

**WOLONG**  
*Power your future*



**LARGE DRIVE SOLUTIONS**  
for Petroleum & Chemical Applications

# Wolong Large Drives

## Company Introduction

The Wolong Electric Large Drive Group (LDG) is a complete business division including heavy rotating machine companies, services, engineering, and research teams around the globe. Business units such as Nanyang ATB, Wuhan ATB, Anshan Rongxin, SCHORCH, MORLEY, SP, LAURENCE SCOTT, SEVER, FOD and others, deliver innovations in rotating machine and drive technologies.

Through enterprise technology centers and laboratories, staffed with our highly experienced and accomplished engineering teams, Wolong LDG has producing high quality equipment and solutions for the Oil & Gas, petroleum, and chemical industries.

Various HV/LV EXP Motors

General Purpose Motors

Specific-Use Motors

Synchronous / Asynchronous Generators

LV/HV EXP Inverters

HV Soft Starters

Special Power Supplies

DC Power Transmission

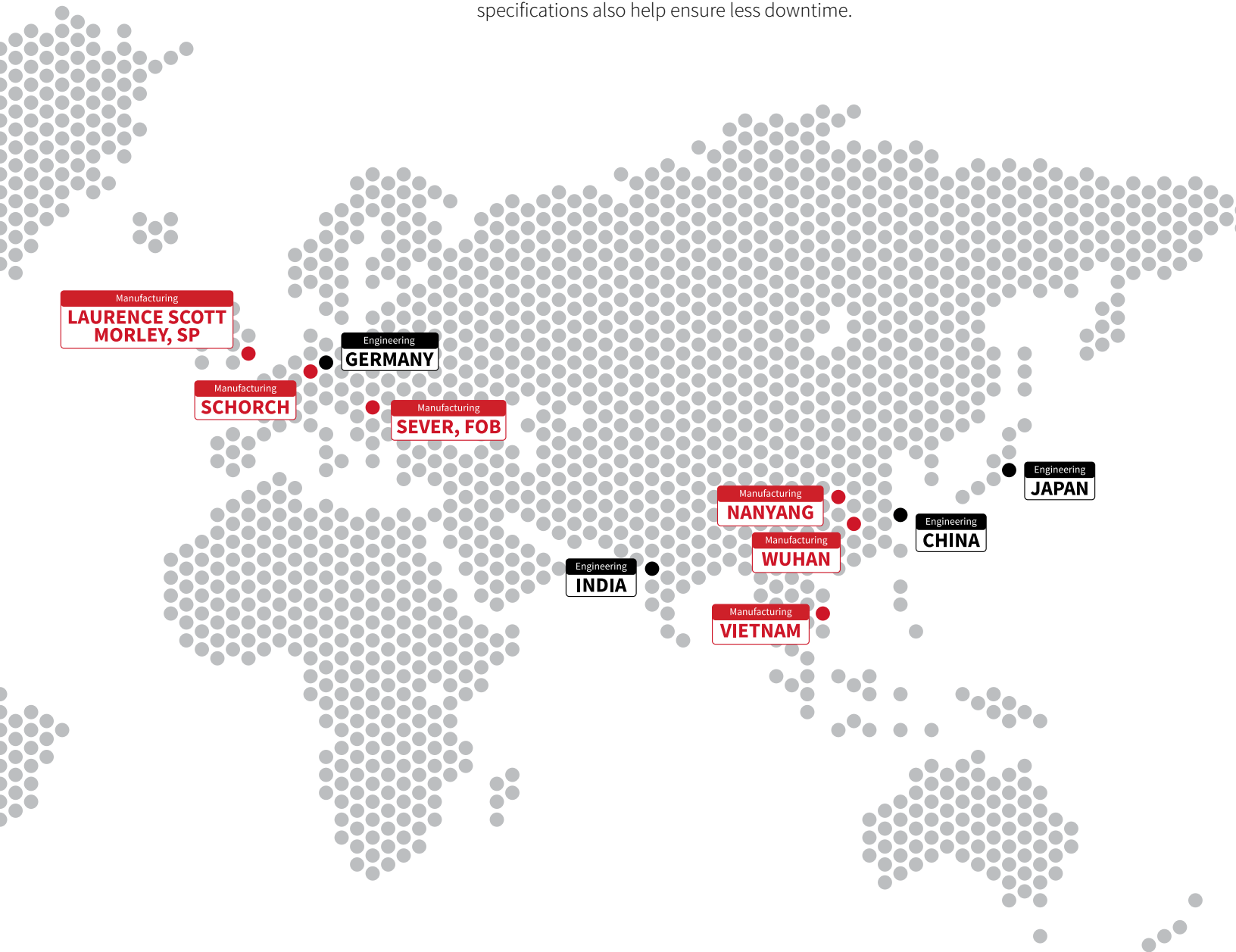
Control Systems

Power Electronic Components

Instrumentation



