

[www:// grupel.eu](http://www.grupel.eu)

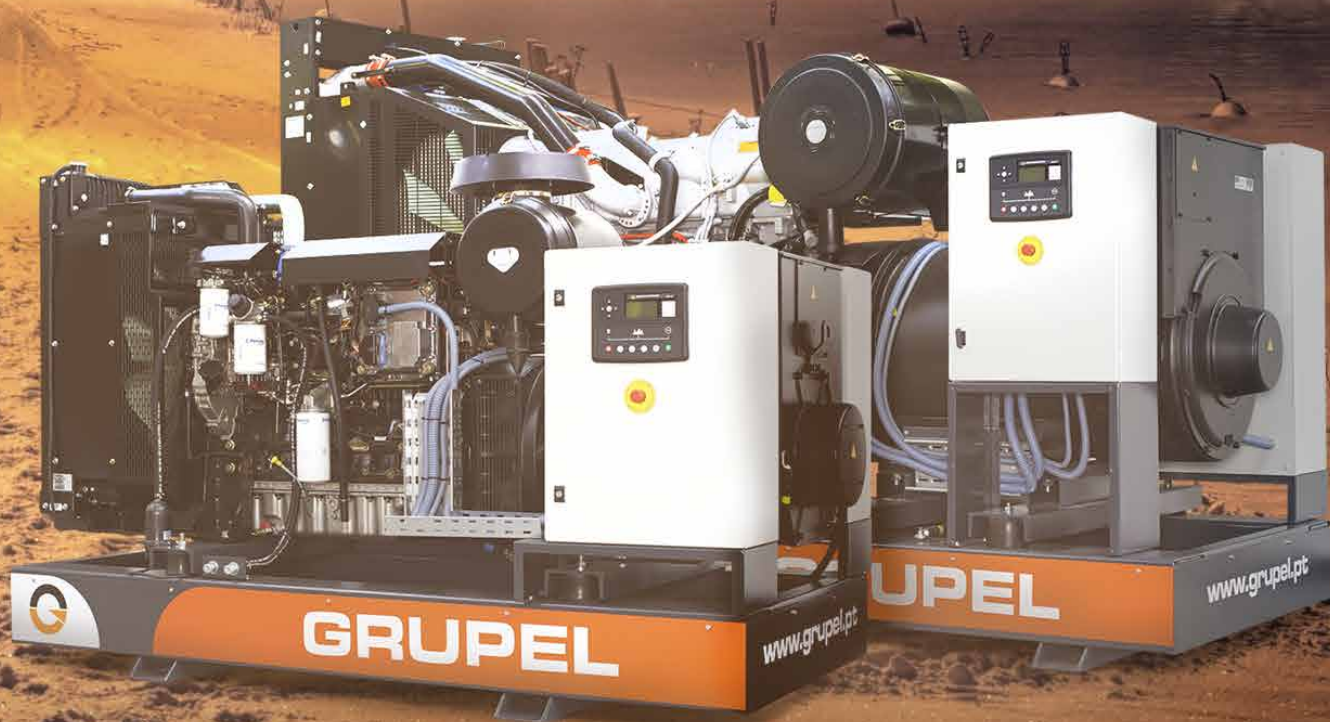


GRUPEL
energy everywhere



GRUPEL GENERATORS

More than
40 YEARS
OF EXPERIENCE
producing energy



COMPANY

More than **40 years of experience** dedicated to the manufacturing of a wide range of gensets, with power rates from **3 up to 3500kVA**, for the **energy and power supply**.

Grupel began its activity in 1976 where its main activity is the manufacture and commercialization of a **wide range of generators** (open chassis, soundproof - canopy, or in heavy containers) equipped with the best quality components and with a power range between **3 to 3500kVA**, dedicated to produce energy.

Nowadays, it is the largest production unit of Gensets in Portugal, powering in the **5 continents and over 60 countries**. **Grupel** means **flexibility**, as it's perfectly empowered to produce either standard gensets or even special projects, involving a high complexity level of engineering and conception.

In the latest years, the growth was over **25% per year**, which reflects the quality of the generators and the trust of our customers.

82%

of the company's
business volume
is mainly due to
our international
presence.



OUR SOLUTIONS

The Generator can be manufactured in different versions: open, soundproofed (canopied), container and trailer.

SR

SMARTRANGE
7-30kVA



SmartRange comprises products with appropriate characteristics for emergency applications. These devices operate automatically when there is a mains failure, thus ensuring a competent and efficient power delivery.

IR

INDUSTRIALRANGE
40-1250kVA



Our **IndustrialRange** of generator sets is directed for industries and it is designed to work as the main power source (or as an emergency source) where there is no other source of energy, or when there is one, and it is very unstable.

HR

HEAVYRANGE
600-3000kVA



The **HeavyRange** of our containerized diesel generators is characterized by the ability to provide low and/or medium power voltage on a continuous basis as well as acting as a power source in case of emergency.

..... **STANDARD RANGE**

SP

SPECIAL PROJECTS



One of the features that most distinguishes Grupel is its capability to customize its products for every client's particular requirements. The watchword in our range of **Special Projects** is always one: **Flexibility**.

GR

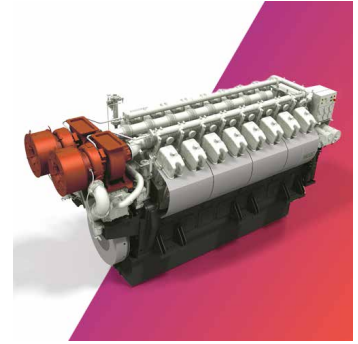
GAS RANGE



GasRange: The use of this fuel has transformed the production of electric power throughout the years, becoming a very attractive low-cost operation and lower environmental emissions as a generation option.

MSR

MEDIUM SPEED RANGE



The **MediumSpeed** range usually works at less than 1000 rpm, and is renowned for its robustness, low fuel consumption and ease of maintenance. Apart from these being technical advantages, they also result in reliability and profitability.

PR

PORTABLE RANGE



Grupel's **PortableRange** generators are ideal for powering various domestic activities such as: leisure, support for low-power power tools in the industrial sector, as well as the daily support of agricultural activities.

RE

RENTAL RANGE



The **RentalRange** comprises generator sets specially designed for the rental generators market and serves temporary power supply needs. Its main applications are in construction sites, roads, underground structures, parties and events in general, telecommunications, industries etc.

LT

LIGHTING TOWERS



The **LightingTowers** range is characterized by its efficiency and simplicity that allows these products to be used on all types of weather and field conditions.

