



# CATERPILLAR® GENERATOR SETS

The power you need where you need it.

**JA Delmas**



# Caterpillar® generator sets

## Prime power/ stand-by power / peak shaving

Carefully manufactured and fully equipped.

### CAT Alternator :

*The reliability of the self-regulating, self-excited brushless Caterpillar alternator is unanimously recognized. It features: a stator with 12-wire reconnection capability, a class H insulation, a wave form distortion (THF) <2%, a Telephone influence factor (TIF) <50.*

**Charge Air fitters :** *The cartridge-type heavy-duty ; industrial quality air filters include a service indicator. Oil and fuel filters are replaceable screw-on canister type.*

### Control panel :

*The EMCP4 control panel is fully equipped with all necessary engine gauges, alternator gauges and warning lamps.*

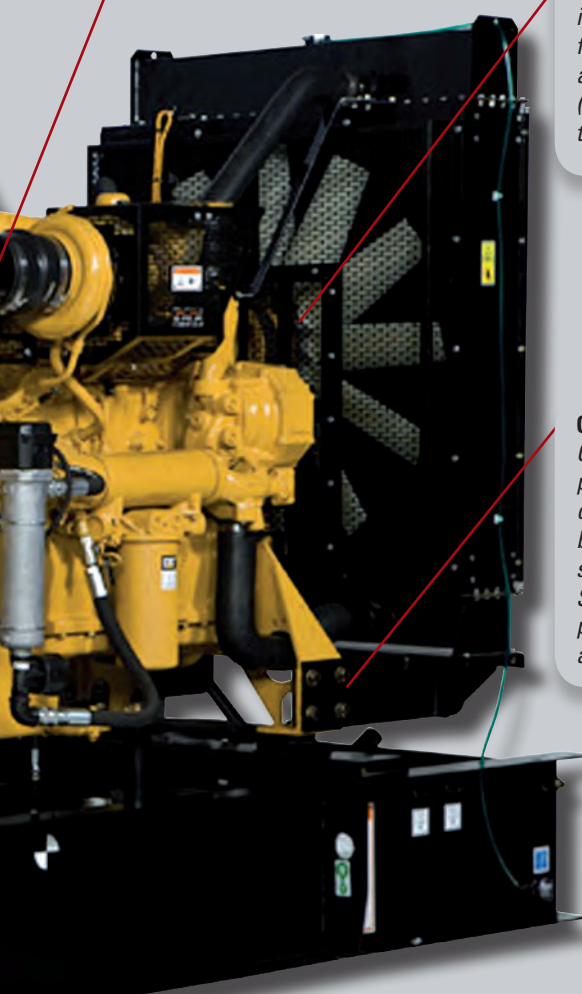
### Circuit breaker :

*A fully rated UL and CSA certified mainline circuit breaker is included to switch and protect the electrical load. It is fitted in an integral metal sheet enclosure. The wire connections are located directly below the circuit breaker.*

### Voltage regulator :

*The regulator accurately maintains the load voltage at levels  $\pm 1\%$  from no-load to full load.*





**CAT Diesel Engine :** *The Caterpillar® generating sets are driven by high-performance, highly reliable diesel or gas engines. Generating sets are delivered with all necessary lubricating-oil and engine coolant. These engines offer excellent fuel efficiency and outstanding service life.*

**Cooling system :**  
*A heavy-duty radiator with integral surge tank and blower fan, cools the diesel engines in ambient temperatures up to 50°C (122°F) or gas engines in ambient temperatures up to 43°C (110°F).*

**Guards :**  
*Complete guarding of all rotating parts such as cooling fan, charging alternator and drive belts is by perforated steel sheet shields. Special guarding for the exhaust piping and the turbo-charger is also available as an option.*

**Base Frame and Fuel Tank**  
*A heavy-duty steel base frame includes specially designed lifting and mounting points. A fuel tank is integrated as standard equipment in the base frame with generating sets up to 900 KVA. It is optional with larger models. Rubber pad mountings are fitted between the base and the engine/generator assembly in order to isolate the vibrations generated by the rotating parts.*

## Our generator sets: An investment in reliability, performance and durability.

Hospitals, public-buildings, mining or logging sites, all require uninterrupted power supply. In some cases a power failure can have extreme serious consequences.

**For all their engine, power generation or solar energy activities, J.A. DELMAS and TRACTAFRIC EQUIPMENT, both CATERPILLAR® Dealers for more than 75 years, have joined forces since 1998 in a common entity: AFRICA POWER SYSTEMS (APS)**

For J.A. Delmas and Tractafric Equipment's account, APS supplies:

- Diesel or Gas engine driven Caterpillar® Generating sets.
- Turnkey power plants including all the auxiliary equipment.
- Hybrid power plants incorporating diesel engines, solar energy and/or batteries.