Wolong offers rotating machines and drives for most upstream, midstream and downstream applications. From a deep offshore production facility, to a Gas to Liquid (GTL) facility in Saudi Arabia or the extreme cold environments of the Canadian Oil Sand fields, our durable and efficient motors provide a reliable lifeline to critical production equipment. Strict adherence to industry and application specifications also help ensure less downtime.







Our products have complete certifications from many international authorities such as UL and CC in the US, CSA in Canada, IEC Ex in Europe, ATEX and CE in the European Union, SABS in South Africa and TESTSAFE in Australia.

Our manufacturing sites are quality certified for the latest ISO9001, ISO10012, OHS18000, and ISO14001 requirements.

Wolong plays a leading role in technology globally. It is a world leader in vibration, low starting current, and HV EXP motors. And the company is the third largest MV/HV motor supplier in the world.



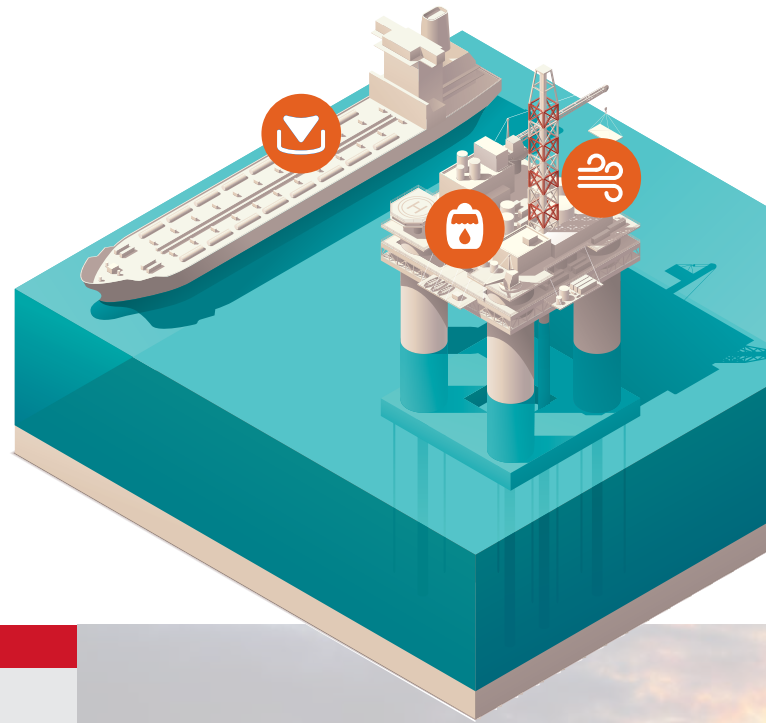






Our company has provided high performance solutions globally for a wide range of petrochemical applications, such as inverter motors for oil platforms, high power bipolar compressor motors, and low starting current motors.

