

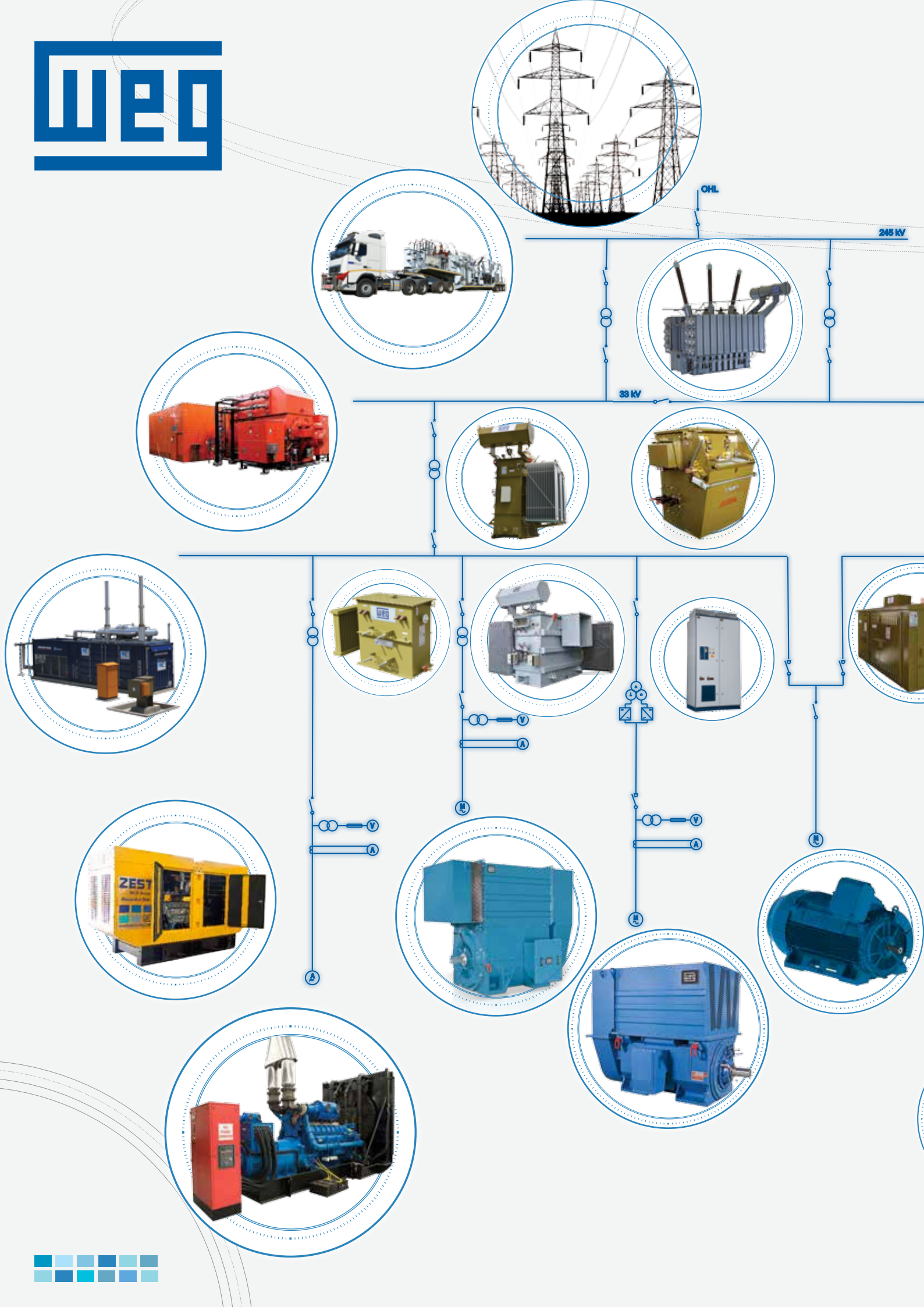
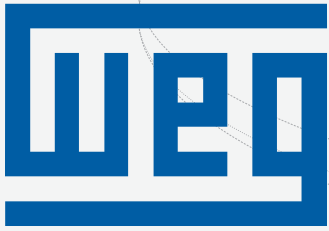