Experience in the development of *complex engineering projects.*

EMERGENCY SYSTEM



Installation in Jordan

// Three emergency diesel generators

- 1x 1658kVA (STP) Emergency Diesel Genset with PERKINS 4012-46TAG2A engine with STAMFORD PI734E alternator and DSE7420 controller in a 40" container.
- The 40" container is divided into 3 rooms, one for the generator, one for the air filters and one for the power and control panels [10000lts fuel tank]
- 2x 1350kVA (STP) Emergency Diesel Genset with PERKINS 4012-46TWG2A engine with STAMFORD PI734C alternator and DSE7420 controller in a 20" container
- The 20" container is divided into 2 compartments, one for the generator and one for the filters. The panels are fitted in the structure of the container [15000lts fuel tank]

// Power plant characteristics

- Feeding the essential load that is required for protecting sensitive equipment
- Designed for operating in extreme ambient conditions.
- Air inlet of the container has heavy air filters due to the high concentration of dust in the area
- Motorized louvers are installed in the air inlet and outlet
- Remote-control panel for each generator installed in the electrical rooms of the Terminal
- The gensets start-up automatically and feed the essential equipment in less than 20 seconds. The mains failure detection is done by a DSE335 model that controls the changeover between the mains and the genset

MEDIUM SPEED POWERPLANT



Installation in São Tomé e Príncipe

// Three emergency diesel generators

- The power plant was built to create a reliable power to feed the island that overcame a low demand from a current of 16 MW to 25 MW
- Engineering and design (basic and detailed solutions)
- Generators production of power supply
- Production of synchronized boards, distribution and electric protection
- Conception and turnkey construction of the entire power plant

// Power plant characteristics

- 3 Generators of 2500 kVA at medium speed 750rpm and medium voltage 30kV
- 1X110 KVA Blackstart Generator
- Detection and extinguishing fire system
- Compressed air for the cranking system
- SCADA system for operation
- Plug in special design soundproof container diesel power plant
- Continuous operation power mode

GAS CONGENERATION



Installation in Spain

// Turnkey Installation of 2,5 MW Natural Gas Power Plant Generation

- This project consisted of an engineering solution system with dual use as an emergency system and as a continuous generation supply to a gas storage plant.
- This power plant consists of 2 gensets of 1166kW natural gas with synchronization between generator, and mains SCADA control.

// Power plant characteristics

- Natural gas feeding
- Instrumentation, communication, and control system
- Remote cooling system
- Exhaustion and ventilation system
- Power panel of synchronization for both generators

GENSETS FOR MILITARY USE



Installation in Abu-Dhabi

// Installation of military field hospital

- Diesel power plants to feed military field hospital, designed and constructed for high temperatures and with heavy dust ambient in the middle of the desert, thereby, we had to create an adapted solution to these weather conditions.
- Robust and soundproofed generators with mobile trailer. They operate in extreme conditions always maintaining the systems reliability

// Key Features

- Diesel Power Plant 1, composed of 2x250kVA and 2x400KVA, all of them in low voltage (400 V)
- Diesel power plant 2, composed of 1x250kVA and 2x400KVA, all of them in low voltage (400 V)
- All generators located in 20" containers, with filtering and dust retention systems
- Oversized refrigeration system for hot environments
- Control, synchronism and power distribution controls

TECHNICAL SUPPORT

AFTER-SALES

Always thinking about **product efficiency and customer satisfaction.**



Technical Assistance

Permanent technical assistance, performed remotely by phone or on site.



Parts

Spare parts supply for industrial diesel engines, alternators and generators of all brands.



Maintenance and Repair

Integrated and customized monitoring of your equipment, to maximize its usage.



Solutions and Projects

Tell us what you need. We carry out projects and solutions tailored to every need.



Start-up and Training

Verification of the installation, of the equipment as a whole, and conduction of functional assays.

Request a Service:

www.grupel.eu



GRUPEL GENSET

A generator is a device that converts thermal energy into mechanical energy and then into electricity. In general, it consists on an engine and an alternator coupled and mounted on a frame skid base together with the batteries, the fuel tank, the control panel and the muffler.

Control Panel

The Control Panel is the unit responsible for monitoring and protecting Grupel gensets and it can be considered the genset "brain". It is placed on the chassis in open versions, or integrated into the canopy or container in soundproof versions.

Versatility and reliability are the main features of our control panel, allowing all gensets to be converted into different types of use, by simply changing the panel. Grupel gensets are configured to be used both in manual and in automatic mode and/or in parallel with other units.

Alternator

The choice of the alternator depends on the purpose and working conditions of the power genset. The most used alternator by Grupel are Leroy, Grupel and Stamford to their recognized quality, innovation and reliability. With a wide power range, they are prepared for all configurations and variety of SAE adapters, which facilitate the docking with a wide number of engines.

Automatic Transfer Switch

The Automatic Transfer Switch makes the switching between the main sources (usually the network) and the secondary source (usually the generator), if the main source fails. The Automatic Transfer Switch is automatically operated and is also used to interconnect power gensets operating in alternation. We recommend installing the Automatic Transfer Switch when the power genset operates in an emergency mode.