- The minimum starting current of motors with low starting current can reach 240% FLC. Wolong has provided more than 500 units running reliably and safely for users all over the world.
- Wolong supplied the first large-scale offshore oil platform gas turbine generator set in China.
- Wolong supplied the largest low-speed and large-capacity positive voltage explosion-proof motor ever built in China (11kW) presently being used in the Iranian Abbas Refinery.
- PDS Frequency converter drive system of the Jining Line of PetroChina Gas Pipeline is the first frequency converter used in a petroleum application from a Chinese manufacturer.
- Fukui mine ATP furnace shale oil double pinion drive and frequency conversion systems, utilizing the world's latest oil shale refining technology, is the second set in the world.

## Wolong Large Drives Meeting Application Requirements

Global petroleum and chemical industries deliver crude oil, natural gas, and byproducts for everyday use. The production stream is broad covering a wide range of processes, including exploration, field development, drilling, production, refining, gathering, storage, transportation, and sales. Many of the applications in these processes involve flammable, explosive and toxic materials and vapors. The risks, complexities, and scales are higher than that of other industries. Because of this, the equipment involved must meet rigorous safety and operational standards and requirements.



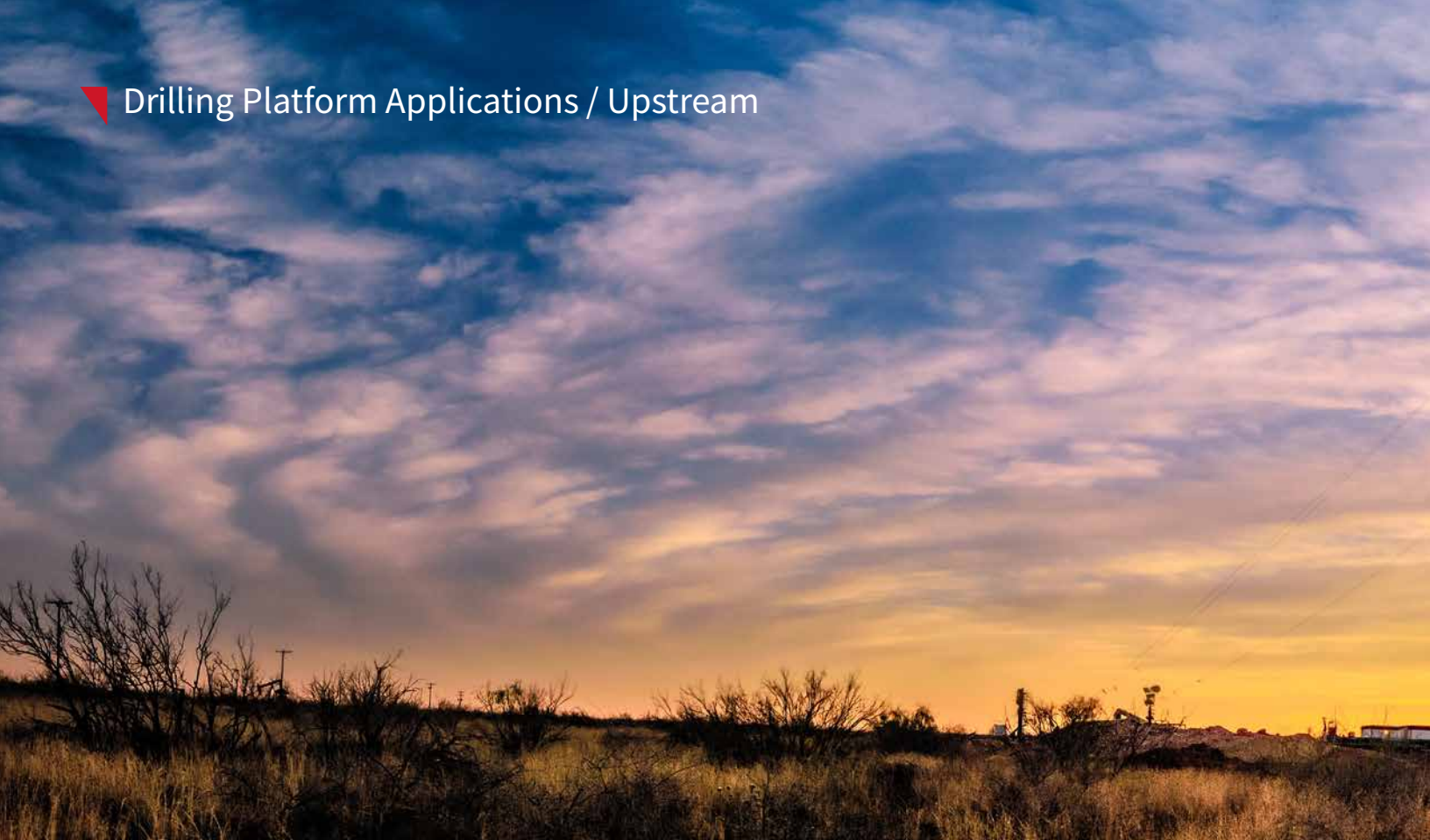
Application	Type	Requirements
 Blowers	Cooling Ventilation	Starting restrictions ASD applied IEEE-841, API 541, 546, 547
 Heat Exchangers	Air Cooling	Belt load specifications IEEE-841, API 661
 Pumps	Booster Liquid Cooling Jockey Pipeline Seawater Lift Water Injection Transfer	Starting restrictions ASD applied Vertical thrust loads Low inrush IEEE-841, API 541, 546, 547
 Compressors	Centrifugal Axial Pipeline Reciprocating	Starting restrictions / ASD applied / Low inrush / Special shaft and load designs / Torque pulsation / High rotor inertia / API 541, 546, 547, 618