ZEST

WEG Group



Group Profile



The diagram illustrates a power distribution system. At the top, a horizontal line represents a main supply, with a switch and a fuse symbol. Below this, a vertical line descends to a horizontal busbar labeled '11 kV'. From this busbar, a vertical line descends to another horizontal busbar labeled '400 V'. From the '400 V' busbar, several vertical lines descend to various electrical components, each enclosed in a circular frame. These components include: a large industrial transformer, a row of orange electrical cabinets, a control panel with various switches and meters, a green industrial motor, a blue industrial motor, a red industrial motor, and a white industrial motor. Additionally, there are two smaller units, possibly inverters or converters, connected to the '400 V' busbar. The background is white with a faint grid pattern. On the right side of the image, there are several logos: 'ZEST WEG Group' at the top, 'EnI' below it, 'weg WEG TRANSFORMERS AFRICA' below that, 'SHAW CONTROLS' below that, 'ZEST WEG Group Generator Sets' below that, and 'ZEST ENERGY' at the bottom right. At the bottom center, the website 'www.zestweg.com' is displayed.

ZEST
WEG Group

EnI

weg
WEG TRANSFORMERS AFRICA

SHAW
CONTROLS

ZEST
WEG Group
Generator Sets

ZEST
ENERGY

www.zestweg.com





About us

The Zest WEG Group, a subsidiary of leading Brazilian motor and controls manufacturer WEG, has a strong commitment to contributing to the development of the African region, and has been servicing the continent for more than 35 years.

Its in-depth understanding of operating conditions, applications and years of experience on the African continent has ensured that the Zest WEG Group service offering is fit-for-purpose. By leveraging best practice engineering and manufacturing capabilities, the Group is able to offer a range of standard off-the-shelf products as well as end-to-end energy solutions.

From single product installations to individually customised solutions, which are application specific, the latest technology is used to ensure optimum performance and reliability without compromising on energy efficiency.

Zest WEG Group's product line-up includes low and high voltage electric motors, vibrator motors, variable speed drives, softstarters, power and distribution transformers, MCCs, containerised substations, mini substations, diesel generator sets, switchgear and co-generation and energy solutions as well as electrical and instrumentation engineering and project management services.

WEG products are engineered to facilitate a safe and reliable mine and plant with operational stability and the highest possible production levels as an objective. Reduced maintenance and ease of serviceability assist in lowering the total cost of ownership for the mine.

Supporting customers is key and the Zest WEG Group operates a strategically situated network of branches and distributors across the continent. The Group is constantly reviewing its sales and support network to ensure that customers across the region have access to the highest levels of technical support as well as easy access to product and parts.

Apart from the South African operation with its eight branches, the group currently has registered businesses in Mozambique, Tanzania, Zambia and Ghana with distributors in Angola, Botswana, Cameroon, the DRC, Ivory Coast, Kenya, Mali, Mauritania, Mozambique, Namibia, Senegal, Tanzania, Zimbabwe and Zambia.



Established in 1984, EnI Electrical is a specialist electrical, instrumentation and control systems construction company. With extensive industry experience, the company is focused on delivering projects on budget, on time and most importantly, safely.

EnI Electrical's dynamic approach creates the flexibility required to meet the needs of both engineering companies and mining houses. The company has the skilled manpower and resources to ensure that, where necessary, projects can be fast tracked.

It boasts a wide reference base of successfully completed electrical and instrumentation projects throughout Africa.



WEG Transformers Africa (WTA) is one of the largest manufacturers of mini substations and distribution transformers in South Africa. Operating two manufacturing facilities, one in Wadeville and the other in Heidelberg, WTA has the capability to design, engineer and manufacture the complete range of transformers presently in use in the country's mining and industrial sectors.

WTA Wadeville produces standard distribution, power and special application transformers ranging from 50 kVA to 10 MVA in voltages up to 66 kV with off-load tap switch or on-load tap-changers. The Heidelberg facility, which was previously TSS Transformers, is capable of locally manufacturing power transformers up to 40 MVA in voltages up to 132 kV as well as mini substations and moulded circuit breakers.

Its Heidelberg facility operates what is considered to be the best privately operated oil sampling laboratory in South Africa. This gives customers access to skilled technicians who analyse samples on state-of-the-art equipment to world class standards.



Shaw Controls, an ISO 9001 Bureau Veritas certified local manufacturing facility, has over 30 years' experience as a manufacturer of quality motor control centres (MCCs), distribution boards, medium voltage (MV) switchgear, control desks, PLC and instrumentation enclosures, portable and containerised substations, E-Houses and various other electrical enclosures.

Focused on providing world class electrical solutions, Shaw Controls has the necessary skills and expertise to manufacture electrical and control panels for all types of applications. Both standard and custom engineered products are produced at its extensive manufacturing facility south of Johannesburg. Electrical and control panel solutions incorporate WEG products as well as those from leading suppliers in the switchgear industry.