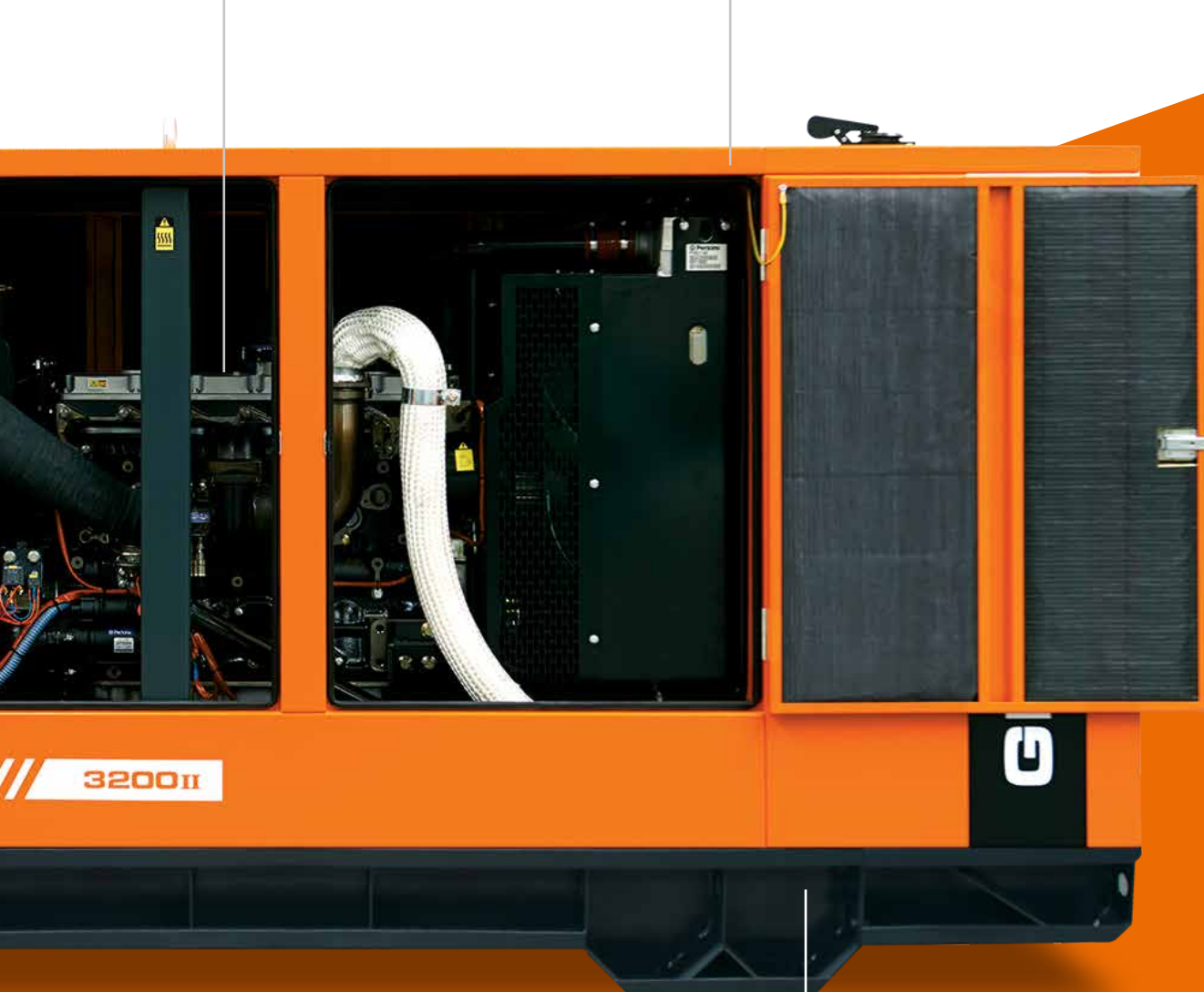


Engine

Grupel's range of engines is mainly represented by Perkins, Iveco, Baudouin, and Grupel engine brand as well. Each engine is designed to improve productivity and performance. All our engines are specially prepared for adverse weather and to meet the requirements and standards requested by our customers.

Soundproof Cabin

- ✓ Manufactured in galvanized steel, aluminum or stainless steel;
- ✓ Insulated with sound-absorbing and anti-fire material;
- ✓ Polyester epoxy paint;
- ✓ Efficient in the airflow to the engine cooling;
- ✓ Integrated control panel with easy access;
- ✓ Side doors;
- ✓ Anti-corrosion treatment.



Baseframe

- ✓ Steel frame;
- ✓ Anti-vibration system;
- ✓ Painted with anti-corrosive treatment;
- ✓ Lifting System;
- ✓ Integrated tank.

	REF. GR3500	REF. GR7500SD	
Generator	Type	Single Phase	Single Phase Three Phase
	Voltage regulation	AVR	AVR AVR
	Prime Power (PRP) (kW)	2,3	6,0 6,0
	Standby Power (STP) (kW)	2,8	7,5 7,5
	Start-up Power (kW)	3,1	8 8
	Frequency (Hz)	50	50 50
	Voltage AC (V)	230V	230V 400V
	Power factor	cos φ = 1	cos φ = 1 cos φ = 0,8
	Engine type	OHV Forced Air-cooled 4-Stroke	OHV Forced Air-cooled 4-Stroke OHV Forced Air-cooled 4-Stroke
	Cylinder (ml)	208	460 460
	Fuel tank capacity (L / gal)	15/(3.96)	25/(6.6) 25/(6.6)
	Starting system	Manual Starting	Manual or Electric Starting Manual or Electric Starting
Noise level [dBA/7m]	≤ 72	≤ 75 ≤ 75	
Package Dimensions	General dimensions (mm / inch) (L x W x H)	610x450x460 (24"x17.7"x18.1")	690x525x570 (27.2"x20.7"x22.5") 690x575x570 (27.2"x22.6"x22.5")
	Weight [kg (lbs)]	44	87 92
Extras	Power sockets	2 schuko 16A	1 schuko 16A + 1 Single Phase Industrial 3P 32A 1 three-phase 5P 16A
	Circuit breaker	2 Poles	2 Poles 4 Poles
	Differential circuit breaker	10A / 30 mA	1 Circuit Breaker 1P 32A / 30 mA 1 Circuit Breaker 4P 16A / 30 mA
	Wheels and handles	No	Yes Yes
	Battery	No	14Ah 14Ah
	Voltmeter	Analog	Digital Digital
	Ammeter	No	Digital Digital
	Hour meter	No	Digital Digital
Auto-start [in case of network failure]	No	Yes Yes	

FEATURES

Fuel indicator

Easy to read and interpret the level of the fuel in the deposit



Large capacity

Fuel tank of 15L or 25L, depending on model

Digital display

Voltmeter, ammeter and hour meter

Auto-start

In case of network failure

Easy handling

Genset with handles for its transportation and with a wheel's kit (depends on the model)



REF. GR7500SD



REF. GR3500



REF. GR7500SD



Earth Leakage

It makes our generator more effective in protecting people and equipment against the preventient risks of using the power supply.

APPLICATIONS



The increasing usage of gas on power generation, in industry and at our homes as well, has an impact in the energy production. The gas applications are typically more economical and environmentally friendly.

Grupel presents its gas-powered generators, with the following characteristics:

// Use of engines with great reliability using different type of fuels such as like:

Natural Gas // Biogas // LPG/GPL

// Wide range of powers: 5 kW up to 4500 kW, covering all the possible applications

Gas gensets advantages

- The produced electricity may cover the total installation demand and the excess may be exported to the grid as well
- The high efficiency of cogeneration and/or trigeneration applications allows savings up to 40% compared to other standard systems, resulting in a ROI much quicker
- Emission retail gas toxic and harmful such as: carbon dioxide, sulphur dioxide and nitric dioxide
- Acoustic noise levels are lower.

Grupel's factory is equipped with a gas gensets testing area, where the Gas Range is fully set up before its shipment.



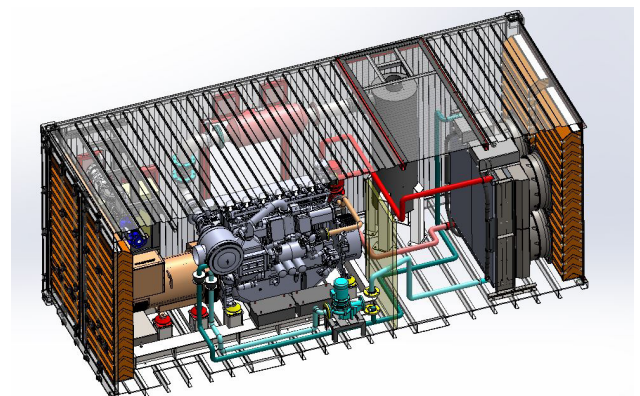
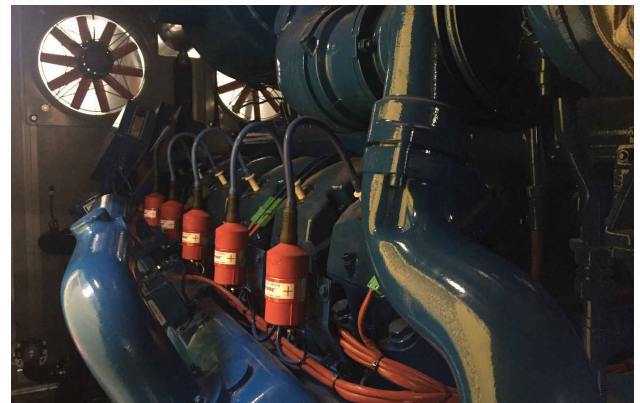
CLEAN, RELIABLE AND SUSTAINABLE POWER

