WOLONG

Power your future

LARGE DRIVE SOLUTIONS

for Mining Applications

Wolong Electric Group
Company Introduction

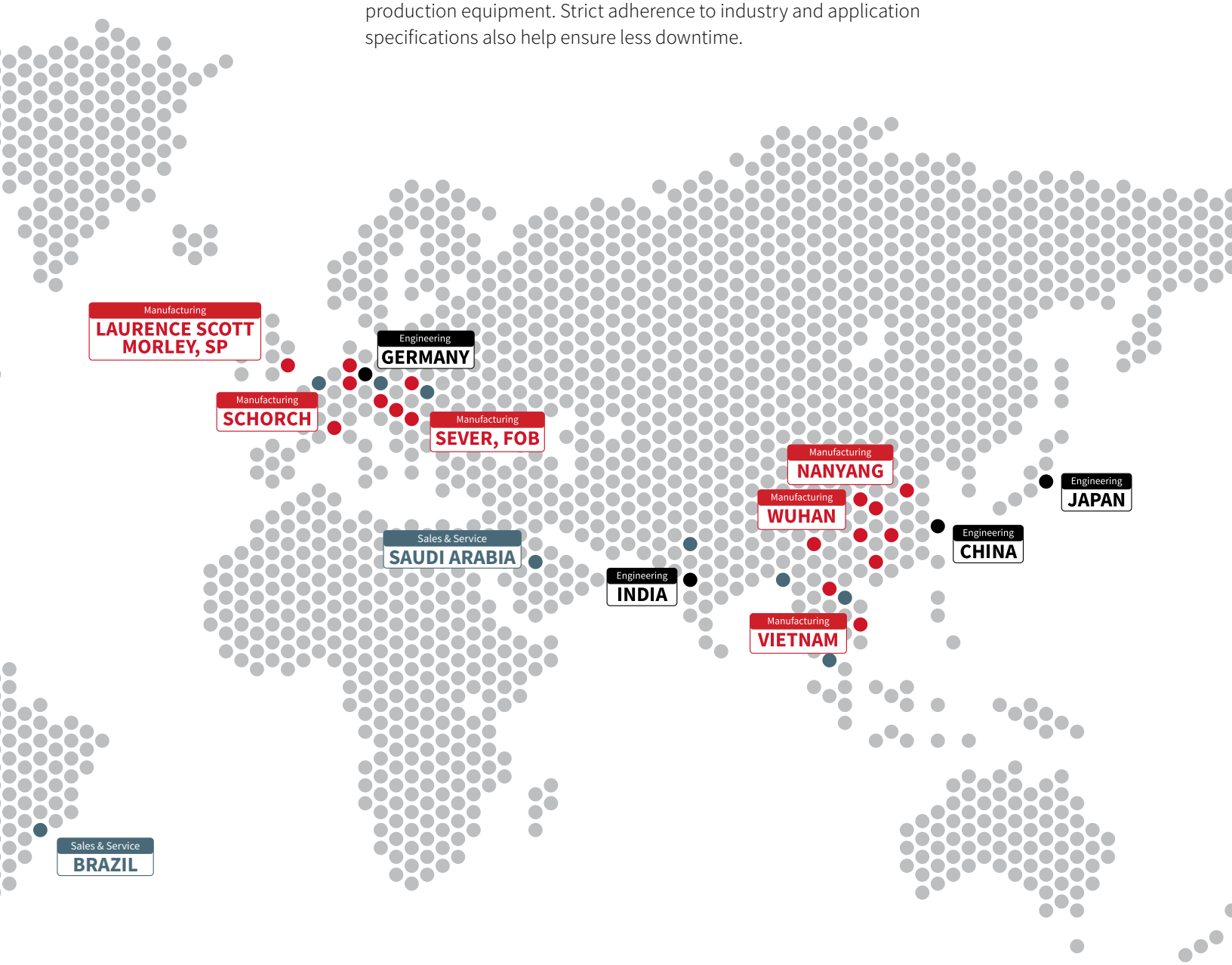
The Wolong Electric Group is a complete business including heavy rotating machine companies, services, engineering, and research teams around the globe. Business units such as Nanyang ATB, Wuhan ATB, Anshan Rongxin, SCHORCH, MORLEY, SP, LAURENCE SCOTT, SEVER, FOD and others, deliver innovations in rotating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

Through enterprise technology centers and laboratories, staffed with our highly experienced and accomplished engineering teams, Wolong has producing high quality equipment and solutions for the cement industry.

