPS
2009	ENERFLEX	BP OIL- KHAZZAN & MAKKAREM PROJECT	- 2 x FMC M1420 CS API 674 PUMPS
2009	ENI AUSTRALIA	WADEYE PROCESSING PLANT	- 4 x API 610 CENTRIFUGAL PUMPS
2009	RCR ENGINEERING	VERVE ENERGY	- KWINANA POWER STATION SCREEN FILTERS
2009	WOODSIDE ENERGY	NORTH RANKIN DEVELOPMENT PROJECT	- FUEL GAS METERING PUMPS
2009	WOODSIDE ENERGY	Nr2 OIL RECOVERY PUMPS	- BLACKHAWK OIL SUMP PUMPS
2009	PROSEP AP SDN BHD	TEG RECIPROCATING PUMPS	- 2 x FMC M0812 API 674 PUMPS

Oil & Gas Projects

FIRE PUMPS

Gorgon Project: Barrow Island LNG Plant

Client: Chevron

Consultant: Kellogg Joint Venture Gorgon



Image and Artist Impression courtesy of Chevron

Product details

Construction Village Fire Water Pump Set in accordance with AS2941-2008. Complete with one electric, one diesel and one jockey pump

Pump Supply

2 x Southern Cross, 100x65-200 Iso-Pro Centrifugal Pump with 316 SS Casing, Impeller and Shaft; and Oil Lubricated heavy duty tapered roller bearings with constant level oiler.

Electric Package

Above pump with 1 x Siemens 45kW 2 Pole Ex'n Electric Motor according to Chevron specifications. (Duty: 90 m³/h @ 89.1 metres TDH)

Diesel Package

Same pump with 1 x MTU Detroit Diesel D703LTFP Diesel Engine; Turbo Charged, Water Cooled, 90 litre fuel tank, suitable for 6 hours operation with Murphy EL150K1 low level switch. Exhaust fitted with spark arrestor, flame arrestor with heat & corrosion resistant coating, Jacket water pump and Oil pump (Duty: 90 m³/h @ 89.1 metres TDH)

Jockey Pump Package

Grundfos CRN1S-21 Vertical Multistage Jockey pump with 1 x Siemens Ex'n 0.75 kW 2 Pole motor (Duty: 90 m³/h @ 89.1 metres TDH)

Control Panel

Mounted on vibration isolators including all wiring and terminations within the terminal limits; Specified to AS2941-2008, 316 Stainless Steel IP56 Cabinet

Fire Pump Package also included performance and functional testing in accordance with AS2941-2008, and vibration & noise testing.



Fire Water Pump set undergoing performance and functional testing

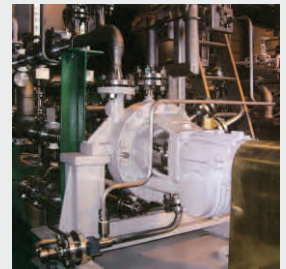
Oil & Gas Projects

PRESSURE PUMPS

Client: ENI Australia
Consultant: Process Group
Project: Blacktip Onshore Gas Plant, Wadeye N.T.
Application: Induced Gas Flotation (IGF) vessel re-circulation

Product Details

4 x Finder 2 x1 PEP 101 CLL for Oil Water, API 610 10th Edition Duplex Stainless steel pumps.
Flow rate 6 m³/h
Discharge Pressure 25m Head



Client: Burrup Fertilisers
Consultant: SNC Lavalin
Project: Burrup Fertiliser Plant, Dampier WA
Product details 4 x Chemical Injection Skids, Utilising Seko API 675 Metering Pumps, Complete with SS tank, level gauges & agitators



Client: BP OMAN
Consultant: Enerflex
Project: Khazzan & Makarem EWT Project
Application: Liquid Export Pumps for Produced Water/ Condensate