BASIC SCOPE OF SUPPLY

- 4 Stroke combustion engine
- Self excited alternator ip21/ip23 class H
- Steel baseframe with anti-vibration pads
- Cooling radiator or plate heat exchanger
- Control panel with measuring devices and control unit
- Automatic switch breaker
- Gas train ramp fully equipped
- Steel residential exhaust system

OPTIONS

- Soundproofed steel protection enclosure and weather protection
- Automatic oil level control
- Engine pre-heating
- Stainless steel exhaust system
- ATS panel
- Remote control
- Multiple unit synchronization



GAS RANGE POWER PLANTS

MODULARITY

Modular Power Plants completely installed in ISO20 and/or ISO40 maritime containers. This new design includes the incorporation of many elements needed on the plant in a "Plug-In" mode, thereby increasing the flexibility, quick installation, and better adjustment to the total power output required on each application.

- Better for a future expansion of the power plant
- Reducing the cost of Civil Works
- Better time response on its shipping to site
- Logistics cost reduction
- Much easier to move the entire Power Plant to another site
- Easier maintenance
- Turnkey projects
- Rental
- Private investors



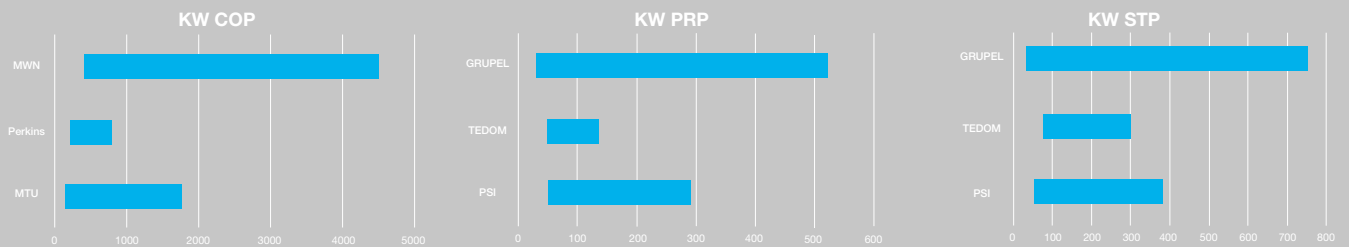
POWER RANGE

50 Hz

60 Hz

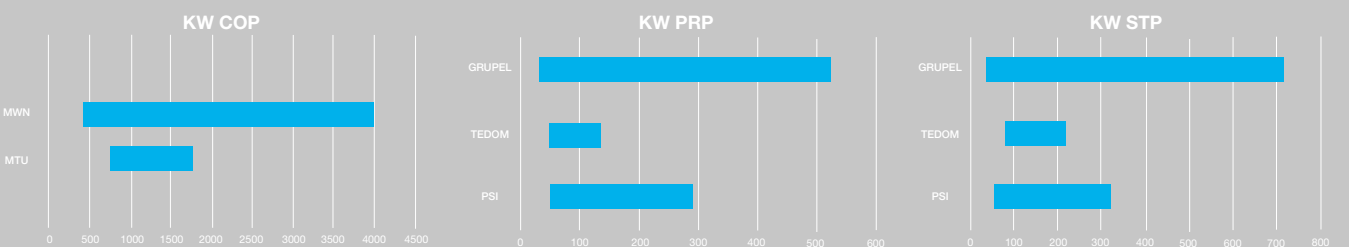
Power range as per engine type

50 Hz



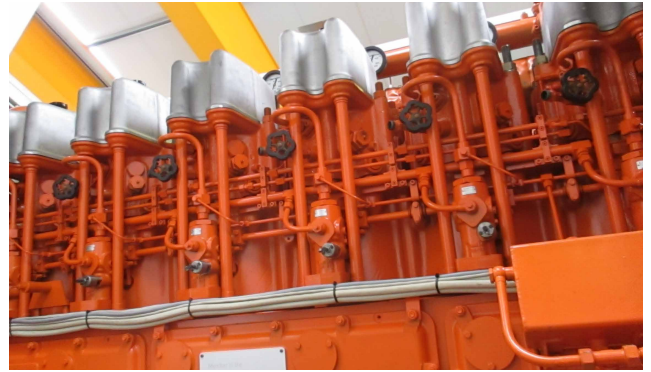
Power range as per engine type

60 Hz



In the case of **Medium Speed Range**, the applications are to the industry and big projects in containers for power plants. These gensets always work under 1000rpm and are known for their robustness and resistance, and for the fact that they can be applied in the marine environment of high humidity and high temperatures, in case of low temperatures it is necessary to use an appropriated oil, cooling liquid and fuel with specific properties.

Medium Speed Range gensets are ideal to situations of continuous energy supply or as a main source due to its size, power, fuel consumption (when used a suitable load) and it is possible to use heavy fuels (HFO) and cheaper fuels. Its application is indicated to power plants or industry where there isn't any main power or to support the grid (in situations when the grid cannot feed or support the necessary load), but also it can be applied on maritime equipment's (generate energy - propulsion).



MEDIUM SPEED POWER PLANTS

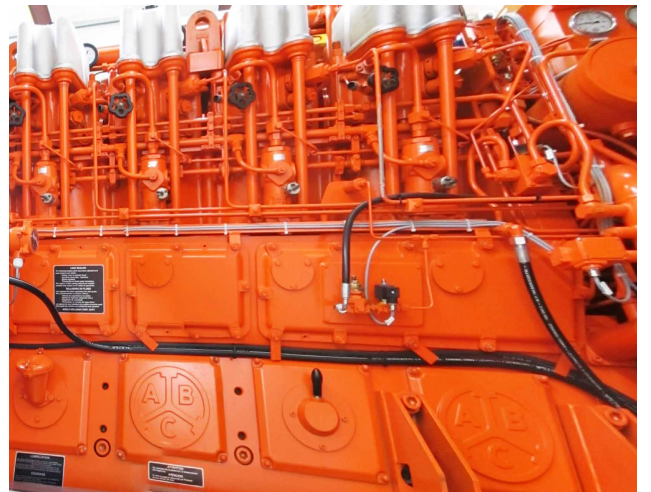
Plug & Play Concept

Modular Power Plants completely installed in Special Size maritime containers designed according to the needs of each project, including the necessary scope of supply and tailored to the environment requirements.

This new design includes the incorporation of many elements needed on the plant in a "Plug-In" mode, fuel treatment systems, and electric switchgear, all integrated in containers, thereby increasing the flexibility, quick installation, and better adjustment to the total power output required on each application.

Medium Speed Advantages:

- Robustness;
- Ability to bear high loads;
- Reliability;
- Durability;
- Low fuel consumption;
- Easy maintenance;
- Less wear.