Thanks to our extensive African local network covering twenty two (22) countries where important facilities and highly qualified service people can be found, we offer a superior service support which ensures a maximum availability of power plants of all sizes.

Our organization comprises a multidisciplinary team composed of high-level trained engineers and technicians who have the capability to devise, advise and build complex power generation systems. APS commits itself not only on the engineering and planning functions of the project, but also on the logistics through to on-site delivery. APS handles for you: engineering, project management, supply chain until delivery on site, construction and civil works, and commissioning.

All in all, APS provides you with turnkey solutions best matched to your requirements

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# Olympian™ Generating sets 9,5 – 330 kVA



Model	GEP9.5-4	GEP13.5-6	GEP18-6	GEP22-6	GEP33-3	GEP50-7	GEP65-9	GEP88-3
Prime power kVA / kW <sup>(1)</sup>	8.5 / 6.8	12.5 / 10	16.5 / 13.2	17.6 / 16	30 / 24	45 / 36	60 / 48	80 / 64
Stand-by power kVA / kW <sup>(1)</sup>	9.5 / 7.6	13.8 / 11	18 / 14.4	22 / 20	33 / 26.4	50 / 40	65 / 52	88 / 70.4
Voltage / Frequency	400 V / 50 Hz	400 V / 50 Hz	400 V / 50 Hz	400 V / 50 Hz	400 V / 50 Hz	400 V / 50 Hz	400 V / 50 Hz	400 V / 50 Hz
PERKINS Engine	403D-11G	403D-15G	404D-22G1	404D-22G	1103A-33G1	1103A-33TG1	1103A-33TG2	1104A-44T
Fuel tank capacity (in liters)	45	45	45	45	161	219	219	219
Approximate weight net (kg) <sup>(2)</sup>	329 / 521	387 / 580	447 / 641	450 / 654	827 / 991	917 / 1242	967 / 1340	1107 / 1440
Dimensions L x W x H in mm Standard (Open) With or without sound attenuation	1320x552x1179 1680x870x1370	1320x552x1258 1593x900x1275	1320x552x1258 1593x900x1275	1320x552x1258 1593x900x1275	1540x970x1361 2120x970x1525	1925x1120x1361 2300x1120x1525	1925x1120x1361 2300x1120x1525	1925x1120x1361 2300x1120x1525

<sup>(1)</sup> As defined in ISO standards  
<sup>(2)</sup> Open / with sound attenuated

## Definitions of ratings in ISO 8528-3

### PRIME RATING:

These ratings are applicable for supplying continuous electrical power (at variable loads) in lieu of commercially purchased power. There is no limitation to the annual hours of operation and these models can supply 10% overload power for 1 hour in 12 hours.

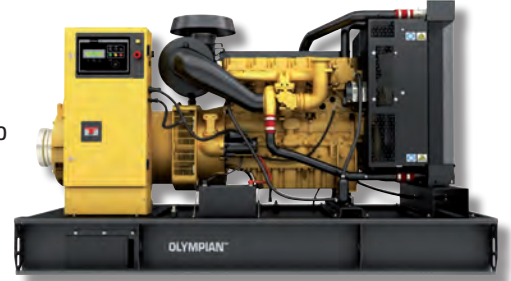
## Available options\*

- Sound attenuated enclosures with lockable access doors
- Static battery charger
- Jacket water heater
- Manual sump pump
- -25 or -35 dBA exhaust silencers on non-enclosed generator sets.
- Automatic fuel filling kit
- Generator excitation : AREP or permanent magnet
- Generator anti-condensation heater
- Control systems, remote monitoring, digital metering, multiple alarms/shut-downs, auto-start to utility synchronizing.
- Differential protection on the circuit breaker
- Different circuit breakers available
- Extended capacity fuel tank, up to 12 or 24 hours run time depending on model.
- Coastal insulation on the alternator
- Transfer switch with battery charger
- Extended warranty

\* Not all features or options are listed. Subject to technical modifications of the equipment.

# Olympian™ Generator sets : Exclusively from your Caterpillar Dealer

By design, engineering and manufacturing, the Olympian™ range Caterpillar's® goal was to meet your power demands up to 330 KVA. You will also benefit from the unmatched support of the Caterpillar's® network.



The Olympian™ products are worldwide recognized as highly reliable through innovative and robust design. They adapt to all applications thanks to a wide variety of configurations and optional equipment.

These generator sets are delivered complete and ready to install.