Product details

2 x FMC M1420 API 674, 316 Stainless Steel Fluid End, Tungsten Carbide Stainless Steel Plungers, TIT/SST Valves, High Temp. Vapour-less Packing, Motor driven Packing Lubricator & Motor Driven Power End Pressure Lubrication
Flow Rate 13.42 m³/h (52 US GPM)
Operating Pressure 630 m (895 PSI)
Electric Drive 30.0 kW (40.0 HP), 4 Pole, 415/3/50 WEG Ex'd motor
Transmission Falk 2050 FC2 AGMA 6010 gearbox with non-sparking belt guard
Pulsation Dampener Fox Suction & Discharge



FMC Pumpset on Test



FMC Pump Drive Train



Oiler Cooler Circuit



FMC M1420



Packing Lubricator

Oil & Gas Projects

PRESSURE PUMPS

Client:	ROC Oil
Consultant:	Worley Engineering
Project:	Cliff Head Project
Application:	High Pressure Water Injection Pumps
Product Details	
<i>Pump</i>	FMC Q2826 DX, API 674 Pumps
<i>Flow rate</i>	58.3 m ³ /hr
<i>Operating Pressure</i>	20,783 kPa
<i>Electric Drive</i>	Teco 545 kW, 6600 volt



FMC Pump manufactured from Duplex Stainless Steel to handle corrosive condensate and operates at 228 rpm via a 6.5:1 ratio FMC integral gearbox.

The pump is a quintuplex version (5 cylinders) with Rokide Plungers and 17-4 stainless steel Abrasion Resistant valves.

Fitted with V-Ring packings and stuffing box flush system.

Complete with Low Oil Level, Low Oil Pressure and High Oil Temp. Switches.



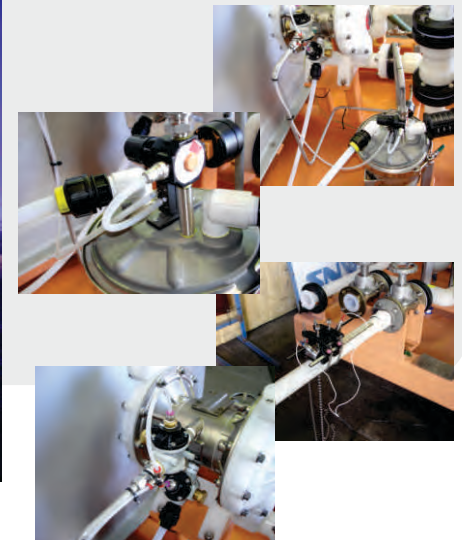
Client:	Transfield Worley Woodside Alliance
Project:	North Rankin A (NRA), North West Shelf Venture
Application:	Sulphamic Acid Solution and Preparation and Storage
Product details	Acid Wash Skid- FRP Skid, Tank, Air Operated Diaphragm Pump and valving



Above: Acid Wash Skid supplied by Dynapumps
Below: Components of the system



North Rankin A Platform, Courtesy of Woodside Energy



Oil & Gas Projects

CHEMICAL INJECTION PACKAGES

Client: Origin Energy Resources Ltd.

Consultant: Clough Engineering

Project: Bass Gas Offshore- Yolla Platform



Product details Methanol Injection Package-
Utilising SEKO Bono Exacta,
API 675 Gylcol Injection Pumps

Pump flow 90 l/m
Discharge Pressure 246 bar g
Motor Power 3 kW
Area Classification hazardous

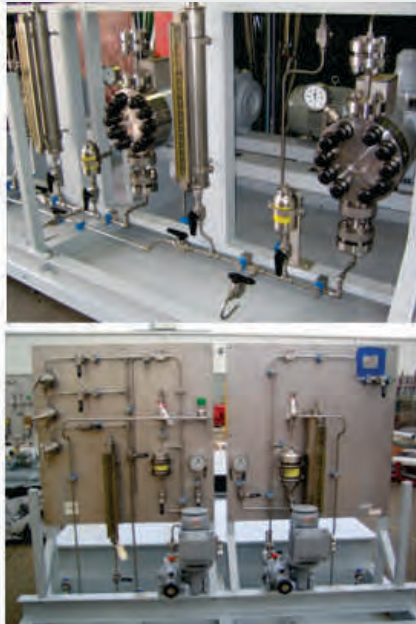


Client: ONGC India

Consultant: Clough Engineering

Project: G1 & GS15 Subsea Field Development, Kuala Lumpur

Product details 3 x Chemical Injection Skids
(PPD/Wax Inhibitor - Methanol - Demulsifier)



Client: Origin Energy Resources Ltd.