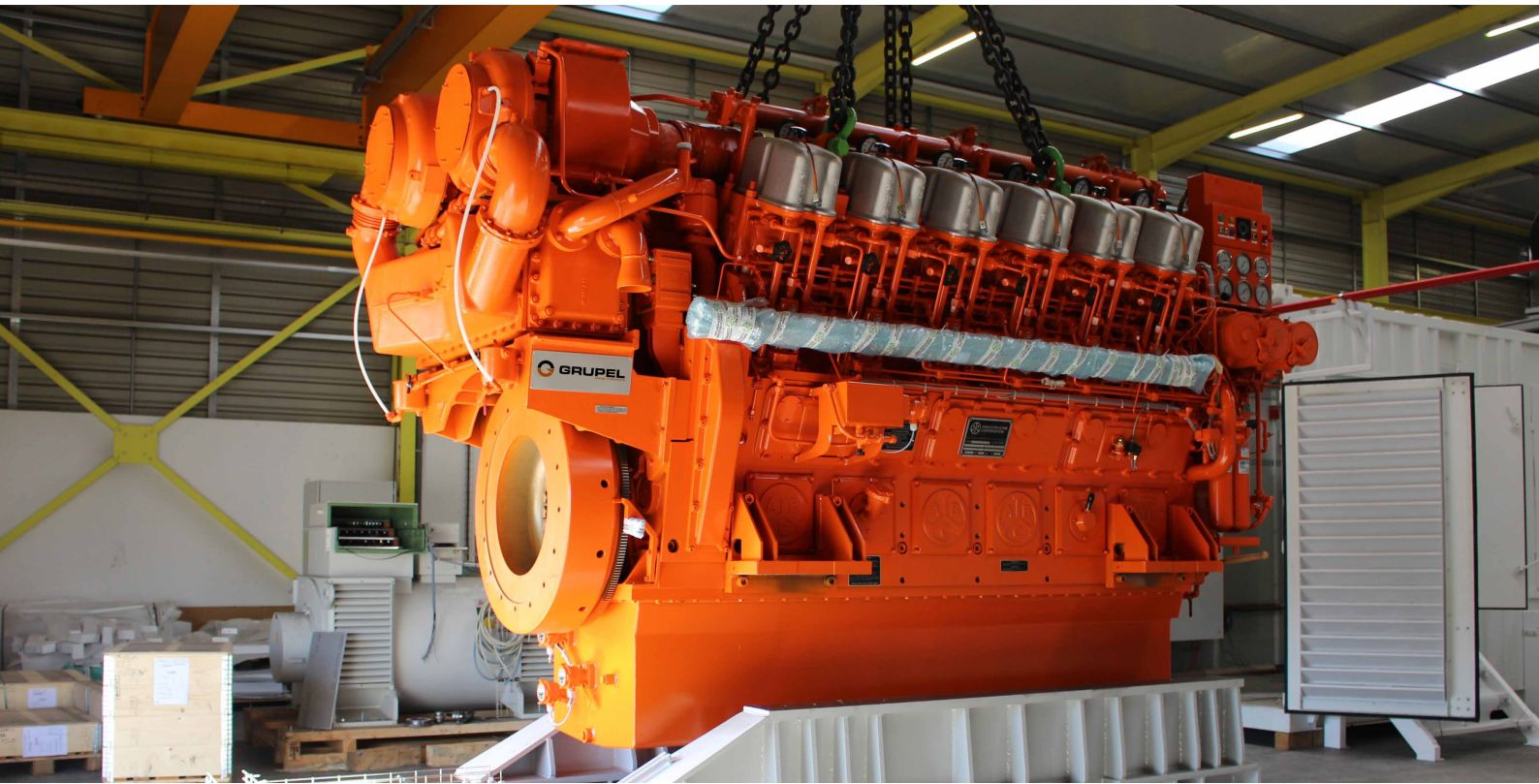
OVERALL DATA

50Hz

GENSET TYPE	rpm	Engine power (ISO 3046-I)			50 Hz electric - 3 phase				
		kW		HP	Pw (kW)		Pn (kVA)		
		mdo/hfo/bio	dual fuel	mdo/hfo/bio	mdo/hfo/bio	dual fuel	mdo/hfo/bio	dual fuel	
DZ	GMS-6DZC-750-179	750	1065	750	1447	1012	713	1265	891
	GMS-6DZC-1000-166	1000	1326	1000	1802	1260	950	1575	1188
	GMS-8DZC-750-179	750	1420	1000	1929	1349	950	1686	1188
	GMS-8DZC-1000-166	1000	1768	1335	2402	1680	1268	2100	1585
VDZ	GMS-12VDZC-750-179	750	2130	1500	2894	2024	1425	2530	1781
	GMS-12VDZC-1000-166	1000	2652	2000	3603	2519	1900	3149	2375
	GMS-16VDZC-750-179	750	2840	2000	3859	2698	1900	3372	2375
	GMS-16VDZC-1000-166	1000	3536	2670	4804	3359	2537	4199	3171

60Hz

GENSET TYPE	rpm	Engine power (ISO 3046-I)			60 Hz electric - 3 phase				
		kW		HP	Pw (kW)		Pn (kVA)		
		mdo/hfo/bio	dual fuel	mdo/hfo/bio	mdo/hfo/bio	dual fuel	mdo/hfo/bio	dual fuel	
DZ	GMS-6DZC-720-181	720	1032	720	1402	980	684	1225	855
	GMS-6DZC-900-166	900	1194	900	1622	1134	855	1418	1069
	GMS-8DZC-720-181	720	1376	960	1870	1307	912	1634	1140
	GMS-8DZC-900-166	900	1592	1200	2163	1512	1140	1890	1425
VDZ	GMS-12VDZC-720-181	720	2064	1440	2804	1961	1368	2451	1710
	GMS-12VDZC-900-166	900	2388	1800	3245	2269	1710	2836	2138
	GMS-16VDZC-720-181	720	2752	1920	3739	2614	1824	3268	2280
	GMS-16VDZC-900-166	900	3184	2400	4326	3025	2280	3781	2850



6 / 8DZC & 12 / 16(V)DZC ENGINE RANGE

In this range, Grupel has a strong partnership with the engines brand ABC that exist in version in-line (DZ) and in V (VDZC), as you can see in the images below.

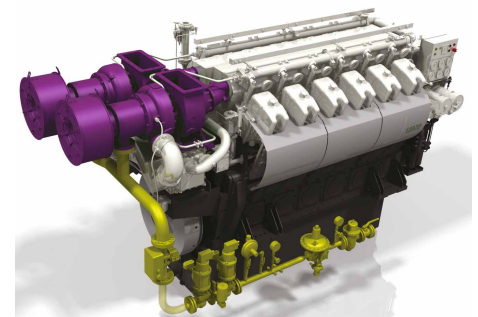
Both options are of high quality however, the engine in V can be a more favorable option, especially to situation where the genset is the main source, since it has a superior power and a more constant functioning because it has more cylinders and we also highlight the relation between dimension/power that is very competitive.