### Explosion Proof Vibration Motor

Used in double or triple vibrating screen for drilling fluid purification, and dry vibrating screen for drilling waste treatment, mud cleaner, etc.

Standard	50D - 90D
	7 - 100 kN
	4 Pole

3 Section Slim	75SV, 80SV, 85SV
	35 - 80 kN
	4 Pole



### AC Variable Frequency Speed Control Drill Motor

Strong overload capability and high performance in extreme ambient temperatures (-50 °C to 55 °C) and corrosive environments like offshore oil platforms.

Power	15 - 1800 kW
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Frequency	0 - 153 Hz
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#### **Low Starting Current Motor**

Eliminates need for additional starters, controllers and switchgear requiring less maintenance, and a low impact on the power supply line.

Power 250 - 1800 kW  
Voltage 2750 V - 13.8 kV  
Poles 2 - 20



#### **Oil Platform Motor**

High efficient, low vibration, anti-rolling, on a stable structure, with resistance to salt spray corrosion.

Power 15 - 1500 kW  
Voltage 400 - 690 V  
Poles 2 - 6



#### **HV Solid State Soft Start**

Has a broad application range delivering flexible control with small impact on the power grid. They help extend equipment life and reduce maintenance.

Power 100 kW - 50 MW  
Voltage 3 - 13.8 kV





#### **Flameproof Pipeline Motor**

Large capacity, high speed, sliding bearing self-slip ideal for pipeline applications.

Power 200 - 2800 kW

Voltage 6 kV, 10 kV

Poles 2, 4



#### **High Speed Induction Motor**

Drives centrifugal compressors with inverter controls in a highly efficient and integrated design.

Power 1000 - 3000 kW

Voltage 6 kV, 10 kV

Speed 3000 - 12,000 RPM

Frequency 0 - 200 Hz





### Reciprocating Compressor Motor

Keyless shaft machines designed to help control any fluctuations and torque oscillations, minimize fatigue and increase compressor reliability.

Power 150 - 5000 HP  
Voltage 460 V - 6.6 kV  
Poles 4 - 8



### HV EXP Asynchronous Motor

Highly efficient, low noise motor that is safe and reliable in explosive environments.

Power 220 kW - 31.5 MW  
Voltage 6 - 10 kV  
Poles 2, 4



### Flameproof Generator

Can be utilized in explosive environments. Compact footprint can replace other common equipment.

Power 80 - 1500 kW  
Voltage 400 V - 10.5 kV  
Poles 2, 4



### Oil Well Pump Motor

Designed with high slip (5-8%) and high torque (NEMA D) to meet the requirements of oil beam pumping units.