Consultant: Technip Oceania

Project: KUPE Field Development, New Zealand

Product details 9 x API 675 Chemical Injection Skids with 17 SEKO and Bran + Luebbe Pumps, accumulators, relief valves, back pressure and flow control valves all connected with stainless steel Swagelock tubing

Oil & Gas Projects

FMC PUMPS

Client: Apache Energy
Project: Varanus Island Project
Application: Amine Sweetening
Product Details
Pump FMC Q1826 API 674
Operating Pressure 6300 kPa
Pump Flow 54.30 m³/hr
Motor Power 160 kW, VSD



Client: Conoco Phillips
Consultant: Process Group
Project: North Belut Field, Indonesia
Application: MEG Circulation Pumps



Testing the pump

Product Details

Pump

Flow Rate
Operating Pressure
Electric Drive

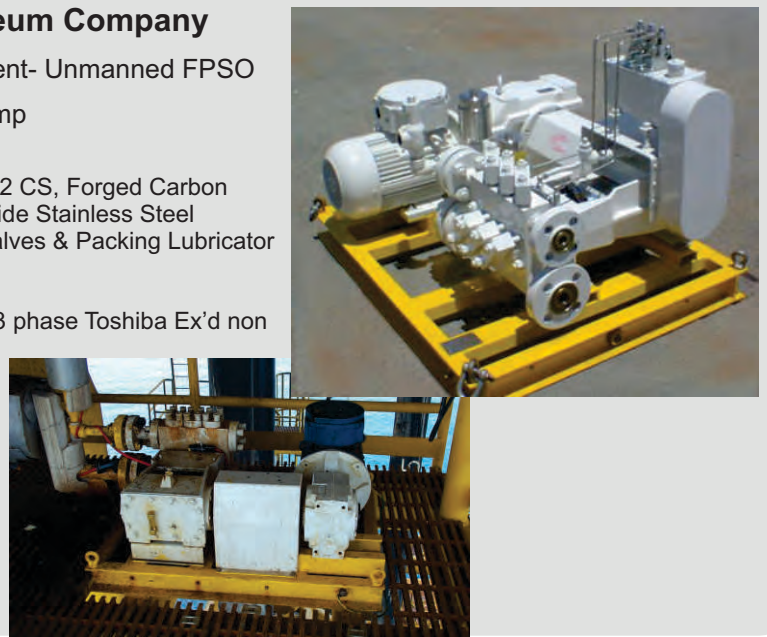
Transmission

2 x API 674 Pumps, FMC M0812 CS, Forged Carbon Steel Fluid ends, Tungsten Carbide Stainless Steel plungers, abrasion resistant valves & Crank shaft Pressure Lubrication
55 l/min (14.4 US gpm)
7850 kPa (1139 psi)
15.0 kW (20.0 HP), 4 pole, 480/3/60 Toshiba Ex'n non sparking CI 1, Zn 2, Grp IIA T3
Belt Drive with non-sparking belt guard of marine grade aluminium material



Client: Japan Vietnam Petroleum Company
Project: Rang Dong Field Development- Unmanned FPSO
Application: Hazardous Open Drains Pump