	GEP110-4	GEP150-1	GEP165-1	GEP200-4	GEP220-1	GEH250-4	GEH275-4	GEH300-1	GEH330-1
	100 / 80	135 / 108	150 / 120	180 / 144	200 / 160	230 / 184	250 / 200	275 / 220	300 / 240
	110 / 88	150 / 120	165 / 132	200 / 160	220 / 176	250 / 200	275 / 220	300 / 240	330 / 264
Hz	400 V / 50 Hz	400 V / 50 Hz	400 V / 50 Hz	400 V / 50 Hz	400 V / 50 Hz	400 V / 50 Hz	400 V / 50 Hz	400 V / 50 Hz	400 V / 50 Hz
AG2	1104C-44TAG2	1006TAG	1006TAG2	1106-E66TAG4	1106A-70TAG4	1306C-E87TAG4	1306C-E87TAG4	1606A-E93TAG4	1606A-E93TAG5
	227	349	349	418	350	350	350	699	699
0	1200 / 1596	1602 / 2025	1654 / 2080	1758 / 2020	2052 / 2944	2137 / 3029	2252 / 3094	2483	2755
1361 1525	2089x1120x1367 2770x1120x1525	2500x1120x1470 3520x1120x1815	2500x1120x1552 3520x1120x1815	2500x1320x1626 3520x1120x1815	2960x1003x1718 3894x1300x1875	2960x1003x1718 3894x1300x1875	2960x1003x1718 3894x1300x1875	3330x1100x1848 3985x1400x2156	3330x1100x1848 3985x1400x2156

### STANDBY RATING:

These ratings are applicable for supplying continuous electrical power (at variable loads) in the event of a utility power failure. No overload is permitted on these ratings. The alternator on these models is peak continuous rated.

# Telecommunication applications

In order to meet Telecommunication Operators' specific demands we have set up a specialized team.

**Our objective: to help in reducing your operating costs through improved energy management of your network.**

## Optimize your plant maintenance thanks to remote monitoring.

Remote monitoring affords you a real time follow up of the essential data of your energy production fleet.

Some of its applications:

- Monitoring of fuel consumptions on your different sites
- Precise indications of quantities of fuel delivered on-site
- Control of various parameters of your power generation plants (power consumption in kW, service hours of generator sets, battery charging status etc.)
- Alarm warning (via E-mail, SMS, GSM) in case of on-site maintenance requirement.



A centralized access to this information provides an optimized management of your power generation equipment. It also permits to dispatch a maintenance team to the site thus preventing a major failure. This will result in significantly reduced operating costs.

# Hybrid/Solar – Alternative Energies



## Alternative energies: Take up the challenge!

As a rule alternative energy systems are utilized on sites which are not connected to the utility (“Off grid” systems). They constitute a choice solution towards reduced fuel consumption and maintenance costs.

### 100% Solar systems

- *Up to 90% in operating cost reduction*
- *Return on investment in less than 5 years*

The photovoltaic system is sized to operate autonomously, apart from any other source of energy. During the day the solar field (assembly of photovoltaic modules) provides charging to the batteries.

The regulator – system control and management panel – prevents excessive charging or discharging of the batteries.

### Hybrid solar systems

- *From 30% to 90% operating costs reduction*
- *Return on investment in less than 3 years depending, on the system chosen.*

The solar system is sized to operate in parallel to a generator set. When the stationary batteries are discharged, a start-up signal is automatically sent to the generator set which will then deliver power to the telecommunication equipment and reload the batteries. The generator set will operate only when strictly needed. Such arrangement is particularly well suited to areas with low sun exposure or with intense rainy seasons.

### Hybrid/ batteries systems

- *From 30% to 60% operating costs reduction*
- *Return on investment in less than 2 years depending, on the system chosen.*

In this system a generator set delivers power to the telecommunication equipment and for battery charging. For instance the generator set will run 8 hours during the day and the system switches to batteries for the remaining 16 hours.

### Specific systems

We can consider all your requirements and offer specific solutions such as:

- “long running” system: extended maintenance intervals, up to 1,000 or 2,000 service hours.
- integral additional fuel tanks on generator sets.
- Generator sets with remote control transfer switches.

These arrangements are specifically designed to make maintenance easier and improve power plant management.



# Caterpillar® Generator sets : 300 – 900 kVA range



Model	3406C - 275	3406C-320
Prime power kVA / kW <sup>(1)</sup>	275 / 220	320 / 256
Stand-by power kVA / kW <sup>(1)</sup>	300 / 240	350 / 280
Voltage / Frequency	400 V / 50 Hz	400 V / 50 Hz
CATERPILLAR Engine	3406C TA	3406C TA
Fuel tank capacity (in liters) <sup>(2)</sup>	750	750
Approximate weight net (kg) <sup>(2)</sup>	4155 / 5460	4155 / 5460
Dimensions LxWxH in mm Standard (Open) With sound attenuated enclosures	4250x1150x2250 4650x1700x2350	4250x1150x2250 4650x1700x2350

<sup>(1)</sup> As defined in ISO standards

<sup>(2)</sup> Open / with sound attenuated enclosures

## Power you can rely on

This product range includes reliable and extremely rugged generator sets. The 3406C and 3412C generator set are favourite models in Africa due to their exceptional service life.