6/8DZC ENGINE



12/16VDZD ENGINE



DUAL FUEL ENGINE RANGE

6DZC 1500kW @ 1000rpm	8DZC 2000kW @ 1000rpm
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12 (V) DZD 2652kW @ 1000rpm	16 (V) DZD 3536kW @ 1000rpm
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12 (V) DZC 2000kW @ 1000rpm	16 (V) DZC 2670kW @ 1000rpm
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PREMIUM PRODUCTS SELECTION



ENGINE		GRUPEL energy everywhere		ALTERNATOR		GRUPEL energy everywhere									
Grupel Engine	Voltage	Grupel Alternator	Cont.		SOUNDPROOF					OPEN					Canopy
			KVA PRP	KVA STP	Lenght (mm)	Width (mm)	Height (mm)	Fuel Tank (L)	Autonomy (h)	Lenght (mm)	Width (mm)	Height (mm)	Fuel Tank (L)	Autonomy (h)	
3GA14D50	400	164GB11	9	10	1 600	700	1 110	45	530	1 250	850	1 110	80	355	1 600
3GA15D50	400	164GB11	10	11	1 600	700	1 110	45	540	1 250	850	1 110	80	365	1 600
4GA18D50	400	164GB18	14	15	1 950	800	1 110	45	598	1 700	850	1 110	150	398	1 950
4GA18D50	230	184GB23	11	12	1 950	800	1 110	45	619	1 700	850	1 110	150	419	1 950
4GA22D50	400	164GB18	18	20	1 950	800	1 110	45	608	1 700	850	1 110	150	408	1 950
4GA22D50	230	184GB31	15	16	1 950	800	1 110	45	662	1 700	850	1 110	150	462	1 950
4GA27D50	400	184GB23	23	25	1 950	800	1 110	45	654	1 700	850	1 110	150	454	1 950
4GA27D50	230	184GB40	19	20	1 950	800	1 110	45	749	1 700	850	1 110	150	549	1 950
4GA30D50	400	184GB31	28	31	1 950	800	1 110	45	697	1 700	850	1 110	150	497	1 950
4GA41D50	400	184GB31	31	35	1 950	800	1 110	45	777	1 700	850	1 110	150	577	1 950
4GA41D50	400	184GB40	38	42	1 950	800	1 110	45	839	1 700	850	1 110	150	639	1 950
4GA30D50	230	224GB50	24	26	2 300	980	1 500	180	945	2 300	980	1 500	180	685	2 300
4GA41D50	230	224GB63	30	33	2 300	980	1 500	180	1 045	2 300	980	1 500	180	785	2 300
4GA56D50	400	224GB50	50	55	2 300	980	1 500	180	1 205	2 300	980	1 500	180	945	2 300
4GA56D50	400	224GB63	60	67	2 300	980	1 500	180	1 225	2 300	980	1 500	180	965	2 300
4GA53TD50	400	224GB73	73	81	2 300	980	1 500	180	1 275	2 300	980	1 500	180	1 015	2 300
4GA56D50	230	274GB100	48	52	2 300	980	1 500	180	1 341	2 300	980	1 500	180	1 081	2 300
4GA53TD50	400	274GB100	76	90	2 300	980	1 500	180	1 351	2 300	980	1 500	180	1 091	2 300
4GA53TID50	400	274GB100	100	110	2 300	980	1 500	180	1 351	2 300	980	1 500	180	1 091	2 300
6GA80TD50	400	274GB125	125	138	3 200	1 100	1 700	350	1 761	3 200	1 100	1 700	350	1 361	3 200
6GA80TID50	400	274GB200	176	192	3 200	1 100	1 700	350	1 931	3 200	1 100	1 700	350	1 531	3 200

MOTOR		IVECO		ALTERNATOR		LEROY-SOMER TM										
Iveco Engine	Leroy-Somer Alternator	Cont.		Standby		SOUNDPROOF					OPEN					Canopy
		KVA PRP	KW PRP	KVA STP	KW STP	Lenght (mm)	Width (mm)	Height (mm)	Fuel Tank (L)	Autonomy (h)	Lenght (mm)	Width (mm)	Height (mm)	Fuel Tank (L)	Autonomy (h)	
S8000 AM1	TAL042C	31	25	34	27	1 700	850	1 110	150	621	1 950	800	1 110	45	821	1 950
N45 SM1A	TAL042G	50	40	55	44	2 300	980	1 500	200	856	2 300	980	1 500	200	1 116	2 300
N45 SM1A	TAL042H	60	48	66	53	2 300	980	1 500	200	857	2 300	980	1 500	200	1 117	2 300
N45 SM3	TAL044B	80	64	88	70	2 300	980	1 500	200	965	2 300	980	1 500	200	1 225	2 300
N45 TM2A	TAL044D	100	80	110	88	2 300	980	1 500	200	1 052	2 300	980	1 500	200	1 312	2 300
N45 TM3	TAL044H	123	99	135	108	2 300	980	1 500	200	1 088	2 300	980	1 500	200	1 348	2 300
N67 TM4	TAL044J	150	120	165	132	3 200	1 100	1 700	350	1 354	3 200	1 100	1 700	350	1 904	3 200
N67 TM4	TAL044K	165	132	182	145	3 200	1 100	1 700	350	1 389	3 200	1 100	1 700	350	1 939	3 200
N67 TM4	TAL046A	172	138	189	151	3 200	1 100	1 700	350	1 525	3 200	1 100	1 700	350	2 075	3 200
N67 TM7	TAL046A	180	144	198	158	3 200	1 100	1 700	350	1 525	3 200	1 100	1 700	350	2 075	3 200
N67 TM7	TAL046B	200	160	220	176	3 200	1 100	1 700	350	1 555	3 200	1 100	1 700	350	2 105	3 200
N67 TE8W	TAL046D	250	200	275	220	3 200	1 100	1 700	350	1 638	3 200	1 100	1 700	350	2 188	3 200
C87 TE4	TAL046G	321	256	347	278	3 800	1 250	1 900	550	2 422	3 800	1 250	1 900	550	3 207	3 800
C13 TE2A	TAL046H	351	281	385	308	3 800	1 250	1 900	550	2 567	3 800	1 250	1 900	550	3 352	3 800
C13 TE3A	TAL046H	365	292	402	321	3 800	1 250	1 900	550	2 616	3 800	1 250	1 900	550	3 401	3 800
C13 TE3A	TAL047A	410	328	451	361	4 500	1 750	2 250	1 000	3 036	4 500	1 750	2 250	1 000	4 106	4 500
CR13 TE7W	TAL047C	500	400	550	440	4 500	1 750	2 250	1 000	3 136	4 500	1 750	2 250	1 000	4 206	4 500
C16 TE1W	TAL047D	550	440	605	484	4 500	1 750	2 250	1 000	3 337	4 500	1 750	2 250	1 000	4 407	4 500
C16 TE1W	TAL047E	600	480	660	528	4 500	1 750	2 250	1 000	3 469	4 500	1 750	2 250	1 000	4 539	4 500