Zest WEG Group Generator Sets, through the manufacturing facility located in Cape Town, offers access to locally manufactured fit-for-purpose generator sets. Standard off-the-shelf diesel generator sets and custom built application specific units are available, in either stationary or mobile configurations from 20 kVA up to 2 500 kVA and can be increased upwards with multiple synchronised sets. All generator sets are supported by customised service and maintenance agreements.

Integrated packages include mechanical and electrical manufacture and assembly as well as electronic design that incorporates in-house control panel manufacture. It also provides supply and installation of transformers, cabling, bulk fuel systems and sound attenuation with standby generators on a turnkey basis, together with project management, installation, commissioning and maintenance.



Zest Energy boasts extensive expertise in energy generation technologies and its offering includes diesel and heavy fuel oil, gas, power generation systems. These include custom engineered and integrated solutions to meet the specific power generation, co-generation, energy and infrastructure requirements for new or existing companies.

Its electrical infrastructure solutions include outdoor and indoor substations and overhead lines, as well as substation refurbishments and power factor correction systems.

These are completed by its mobile offerings, which covers mobile generation solutions, as well as mobile substations and other custom engineered mobile electrical infrastructure solutions.

BBBEE (Broad-Based Black Economic Empowerment)

Zest WEG Group is committed to ongoing transformation within South Africa and fully supports Broad-Based Black Economic Empowerment (BBBEE). Through its strategic transformation and BBBEE objectives, the Group is able to demonstrate its commitment to uplifting previously disadvantaged individuals.

Zest WEG Group is focused on creating and maintaining the principle of equal opportunity, and applies the appropriate mix of resources and mindset to underpin this aim. This policy extends to the Group's employees, suppliers, business partners and the wider community.



Sustainability

Zest WEG Group, through its concern for the environment and the planet as a whole, is committed to promoting and maintaining a culture of sustainability and environmental responsibility through sound strategic business and manufacturing practices.

As part of the global WEG organisation, Zest WEG Group follows and promotes best practice sustainability methodologies. These are integral to its business operations with the overall aim of reducing the environmental impact of all activities.

The Group's level of commitment extends beyond its own people to broader stakeholders including its supply chain, customers and communities where it operates.

Zest WEG Group's sustainability strategy includes its focused Corporate Social Investment (CSI) approach which is aligned with its values. The Group strives to be responsive to the needs of communities in which its businesses operate and where its people live.

Through its CSI initiatives, Zest WEG Group aims to leave a legacy by playing a significant role in shaping the leaders of tomorrow by committing to working with communities, institutions and other like-minded partners to improve access to education in previously disadvantaged communities.



Training

Training is a cornerstone for the Zest WEG Group which operates a permanent 200 m² training centre at its Johannesburg head office. Training is also done at various Zest WEG Group branches, including those outside of South Africa.

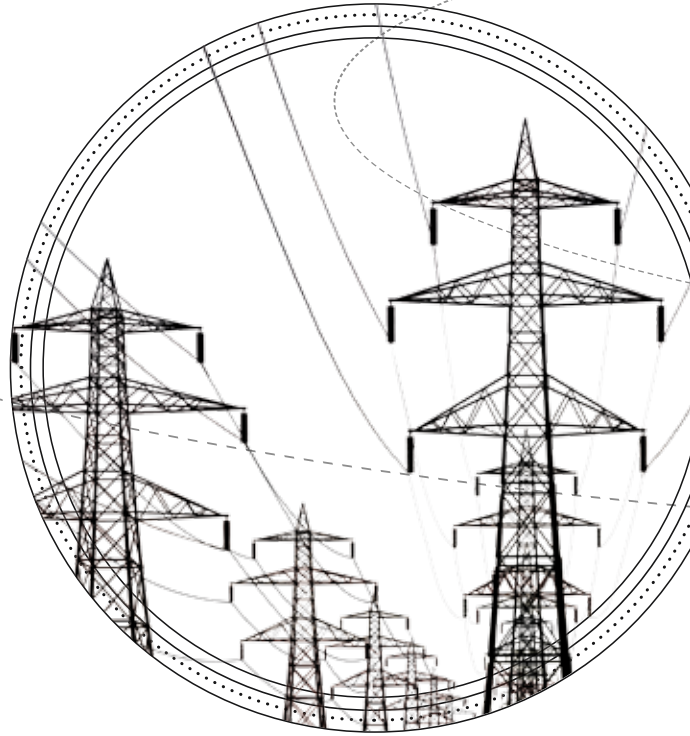
Accredited by the relevant Sector Education Training Authority (SETA), the South African Institute of Electrical Engineers (SAIEE) and the Engineering Council of South Africa (ECSA), the Zest WEG Group training centres offer Continuing Professional Development (CPD) points for its various modules, which have been developed in conjunction with WEG of Brazil.