The C13, C15 and C18 engines integrate the so-called ACERT technology which combines cutting-edge technologies in electronics, air system management and fuel injection. This results improved engine response, fuel efficiency and lower harmful gas emissions.





## Available options\*

- Cooling system for up to 50°C ambient temperature
- Jacket water heater
- Alternator coastal and corrosive ambient insulation protection
- Weatherproof or sound attenuated canopy
- -25dB or -35dB exhaust silencer
- Fuel coalescent pre-filter
- Dual element air filter with pre-filter for dusty environment
- Fuel tank baseframe with extended capacity
- Automatic fuel transfer system
- Manual sump pump
- 3 or 4 pole circuit breaker and auxiliaries
- Digital automatic voltage regulator
- EMCP 4.2 panel with integrated control system and communication gateway
- Remote monitoring (Modbus, TCP/IP, GSM)
- Automatic transfer switch
- Battery charger
- 2 years up to 5 years Extended warranty
- Spare parts kit

\*Not all features or options are listed.  
Subject to technical modifications of the equipment.

C13-400	C13-450	C15-455	C15-500	C18-550	C18-600	C18-635	3412	3412	3412
350 / 280	400 / 320	455 / 364	500 / 400	550 / 440	600 / 480	635 / 508	680 / 544	725 / 580	810 / 648
400 / 320	450 / 360	500 / 400	550 / 440	605 / 484	660 / 528	700 / 560	750 / 600	800 / 640	900 / 720
400 V / 50 Hz	400 V / 50 Hz	400 V / 50 Hz	400 V / 50 Hz	400 V / 50 Hz	400 V / 50 Hz	400 V / 50 Hz	400 V / 50 Hz	400 V / 50 Hz	400 V / 50 Hz
C13 ATAAC	C13 ATAAC	C15 ATAAC	C15 ATAAC	C18 ATAAC	C18 ATAAC	C18 ATAAC	3412C TA	3412C TA	3412C TA
930	930	950	950	1000 / 1050	1000 / 1050	1000 / 1050	1200	1200	1200
3241 / 4655	3241 / 4655	4032 / 5100	4032 / 5100	4291 / 5306	4413 / 5428	4558 / 5573	7100	7100	7100
3800x1130x2156 4930x1658x2317	3800x1130x2156 4930x1658x2317	3823x1150x2166 5800x1600x2425	3823x1150x2166 5800x1600x2425	4000x1600x2386 5880x1900x2550	4250x1900x2386 5880x1900x2550	4238x1900x2386 5880x1900x2550	4500x1800x2000 5950x2250x2830	4500x1800x2000 5950x2250x2830	4500x1800x2000 5950x2250x2830

## Definitions of ratings in ISO standards

### PRIME RATING:

These ratings are applicable for supplying continuous electrical power (at variable loads) in lieu of commercially purchased power. There is no limitation to the annual hours of operation and these models can supply 10% overload power for 1 hour in 12 hours.

### STANDBY RATING:

These ratings are applicable for supplying continuous electrical power (at variable loads) in the event of a utility power failure.

No overload is permitted on these ratings. The alternator on these models is peak continuous rated.

# Caterpillar® Generator sets: 1000 – 7150 kVA range

## “Investor” Range

1000 through 7150 kVA generator sets

### Serenity by choice

Our generator sets take the most from Caterpillar’s experience and expertise.

The V(1500 TPM) engines (1500 rpm) offer unmatched load impact acceptance and reliability.

Also the SR5 alternators and EMCP control panels incorporate proven technical innovations.



Choosing Caterpillar technology means reliable and cost-effective solutions.



## Available options\*

- Radiator sized for a 50°C (122°F) temperature
- Dual element air cleaner
- “Cyclone” type air pre-filter
- Coalescent fuel pre-filter
- Fuel priming pump
- Fuel cooler
- Jacket water heater
- EMCP control panels
- Annunciator modules
- Heavy-duty starting batteries
- Fuel tank with automatic filling kit
- Four-pole circuit breaker
- Containerized installation

\* Not all features or options are listed. Subject to technical modifications of the equipment.