MOTOR



ALTERNATOR



Perkins Engine	Leroy-Somer Alternator	Cont.		Standby		SOUNDPROOF					OPEN					Cabina
		KVA PRP	KW PRP	KVA STP	KW STP	Lenght (mm)	Width (mm)	Height (mm)	Fuel Tank (L)	Autonomy (h)	Lenght (mm)	Width (mm)	Height (mm)	Fuel Tank (L)	Autonomy (h)	
403A-11G1	TAL040C	9	7	9	8	1 250	850	1 110	80	319	1 600	700	1 110	45	494	1 600
403A-15G1	TAL040C	12	10	14	11	1 250	850	1 110	80	395	1 600	700	1 110	45	570	1 600
403A-15G2	TAL040D	15	12	16	13	1 250	850	1 110	80	395	1 600	700	1 110	45	570	1 600
404A-22G1	TAL040F	20	16	22	18	1 250	850	1 110	80	460	1 600	700	1 110	45	635	1 600
1103A-33G	TAL042C	30	24	33	27	1 700	850	1 110	150	663	1 950	800	1 110	45	863	1 950
1103A-33TG1	TAL042E	40	32	44	35	1 700	850	1 110	150	703	1 950	800	1 110	45	903	1 950
1103A-33TG1	TAL042G	46	37	51	41	1 700	850	1 110	150	724	1 950	800	1 110	45	924	1 950
1103A-33TG2	TAL042G	50	40	55	44	1 700	850	1 110	150	724	1 950	800	1 110	45	924	1 950
1103A-33TG2	TAL042H	60	48	66	53	2 300	980	1 500	200	815	2 300	980	1 500	200	1 075	2 300
1104A-44TG1	TAL044B	66	53	72	58	2 300	980	1 500	200	970	2 300	980	1 500	200	1 230	2 300
1104A-44TG2	TAL044B	80	64	88	70	2 300	980	1 500	200	970	2 300	980	1 500	200	1 230	2 300
1104C-44TAG2	TAL044D	100	80	110	88	2 300	980	1 500	200	943	2 300	980	1 500	200	1 203	2 300
1106A-70TG1	TAL044H	135	108	149	119	3 200	1 100	1 700	350	1 391	3 200	1 100	1 700	350	1 941	3 200
1106A-70TAG2	TAL044J	150	120	165	132	3 200	1 100	1 700	350	1 450	3 200	1 100	1 700	350	2 000	3 200
1106A-70TAG3	TAL046A	180	144	198	158	3 200	1 100	1 700	350	1 621	3 200	1 100	1 700	350	2 171	3 200
1106A-70TAG4	TAL046B	199	159	217	174	3 200	1 100	1 700	350	1 651	3 200	1 100	1 700	350	2 201	3 200
1506A-E88TAG3	TAL046D	250	200	275	220	3 800	1 250	1 900	550	2 283	3 800	1 250	1 900	550	3 068	3 800
1506A-E88TAG5	TAL046G	311	249	340	272	3 800	1 250	1 900	550	2 541	3 800	1 250	1 900	550	3 326	3 800
2206A-E13TAG2	TAL046H	357	286	402	321	4 500	1 750	2 250	1 000	3 065	4 500	1 750	2 250	1 000	4 135	4 500
2206A-E13TAG3	TAL047A	408	326	451	361	4 500	1 750	2 250	1 000	3 290	4 500	1 750	2 250	1 000	4 360	4 500
2506A-E15TAG1	TAL047C	465	372	507	406	4 500	1 750	2 250	1 000	3 422	4 500	1 750	2 250	1 000	4 492	4 500
2506A-E15TAG2	TAL047C	500	400	550	440	4 500	1 750	2 250	1 000	3 422	4 500	1 750	2 250	1 000	4 492	4 500
2806A-E18TAG1A	TAL047D	550	440	605	484	4 500	1 750	2 250	1 000	3 993	4 500	1 750	2 250	1 000	5 063	4 500
2806A-E18TAG1A	TAL047E	600	480	660	528	4 500	1 750	2 250	1 000	4 125	4 500	1 750	2 250	1 000	5 195	4 500
2806A-E18TAG2	TAL047F	660	528	721	577	4 500	1 750	2 250	1 000	4 125	4 500	1 750	2 250	1 000	5 195	4 500
4006-23TAG2A	TAL049B	730	584	803	642	4 200	1 600	2 200	800	5 737	5 800	2 300	2 600	800	9 537	6 250
4006-23TAG3A	TAL049C	800	640	885	708	4 200	1 600	2 200	800	5 798	5 800	2 300	2 600	800	9 598	6 250
4008-30TAG1	TAL049D	895	716	991	793	4 200	1 600	2 200	800	7 761	5 800	2 300	2 600	800	11 561	6 250
4008-30TAG2	TAL049E	1 000	800	1 100	880	4 200	1 600	2 200	800	7 790	5 800	2 300	2 600	800	11 590	6 250
4008-30TAG3	LSA502M6	1 128	903	1 254	1 003	4 200	1 600	2 200	800	8 463	5 800	2 300	2 600	800	12 263	6 250
4012-46TWG2A	LSA502M6	1 250	1 000	1 375	1 100	4 200	1 600	2 200	800	9 605	5 800	2 300	2 600	800	13 405	6 250
4012-46TWG3A	LSA502L7	1 350	1 080	1 485	1 188	4 200	1 600	2 200	800	9 875	5 800	2 300	2 600	800	13 675	6 250
4012-46TAG2A	LSA502L8	1 500	1 200	1 650	1 320	12 192	2 500	2 896	800	10 766	12 192	2 500	2 896	800	18 266	12 000
4012-46TAG3A	LSA502VL10	1 640	1 312	1 804	1 443	12 192	2 500	2 896	800	11 385	12 192	2 500	2 896	800	18 885	12 000
4012-46TAG3A	LSA523S5	1 728	1 382	1 896	1 517	12 192	2 500	2 896	800	11 830	12 192	2 500	2 896	800	19 330	12 000
4016-61TRG1	LSA523S5	1 860	1 488	2 017	1 613	12 192	2 500	2 896	800	13 918	12 192	2 500	2 896	800	21 418	12 000
4016-61TRG2	LSA523S6	2 000	1 600	2 200	1 760	12 192	2 500	2 896	800	13 918	12 192	2 500	2 896	800	21 418	12 000
4016-61TRG3	LSA523S7	2 200	1 760	2 364	1 891	12 192	2 500	2 896	800	14 163	12 192	2 500	2 896	800	21 663	12 000