Training through Zest WEG Group's CSI upliftment projects also have an internal focus whereby the Group invests in the development of its own people.

This takes place at various levels including Adult Based Education Training (ABET), in-service training, technical learnerships, graduate programmes leading to Engineering Council of South Africa (ECSA) recognised professions, Management Advancement Programmes (MAP) and MBA's





Electrical Construction

Specialist Electrical and Instrumentation Construction up to 400 kV

Overhead Line Construction

- Turnkey solution up to 400 kV

Substations

- Construction of surface and underground substations
- Refurbishment of existing substations

Implementation of Automation Systems

- Design, coding and implementation of automation software
- Supply and installation of PLC / SCADA hardware and software

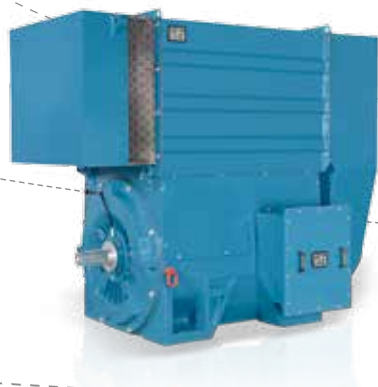
Project Management of Electrical Contracts

- Small and large construction sites
- Construction and erection supervision
- Site services and resource management
- Cross-border expatriate payroll management
- Cross-border temporary site establishment
- Global-procurement and logistics

Design of Electrical Boards and Systems

On-Site and In-House Accredited Safety Training





Electric Motors

Low Voltage Motors

High Voltage Motors

Motor and Drive Combinations

WEG Stock

- Multi voltage motors 0.12 – 500 kW
- VSD duty in accordance with IEC60034-17
- Δ 220-240 /380-415 V Y 50 Hz (63 to 100 frame)
- Δ 380-415 /660-690 V Y 50 Hz (112 to 355 frame)
- Δ 460 V 60 Hz (112 to 355 frame) or
- Δ 525-550 V 50 Hz (63 to 355 frame)

WEG Custom

- Custom built motors up to 50 000 kW
- Squirrel cage induction motors
- Wound rotor slipring motors with brush lifting system
- Wound rotor slipring motors with continuous brushing
- Wound rotor slipring motors suitable for slip energy recovery system
- Synchronous motors and condensers
- Synchronous turbo generators
- Permanent magnet motors
- DC motors
- Open drip proof motors (ODP)
- NEMA design motors
- High voltage flameproof motors
- Custom built to fit site (drop-in-replacements)

Invicta Vibrator Motors

- Δ 220-240/380-415 V Y 50 Hz or
- Y 525-550 V 50 Hz
- Centrifugal force 50 kgf-23 000 kgf
- Output range 70 W-12 500 W





Automation

Drives and Soft Starters

Low Voltage Variable Speed Drives

- 0 – 2 850 Ampere
- Single phase 220 V – 0.18 to 2.2 kW
- Three phase 380 V – 0.37 to 2 000 kW
- Three phase 525 V – 1.5 to 2 000 kW
- Three phase 690 V – 1.5 to 2 000 kW

Medium Voltage Drives

- 85 - 2 850 Ampere
- Three phase 2.3 kV – 315 to 4 000 kW
- Three phase 3.3 kV – 400 to 14 000 kW
- Three phase 4.16 kV – 400 to 16 000 kW

Low Voltage Soft Starters

- 0 – 2 424 Ampere
- Three phase 380 V – 1.1 to 750 kW
- Three phase 380 V – 1.1 to 1 250 kW (with Inside Delta Connection)
- Three phase 525 V – 1.5 to 1 050 kW
- Three phase 525 V – 1.5 to 1 800 kW (with Inside Delta Connection)
- Three phase 690 V – 37 to 1 400 kW

Medium Voltage Soft Starters

- 70 – 360 Ampere
- Three phase 2.3 kV – 220 to 1 100 kW
- Three phase 3.3 kV – 315 to 1 800 kW
- Three phase 4.16 kV – 450 to 2 250 kW
- Three phase 6.6 kV – 450 to 7 400 kW
- Three phase 6.9 kV – 800 to 3 400 kW