Power 3 - 150 HP  
Voltage 460 V  
Poles 6 (1200RPM)



### HV Variable Frequency Speed Regulation Device

Highly reliable and efficient drive for a wide range of high power application requirements.

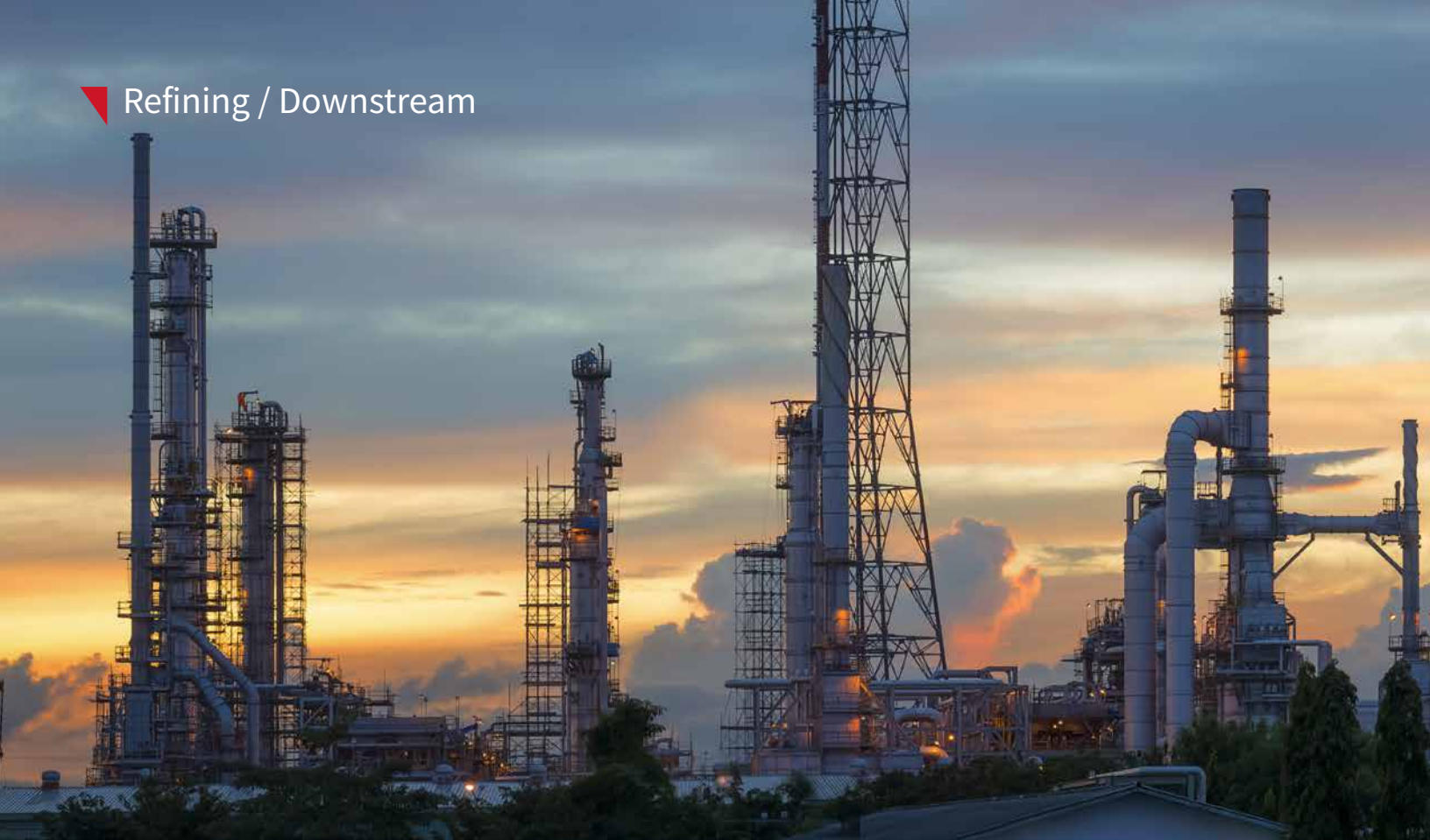
Single machine capacity up to 16,000 kVA  
Input Voltage 3 - 35 kV  
Frequency 0 - 50/60 Hz



### HV Solid State Soft Start

Has a broad application range delivering flexible control with small impact on the power grid. They help extend equipment life and reduce maintenance.