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

Meeting Heavy Industrial Application Requirements

Wolong offers comprehensive motor solutions for mining process applications. With an increasing global demand for metals and minerals, mining environments are becoming more extreme. They may be in a remote underground mine in Mongolia or in the mountains of Chile. They may be in the extreme cold of Alaska and the Canadian North or the blazing Australian Outback. Our durable and efficient motor and drive systems provide a reliable lifeline to critical production equipment. Strict adherence to industry and application specifications also help ensure less downtime.



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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 industrial mining applications engineered to improve distributed energy consumption, stabilize load, improve reliability and power quality.

- Energy efficient auxiliary drives
- Conveying systems
- High voltage permanent magnet drives
- Variable frequency crushing drives
- Active monitoring and control systems

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Higher Efficiency and Less Downtime

Mining is the process extracting, handling, and processing minerals from a seam, vein, reef, lode, or placer deposit in the earth. The minerals involved include coal, metals, oil shale, rock salt, potash, gemstones, limestone, clay, chalk, stone, gravel, etc. to produce energy fuels, building materials, electronics, and many other consumer products.

Recovery of this raw material is based on the economic viability of investing in labor, mining tools, energy to run mining operations, refining, and transport.

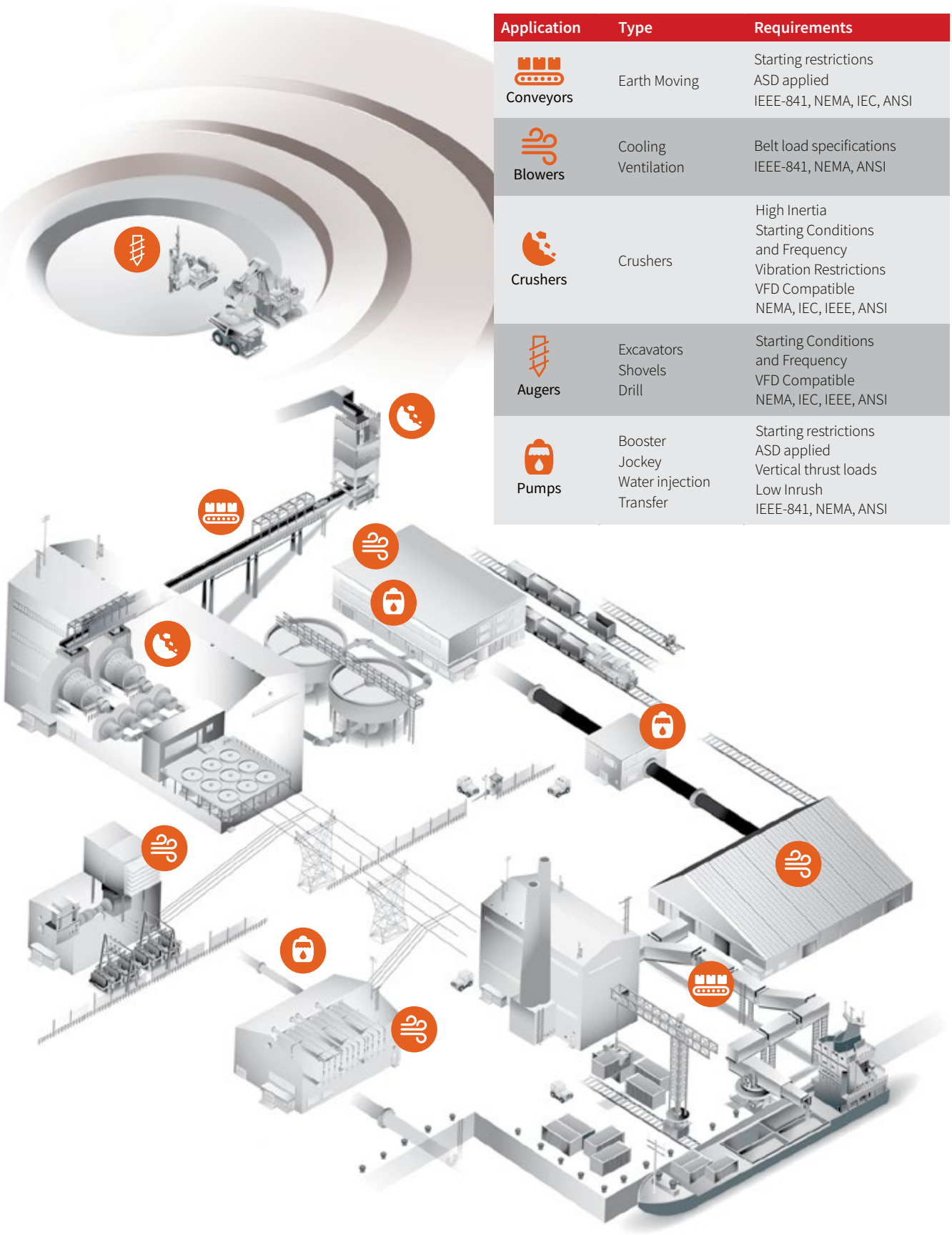
Managers are always looking for ways to optimize operational efficiency. The largest opportunities can be found in equipment, systems, and processes.