HVAC-R Variable Speed Drives

- 0 - 211 Ampere
- Single phase 220 V – 1.1 – 2.2 kW
- Three phase 380 V – 1.5 – 132 kW
- Three phase 525 V – 1.5 – 110 kW





Customised Automation Solutions

Locally Manufactured

Low Voltage Electrical Systems

- Fully withdrawable MCCs
- Stand-alone units
- Wall mount units
- Fixed pattern MCCs
- Control desks
- PLC/RIO panels
- Full range of distribution boards
- Standard starters
- Variable speed drive panels
- Softstarter panels

Medium Voltage Electrical Systems

- MV switchboards

Mobile Automation Solutions

- Skid mounted substations
- Portable substations
- Motor control centres (MCCs)

Modular Electrical Houses

- Electrical houses (E-Houses)
- Conventional containerised substations

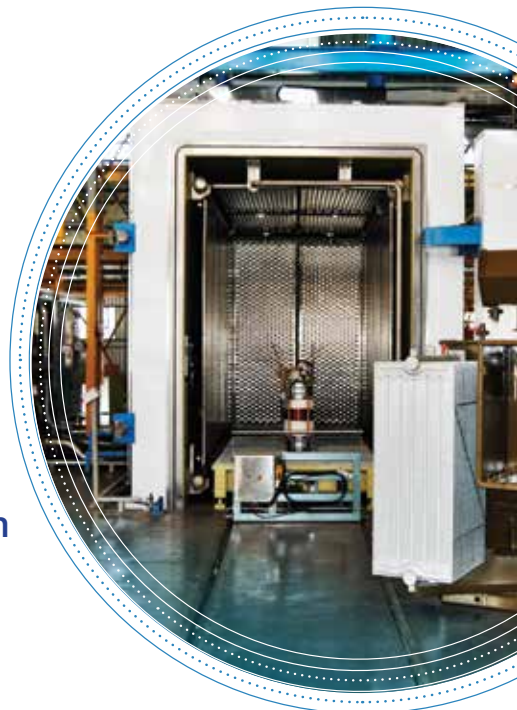


Low Voltage switchgear

- Capacitors
- Terminals
- Push buttons and pilot lights
- Earth leakage devices
- Switch disconnectors (isolators)
- Fuse switch disconnectors
- Air circuit breakers
- Miniature circuit breakers
- Ultra-rapid semi-conductor fuse protection
- Moulded case circuit breakers
- Electronic timing and monitor relays
- Electronic overload protection
- Enclosed direct on-line starters
- Motor protection circuit breakers
- Capacitor switching contactors
- Contactors and thermal overload protection
- Compact contactors



Automation



Transmission and Distribution

Transformers

Distribution Transformers

- Custom designed oil filled transformers
- Distribution 100 kVA to 3 150 kVA
- Windings options: copper or aluminium
- Locally manufactured

Power Transformers

- Power 3 150 kVA to 100 MVA 132 kV (locally manufactured)
- 50 MVA 550 MVA to order from WEG Brazil

Mini Substations

- Enclosure Type A, B and C
- Up to and including 2 000 kVA
- Customised units up to 33 kV for the African market
- 6 mm standard high risk vandal proof Eskom approved mini substations
- Locally Manufactured

Medium Voltage Switchgear

Tiger Ring Main Units – NX3F

- Extensible and non-extensible ring main units
- 12 kV 630 A (Feeder) 150 A (Tee - Off switch)
- 20 kA 95 kV impulse level