Power 100 kW - 50 MW  
Voltage 3 - 13.8 kV



#### LV Flameproof Motor

Highly efficient and reliable motor for explosive environments. Designed for ease of maintenance and safety.

Power 18.5 kW - 1200 kW

Voltage 230 - 690 V

Poles 2 - 8



#### Synchronous Motor

Reliably and efficiently drives slow speed and high torque reciprocating compressors.

Power 450 kW - 50 MW

Poles 12 - 40



#### HV EXP Water Cooled Motor

Highly efficient, low noise and vibration motor designed to safely operate in high ambient explosive environments.

Power 315 kW - 10 MW

Voltage 3 - 10.5 kV

Poles 2 - 18



#### **HV EXP Air-Cooled Motor**

Highly efficient, low vibration motor designed to safely operate in high power applications in explosive environments.

Power 185 kW - 14 MW

Voltage 3000 V - 13.8 kV

Poles 2 - 20



#### **HV EXP Inverter Motor**

Highly efficient, low vibration motor designed to safely operate in high power VFD applications in explosive environments.

Power 185 kW - 8 MW

Voltage 3000 V - 10.5 kV

Poles 2 - 20

Frequency 5 - 100 Hz



#### **HV Asynchronous Motor**

Has a broad application range excelling in severe environments.

Power 220 kW - 31.5 MW

Voltage 6 kV, 10 kV

Poles 2 - 12





#### Compact HV EXP Motor

High power in a very high efficient small TEFC frame. Designed to save operational costs for users.

Power 160 - 2240 kW

Voltage 3 - 10.5 kV

Poles 2 - 12



#### Compact HV EXP Variable Frequency Motor

High power in a very high efficient small TEFC frame. Designed to save operational costs in VFD applications.

Power 160 - 2240 kW

Voltage 3 - 10.5 kV

Poles 2 - 12



#### Box-Type Synchronous Generator

High power in a durable, protective frame with brushless excitation, fast loading and delivery.

Power 1.6 - 65 MW

Voltage 3.3 - 13.8 kV

Poles 2 - 6



### LV Extra Severe-Duty Motor

This versatile and robust design is ideal for a wide range of challenging industrial applications and environments. Versions available to meet IEEE 841 and 661 requirements.

Power 0.75 - 300 HP  
 Voltage 230/460, 460 V  
 Poles 4 - 8  
 Frequency 60 Hz



### LV/MV Vertical Pump Motor

Combines extra severe duty engineering with advanced thrust and cooling technologies.

Power 5 - 1750 HP  
 Voltage 200 - 4000 V  
 Poles 2 - 6  
 Frequency 60 Hz



### Large Extra Severe-Duty Motor

This versatile and robust design is ideal for a wide range of challenging industrial applications and environments.

Power 150 - 2500 HP  
 Voltage 460 - 4000 V  
 Poles 2 - 6  
 Frequency 60 Hz



### Turbine Generator

A high efficient, reliable, low noise, low vibration machine designed for ease of maintenance.

Power 3 - 135 MW  
 Voltage 6.3 - 10.5 kV  
 Poles 2



### HV Variable Frequency Drive

Highly reliable and safe multiple rectification technology through fan and control system redundancies and an optional unit bypass.

Power 200 kW - 40 MW



### HV Solid State Soft Start

Has a broad application range delivering flexible control with small impact on the power grid. They help extend equipment life and reduce maintenance.