Model	C32	C32	3512	3512B	3512B	3512B	3512BHD
Prime power kVA/kW <sup>(1)</sup>	910	1000	1275	1360	1500	1600	1700
Stand-by power kVA/kW <sup>(1)</sup>	1000	1100	1400	1500	1600	1750	1875
Dimensions LxWxh in mm Standard (open)	4700x2100x2250	4700x2100x2250	5700x2100x2300	5800x2100x2300	5800x2100x2300	5800x2100x2300	6100x2300x2600
Empty weight (kg) <sup>(2)</sup>	8100	8100	12600	12600	12600	12600	12700
Sound attenuating enclosure	⊙	⊙	○	○	○	○	○
ISO Container	⊙	⊙	⊙	⊙	⊙	⊙	⊙

### Other voltages and frequencies available upon request

- ⊙ As options
- Not available

**Standard conditions:** Diesel engine, water-cooled, 1500 rpm, fuel weight to volume ratio : 0,839 Kg/liter at 29°C ambient temperature, lowest acceptable fuel calorific capacity at 29°C : 42,780 kJ / Kg, air relative moisture content : 60%, atmospheric pressure 1013 hPa, Alternator voltage : 400V/50Hz, power factor : 0,80.

\*dimensions and weights without radiator



3516	3516B	3516BHD	C175-16	3606@1000TPM	3608@1000TPM	C175-20	3612@1000TPM	3616@1000TPM
1825	2000	2275	2725	2425	3250	3600	4850	6500
2000	2250	2500	3000	2688	3575	4000	5375	7150
6300x2100x2600	6400x2100x2600	6800x2300x3100	6300x2200x2300*	10300x2600x4000	10300x2600x4000	6800x2400x2600	10300x2600x4000	10300x2600x4000
17300	18500	19000	17800*	34070	41500	22500*	51300	65000
○	○	○	○	○	○	○	○	○
◎	◎	◎	◎	○	○	○	○	○

### Definitions of ratings in ISO standards

#### PRIME RATING:

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# Accessories



## Lighting masts

A complete range of halogen or metal halide lighting towers / masts is a perfect response to the lighting requirements on your earth-moving or mining job-sites.

## Trailer-mounted generator sets

In order to permit fast and easy moving of your generator sets, we offer a range of trailers suited to your working conditions: on-the-road or off-the-road trailers, single or dual axle, with or without braking system.



## Uninterruptible Power Supply (UPS)

As some critical applications require an uninterrupted power supply the UPS systems will afford the perfect response when it comes to provide a non-fluctuating back-up source both in terms of voltage or frequency.

Energy may be stored in batteries (or by an inertia flywheel from 120 kVA and up) and the "generator set + UPS" comprehensive Caterpillar technology will ensure a maximal reliability.

The UPS will supply an unaltered and stable energy to the sensitive loads thus guaranteeing protection to the critical application as well as optimum performances and longer service life to the protected equipment.

### UPS features (battery type double conversion)

- Integrated battery control
- Batteries to supply from 5 minutes to 8 hours back-up power
- Compact volume
- System efficiency up to 94%
- Corrected entry of power factor
- Protection against transient voltage peaks
- Fast voltage regulation
- Low-positioned wiring entry
- Reduced distortion of incoming current
- Simplified installation
- Minimal maintenance
- Silent operation
- Paralleling capability of up to six units



# Electrical engineering



## Simple and modular !

A simple and modular concept is our preferred choice as it makes it easier for your operators to understand and run the system. We generally recommend relay wiring whilst reserving electronic cards or load management systems for some specific applications

## Quality :

In order to guarantee an optimal reliability we carry out a complete test of the equipment before shipment from the factory.

Our technicians will provide support upon on-site commissioning: each functionality is contradictorily tested with you and results will be given in a written report.

## Transfer switches, paralleling switchgears, main control panels – low or high voltage

**A full range of reliable electrical solutions to meet your expectations**

Our switchgears are designed to meet your operating demands, as well as the often difficult operating conditions (ambient heat, humidity, dust etc.) or else your future expansion projects.

## Transfer switches

- Mains failure
- Generator Set 1 to Generator Set 2
- Time controlled
- With load management system



## Monitoring systems

We develop monitoring solutions (whether local or remote) which can visualise and record all the operation parameters of your generator sets or of your complete plant.

## General distribution panels

Whether manual or automatic each switchgear is unique and specifically designed to suit your needs : standby, back-up, for your main operations, prime power generation, load control, peak shaving, automatic load shedding etc.