Interswitch – B20

- 12 kV 400 A 16 kA 1sec, 95 kV/imp.
- Resin cast

Locally Manufactured

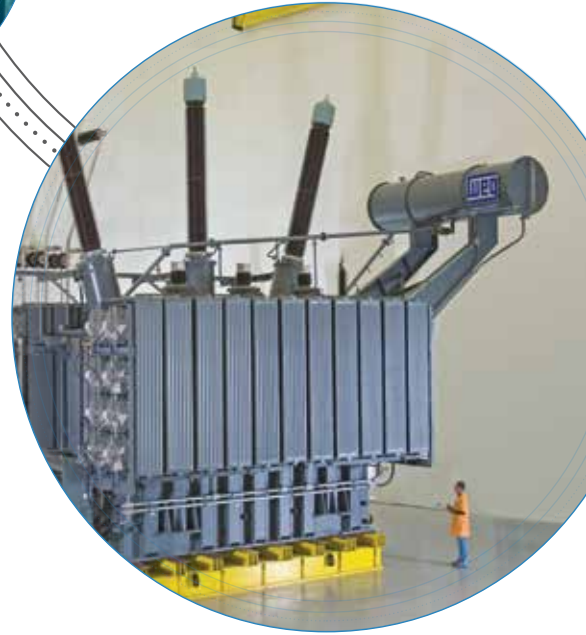
Medium Voltage Electrical Systems

- MV switchboards
- Locally Manufactured

Mobile Solutions

- Skid mounted substations
- Portable substations





Transformer Repairs and Services

- Transport and rigging
- Repairs and rewinds
- Oil regeneration and purification
- Laboratory oil analysis
- All repairs and services up to 100 MVA, 132 kV
- On-site repairs and service options are available for all products
- High voltage test facilities

Customised Transmission and Distribution Solutions

Infrastructure Solutions

- Overhead lines
- Substations
- Substation refurbishments
- Power factor correction

Mobile Transmission and Distribution Solutions

- Mobile substations
- Mobile switching stations
- Skid based mobile substation solutions
- Skid transformers
- Skid circuit breakers





Power Generation

Customised Power Generation Solutions

Integrated Power Generation Solutions

- Gas
- Diesel

Mobile Power Solutions

- Mobile generators
- Locally manufactured

Locally Manufactured

Diesel Generator Sets

Standard Generator Sets

Customised Generator Sets

- Mobile
- Enclosed containerised sets
- Open type

Generator Support Services

- Technical support
- After market support
- Synchronisation systems
- Change over systems

Locally Manufactured



Alternators

- WEG synchronous alternators (G Plus line and AG 10 line)
- Output available from 11 kVA up to 4 200 kVA - 4 Pole
- 400 (Y) / 200 V (YY) / 230 V (L-N) - 50 Hz
- Alternators up to 40 MVA ordered from WEG Brazil
- Alternators up to 150 MVA ordered from WEG US



Johannesburg

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Riverhorse Business Estate
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Fax: +233 30 27 664 93
Cell: +233 540 898 466
ghana@zestweg.com

Enl Electrical

Electrical/Instrumentation Engineering
and Contracting
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Linbro Business Park
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Zest Energy

Integrated Power Generation, Electrical
and Energy Solutions
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Generator Sets

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Tel: +27 (0) 11 723 6000
gensets@zestweg.com

Generator Sets & Panel Division

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Epping Industrial 1
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Tel: +27 (0) 21 507 7200
gensets@zestweg.com

Shaw Controls

Low and Medium Voltage Packaged
Switchgear Solutions
18 Mt. Ida Road, Robertsham
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Tel: +27 (0) 11 434 8100
info@shaw.zestweg.com

WEG Transformers Africa

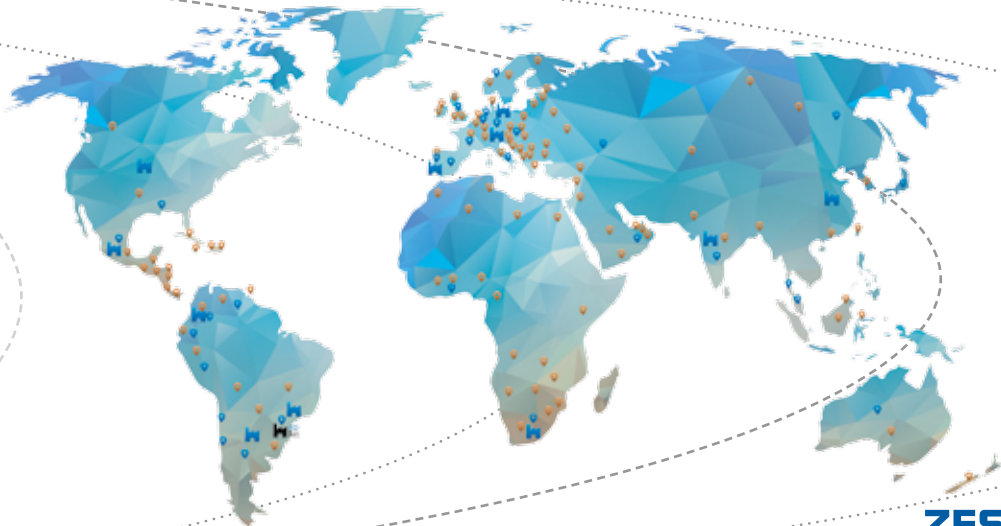
Locally Manufactured Transformers and Mini
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