Three main processes of active mines

Extraction: surface or underground techniques.

Handling: sorting raw materials from waste or tailings

Processing: crushing, grinding, smelting, or refining into a final product for distribution



Application	Type	Requirements
Conveyors	Earth Moving	Starting restrictions ASD applied IEEE-841, NEMA, IEC, ANSI
Blowers	Cooling Ventilation	Belt load specifications IEEE-841, NEMA, ANSI
Crushers	Crushers	High Inertia Starting Conditions and Frequency Vibration Restrictions VFD Compatible NEMA, IEC, IEEE, ANSI
Augers	Excavators Shovels Drill	Starting Conditions and Frequency VFD Compatible NEMA, IEC, IEEE, ANSI
Pumps	Booster Jockey Water injection Transfer	Starting restrictions ASD applied Vertical thrust loads Low Inrush IEEE-841, NEMA, ANSI

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Product Capabilities

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

Direct Current Motor

A reliable lifeline to driven equipment and a workhorse for production.

Power	1 - 2000 HP
Voltage	180 - 600 V
Speed	300 - 3600 RPM

Synchronous Motor

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

Power 450 kW - 50 MW

Poles 12 - 40

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

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

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

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High Efficient Equipment

LV Permanent Magnet Motor

Frame	56-315
Power	0.18-315 kW
Voltage	400/480 V (or on demand)
RPM	3000/1500/1000
Efficiency	IE5/IE4
Cooling	IC411/IC416
Protection	IP55 (or above)

LV EXP Permanent Magnet Motor

Frame	56-315
Power	0.25-315 kW
Voltage	400/480 V (or on demand)
RPM	3000/1500/1000
Efficiency	IE5/IE4
Cooling	IC411/IC416
Protection	IP55 (or above)
Explosion Proof	Ex dI Mb Ex d IIB T4 Gb Ex d IIC T4 Gb

LV Permanent Magnet Low Speed Direct Drive Motor

Frame	180-560
Power	1.1-900 KW
Voltage	400/480 V (or on demand)
RPM	25/40/60/75/90/120/ 150/200/250/300/ 350/400/450/500
Efficiency	IE5
Cooling	IC410/IC70W (or on demand)
Protection	IP55 (or above)

MV Permanent Magnet Motor

Frame	355-500
Power	250-2800 kW
Voltage	3.3/4.16/6/10 kV (or on demand)
Poles	8
RPM	500/600/750/ 1000/1500
Efficiency	IE5/IE4
Cooling	IC611/IC81W/IC01

LV EXP Low Speed Permanent Magnet Motor

Frame	400-1000
Power	132-1120 kW
Voltage	660/1140 V
Speed	60/75/90/120
Efficiency	IE5/IE4
Cooling	IC37W
Protection	IP55 (or above)
Explosion Proof	Ex dI Mb

LV EXP Permanent Magnet Motorized Drum

Belt Speed	2.0-5.0 m/s
Drum Dia.	630-1250 mm
Belt Width	800-1400 mm
Power	75-315 kW
Voltage	660/1140 V
RPM	48/60/75/95
Cooling	IC37W
Protection	IP55
Explosion Proof	Ex dI Mb (or none)

Global Mining Project Experience

Efficient Ball Mill Equipment

Wolong engineered and installed a permanent magnet mill drive system including VFD's ranging from 250 - 5000 kW with totally enclosed fan, tube and air-air cooled frames. The project on the right involved a 630 kW, 8 pole, 10 kV motor.

Efficient Conveying Equipment

Wolong has integrated motors/drives and motors/drums in conveyor applications to realize multiple operational benefits:

- Higher energy efficiency
- Higher torque
- Heavy load start
- Low start-up current
- Fast dynamic response
- No need for gearbox and couplings

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