Product Details
Pump 2 x API 674 Pumps, FMC M0612 CS, Forged Carbon Steel Fluid End, Tungsten Carbide Stainless Steel Plungers, Abrasion Resistant valves & Packing Lubricator
Flow Rate 45 l/min (11.9 US gpm)
Operating Pressure 4560 kPa (660 psi)
Electric Drive 7.5 kW (10.0 HP), 2 pole, 415, 3 phase Toshiba Ex'd non sparking class 1, zone 1.
Transmission Gearbox drive with non-sparking belt guard
Pulsation Dampener Suction & Discharge to ASME VIII, Div. 1 with ASME stamp



Oil & Gas Projects

VACUUM & AIR

Client: BJ Services

Project: 1,386 km East-West Gas Pipeline in India

Product Details

8 x UV16 H IO HC S PNEUMOFORÉ air cooled, rotary vane vacuum pumps connected to 8 Hydrokinetics Boosters mounted within containers by the customer. All pumps are fitted with a VP150 Polyester Inlet Pre-Filter. The pumps do not require exhaust filters that tend to clog and require replacement.

Application *Pipeline Drying*

After pressure testing of the pipeline a booster and a vacuum pump are used to remove water left in pipeline as water vapour. This ensures dry conditions in the pipeline for the gas or oil. The booster speeds up the extraction times.

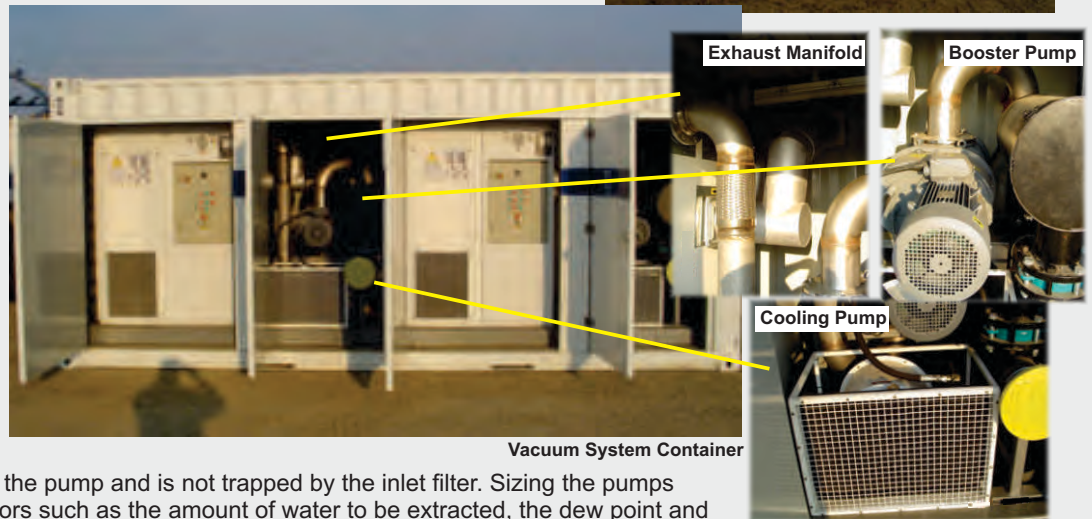
Process

These pumps are capable of operating in high ambient temperatures (up to 50°C) and with the ability to handle water vapour. They operate at 120°C which flashes off any water vapour that enters the pump and is not trapped by the inlet filter. Sizing the pumps depends on a number of factors such as the amount of water to be extracted, the dew point and time required to dry the pipeline.

Customer's Feedback

The Pneumofore's have performed very well regarding performance and reliability the only issue was the amount of abuse they suffered from the transportation across 1000's of KM in the wilds of India. Overall the pumps have performed exceptionally and we are very happy with what we have purchased. January 2009

Package sets ready for transport



Vacuum System Container

Client: BP Australia

Project: BP Refinery, Kwinana

Application: Soil Remediation System

Product Details

8 x Claw Type Vacuum Pump skids. Pumps comply to ATEX 100a - HAZARDOUS AREA REQUIREMENTS



8 skids at the Dynapumps workshop ready for delivery



Claw Type Vacuum Pump Skid on site in Kwinana, WA

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