# Oil and Gas industry



**For your drilling, production or compression operations you can rely on Caterpillar's expertise to meet your requirements.**

- Mechanical drive engines for process compressors or fire pumps.
- Power plants and utilities supplying energy to "process consumers" (Liquid pumps, compression plants)
- Generator sets for general or dedicated usage (off-shore or land-drilling, electrical pumps)
- Diesel or gas engines, or dual (bi-fuel)
- Fuel flexibility: Heavy fuel, crude oils, diesel or field gases

**Solutions which match the most stringent conditions of your oil-sites**

- Protection systems which meet ATEX certification requirements for explosion-risk zones.
- Protection against sea-water spray and up to class IP55 insulation
- "Marinized" engines (wirings, connections, materials, surface treatment, paint-coating)
- Customized configurations: under-shelter installation, single chassis for engine and driven equipment, communication module.
- Up-dating of existing plants

# Caterpillar® Marine range



**Backed by over 80 years of experience in the area of marine energy, the engines and generator sets of the Caterpillar® marine range are designed for reliability and efficiency in the most severe conditions.**

## Propulsion engines and marine gears

- all types of vessels : dredges, launches, pushers, tugs and trawlers.
- Power range:
  - Minimum: 100 kW (at 2,800 rpm)
  - Maximum: 5,650 kW (at 900 rpm)
- Marine gears: Twin Disc, ZF or Reintjes

## Marine generator sets

- Prime power or standby applications
- Power range : 22kVA through 6,500 kVA

## Auxiliary engines

- Any type of driving application: winches, water pumps, sludge pumps
- Power range:
  - Minimum: 189 kW at 1,500 rpm
  - Maximum: 5,420 kW at 1,000 rpm

## Standard equipment

- Wiring, electrical connections and painted coating specifically engineered for marine environment (high resistance to heat and corrosion)
- Heat exchangers, sea-water pumps and cooling radiators built from special materials

## Available options

- MCS, IMO, BV or LR certifications
- Engine cooling by sea-water heat exchanger, keel cooling or radiator
- Safety devices and alarms
- Bridge installed engine control and monitoring
- Additional Power take-offs for auxiliary drives (air compressor, alternator, pump,...)

# Medium-speed generator sets

## Caterpillar® - MaK: 2 590 ekW – 13 970 ekW



### Reliable, efficient, sturdy

Specifically engineered for continuous power generation, the generator sets of the CM range (Caterpillar – MaK). These generator sets have received worldwide acceptance for their reliability and performances.

They are driven by medium speed engines with rpm's of 500, 600 or 750 rpm depending upon the models.

Thanks to their long service life they are the most attractive energy production tool for long term projects.

Highly efficient and capable to run on heavy fuel (HFO, up to 380Cst) these sets will drastically bring your operating costs down.

Continuous power per ISO* standards	Model	RPM
3237 kVA / 2590 ekW	<b>9CM25</b>	750 tr/min
3456 kVA / 2765 ekW	<b>6CM32</b>	600 tr/min
4656 kVA / 3725 ekW	<b>8CM32</b>	600 tr/min
5238 kVA / 4190 ekW	<b>9CM32</b>	600 tr/min
6988 kVA / 5590 ekW	<b>12CM32</b>	750 tr/min
9313 kVA / 7450 ekW	<b>16CM32</b>	750 tr/min
6550 kVA / 5240 ekW	<b>6CM43</b>	500 tr/min
8725 kVA / 6980 ekW	<b>8CM43</b>	500 tr/min
9825 kVA / 7860 ekW	<b>9CM43</b>	500 tr/min
13094 kVA / 10475 ekW	<b>12CM43</b>	500 tr/min
17463 kVA / 13970 ekW	<b>16CM43</b>	500 tr/min

\*Ratings in ISO standards



# Complete power plants



## Technical solutions specifically engineered to meet your expectations

### Our expertise to serve your energy needs:

Backed by an experience of more than 10 years in the installation of power plants in Africa our engineers will with you design solutions matching your energy needs.

*Whatever your **activity** being a:* utility company, independent energy producer, industrial, mining, logging, oil company, hotel, bank...

*Whatever the **location** of your site:* in the very heart of a big city, isolated in a desert zone, in a tropical jungle, on an off-shore drilling platform...

*Whatever the **application**:* continuous, prime, stand-by power on an isolated site, or coupled to the utility, stand-by application (including critical stand-by), co-generation (electricity + heat production)...

*Whatever the **fuel**\* available:* diesel oil, heavy fuel, bio-fuel, natural gas, anaerobic gas....