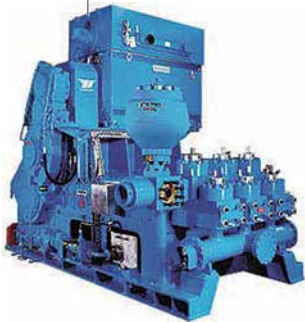
Power 100 kW - 50 MW  
 Voltage 3 - 13.8 kV

# Wolong Large Drives

## Global Project References

Wolong's global business units have a wide breadth of experience serving the Oil & Gas, Petroleum, and Chemical industries. They have successfully executed large projects in several continents, meeting and exceeding regional standards and user requirements. The following are just recent examples.

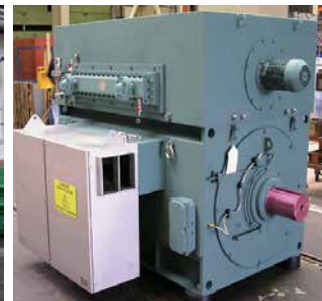
Mud pump 1655kW, 690V used for Wirth Maschinen-und Bohrgeräte project drilling platform



200 sets variable speed control drilling rig motor used in Uralmash-Izhora Group OMZ



HV asynchronous 5200kW, 11000V, 4P motor used in Gumusut-Kakap Oil Platform Project to drive centrifugal pumps



8MW inverter and motor used to drive a CNOOC oil platform compressor.

Minimum low starting current reaches 240% FLC. More than 500 sets globally are running reliably and safely

3300kW, 6000V oil pump motor used for the Janaf Pipeline-Ruhr-pumpen GmbH project

1655kW, 690V motor used in a Mobile oil platform project to drive a venter pump



Positive voltage EXP generators - 2 pole exported to Kazakhstan and 4 pole for GE Oil & Gas passing CQST certification.

3000kW, 10kV compressor motor used in the TBAs temple Yulin natural gas project

Positive pressure HV asynchronous 7750kW, 10kV, 2P motor used in the Huasheng Energy Liquefied Natural Gas Project to drive a centrifugal compressor

55kW, 1140V motor used to drive Henan oilfield pumping unit



2500KW 6000V high-speed, sliding bearing self-lubricating, flameproof motor for China-Myanmar oil pipeline



HV asynchronous 18MW, 10kV, 4P motor used to drive the axial flow fan of Sinopec Changling refinery

8MW inverter and motor used to drive a CNOOC oil platform compressor.

25MW-2P 60Hz gas turbine generator for the US Navy

## Global Project References

12 MW 30 pole synchronous low speed motor used in the Qilu Petrochemical LDPE project



Variable frequency drive used in Qilu Petrochemical LDPE project

11,500kW, 11kV motor used to drive the Kobelco, Japan-Borouge project agitator



HV solid state soft start device used to extend liquefied natural gas project in 2 gas field areas

3 x 2700kW, 11kV soft starter used to drive an Iraq HAFA two phase compressor



Inverter used for an offshore platform project of the CNOOC Weizhou oilfield.



Positive Pressure Type 15,300kW, 10kV, 4P asynchronous motor used in BP/AIOC project to drive a turbine centrifugal compressor



6500kW, 11kV positive pressure type EXP motor used in the Iran Abbas refinery



32MVA (IEGT), the largest capacity high voltage inverter in China used in the Huanggang, Hubei oil refinery

The Iraqi Haofa soft start project, presently the largest offshore oil project from China

32MW, 10.5kV, 1500 rpm, 4P brushless excitation gas turbine generator used for the Siemens matching Katie project



9300kW, 11kV motor used to drive the Kobelco, Japan-AD-NOC V.A.E. project extrusion granulator

Fukui Mine ATP Furnace Shale Oil Project double pinion drive and other frequency conversion systems

Enhanced Safety Type 8600kW, 10kV, 18P synchronous motor driving a reciprocating compressor for the 2.6 million ton hydrogenation unit project in Quanzhou, Sinopec

The first domestically made frequency converter set driving a petroleum pipeline compressor for the PetroChina Jining pipeline

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