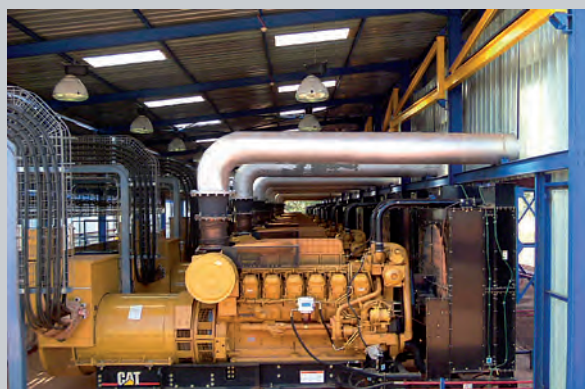
### Following you step by step in the achievement of your energy projects:

Starting from the evaluation of your needs - through to the turn-key delivery we define or refine with you the whole of your energy needs (electrical but also heat generation). Together we optimise the technical solutions best matched to your requirements and constraints. We install and start up the equipment which we have designed and delivered.

### Being day by day close to you with the operation of your power generation equipment.

It is our commitment to support you in order to ensure the best reliability and performance level of your equipment. Our maintenance contracts are tailored to meet your specific requirements:

Full-service contracts covering operation and maintenance, maintenance supervision contracts, technical assistance contracts, training...



\* Please refer to the technical specifications of fuels as authorized by Caterpillar.

## Product support



## A high-quality service close to you

Regardless of the type of your plant, for every generator set we offer a wide range of services adapted to your needs.

We can also agree upon maintenance contracts such as:

- regular maintenance contracts
- preventive maintenance contracts
- full service contracts

For more information on our services, please feel free to contact our local dealerships.

## Entrust our experts with the maintenance of your generator sets

### The ultimate in customer's service

JA Delmas and Tractafic Equipment cover 22 countries in Africa by a vast network of professionalism with correspondents in each country. Thanks to our efficient and dynamic technical teams, trained to the latest technologies, we offer a high-quality product support. Our workshops are fitted with equipment and tooling meeting the manufacturer's standards as well as service vehicles for on-site servicing wherever necessary.

### Training Centers

Our centers in Bamako (Mali) and Casablanca (Morocco) can provide training in the areas of electricity or engines for your own technicians. The latter thus receive all the necessary know-how to correctly maintain your equipment. Our certified training specialists contribute to the development of the human assets in your company.

### The right parts at the right time in the right place

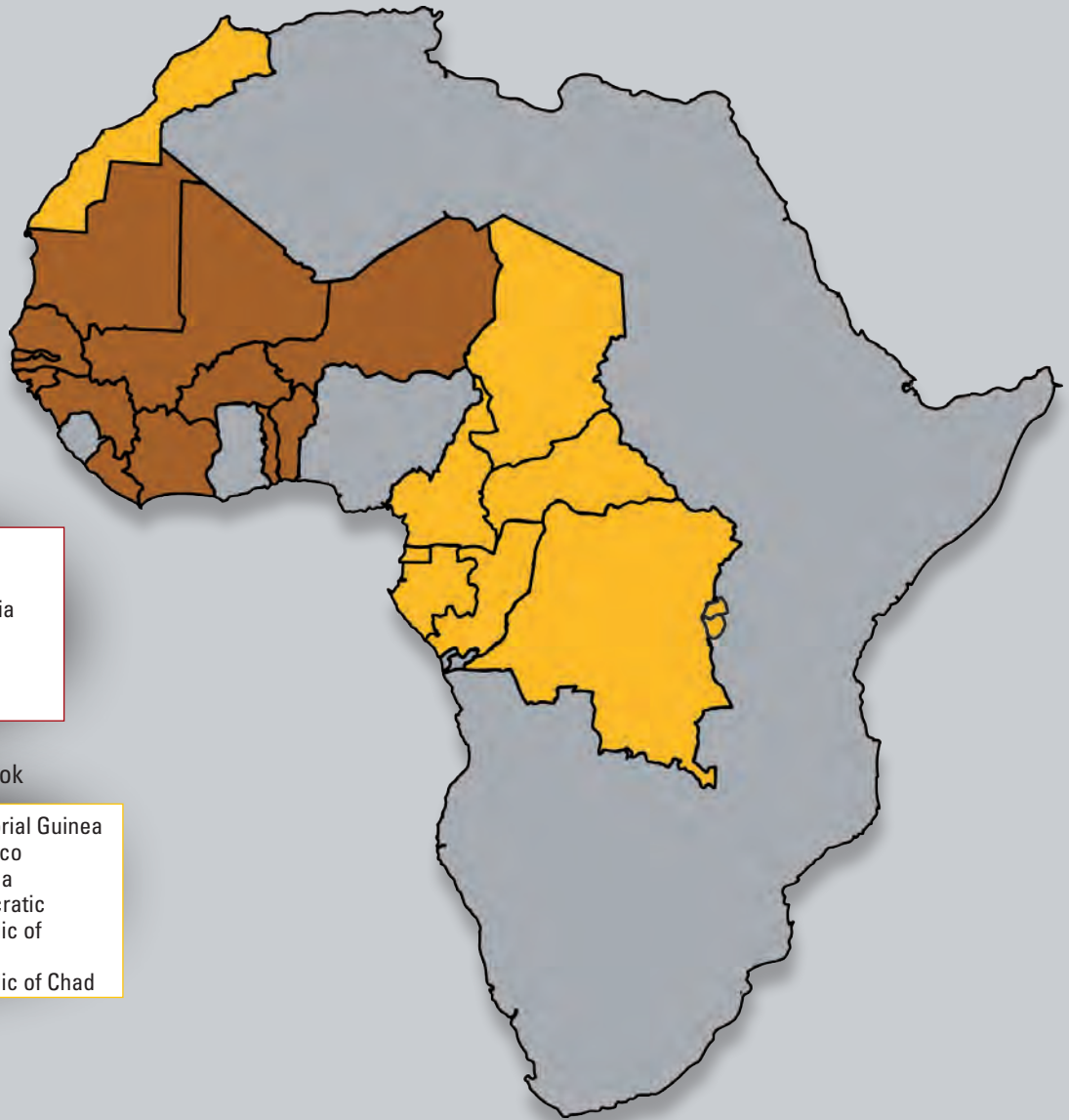
From the computerized parts order entry to the physical delivery we keep control over the whole supply chain and can thus offer:

- genuine parts inventories available in our facilities,
- good differentiated delivery times whether for emergency or stock supply,
- real time information on availability of parts within the worldwide Caterpillar® network,
- counselling on parts selection and their adequate use.



# Serving Africa with passion

Back in 1998 JA Delmas and Tractafric Equipment, both Caterpillar dealers for more than 75 years, decided to join forces in the areas of engines, generator sets and solar energy. They then created a new entity : AFRICA POWER SYSTEMS (APS).



## ● JA Delmas network

Benin	: Liberia
Burkina Faso	: Mali
Ivory Coast	: Mauritania
The Gambia	: Niger
Guinea	: Senegal
Guinea Bissau	: Togo

## ● Tractafric Equipment network

Burundi	: Equatorial Guinea
Cameroon	: Morocco
Central African Republic	: Rwanda
Congo	: Democratic Republic of Congo
Gabon	: Republic of Chad



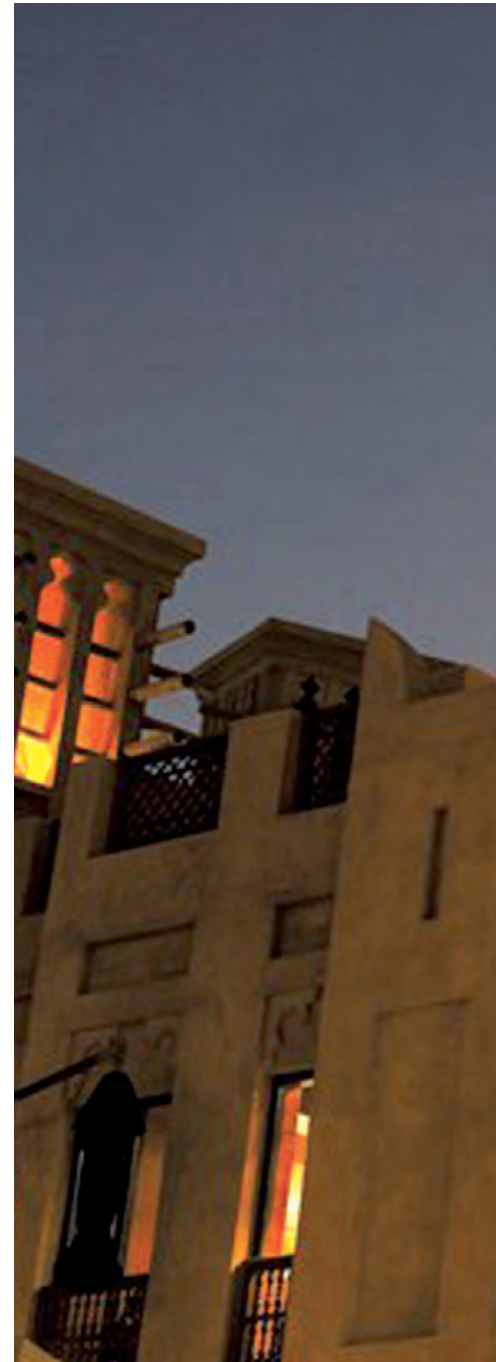
To obtain the contact details of your local dealer, please visit the website : [www.africapowersystems.com](http://www.africapowersystems.com)

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**JA Delmas** 