AVAILABLE ALTERNATORS AND ENGINES

ALTERNATORS



STAMFORD

ENGINES



YANMAR

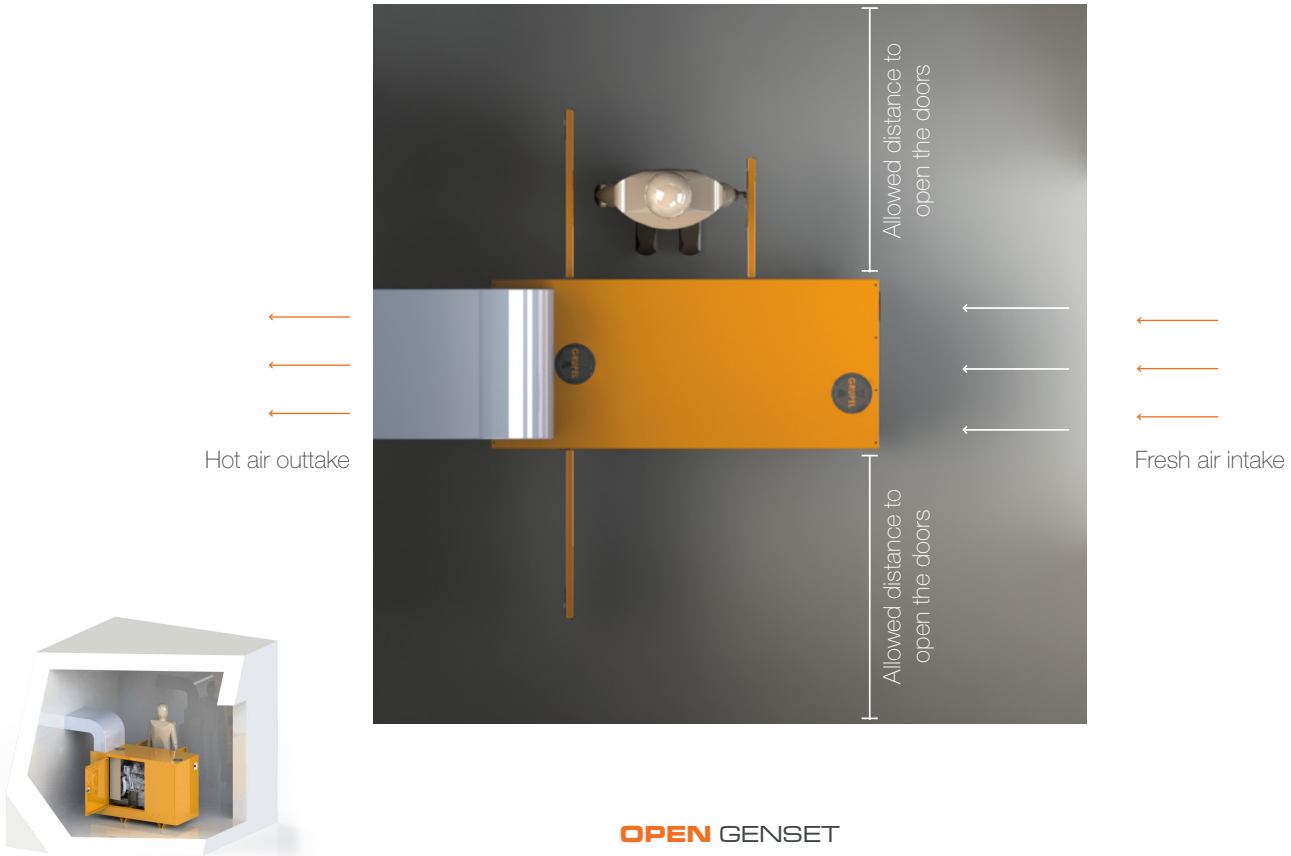


AIR INTAKE AND EXTRACTION

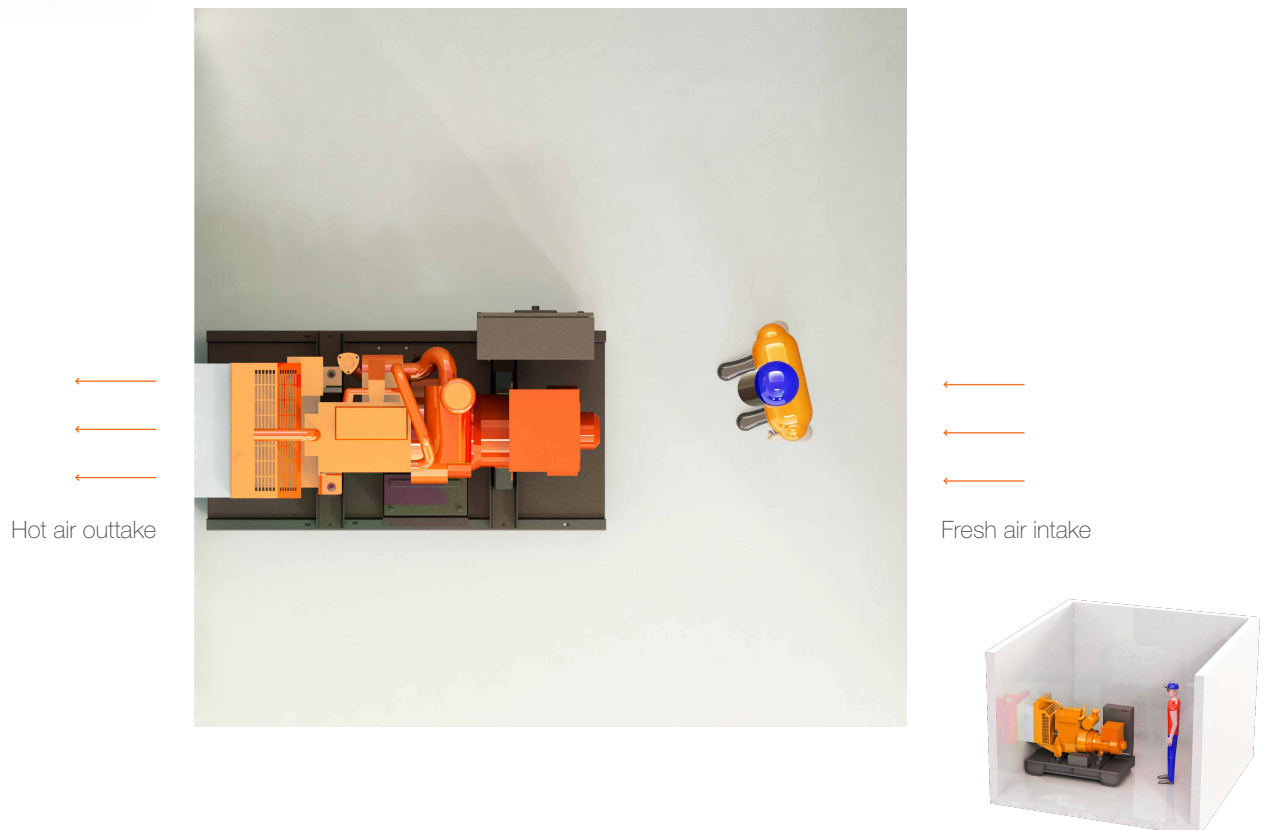
For the genset to cool and for the combustion of the diesel engine, the installation location should contain an opening for the fresh air intake (cold) directly from the exterior.

In the same way, it is extremely important that the hot air from the radiator should be channeled to the exterior in a way that the room temperature is always fresh and avoids the genset shutdown due to lack of refrigeration.

SOUNDPROOF GENSET



OPEN GENSET

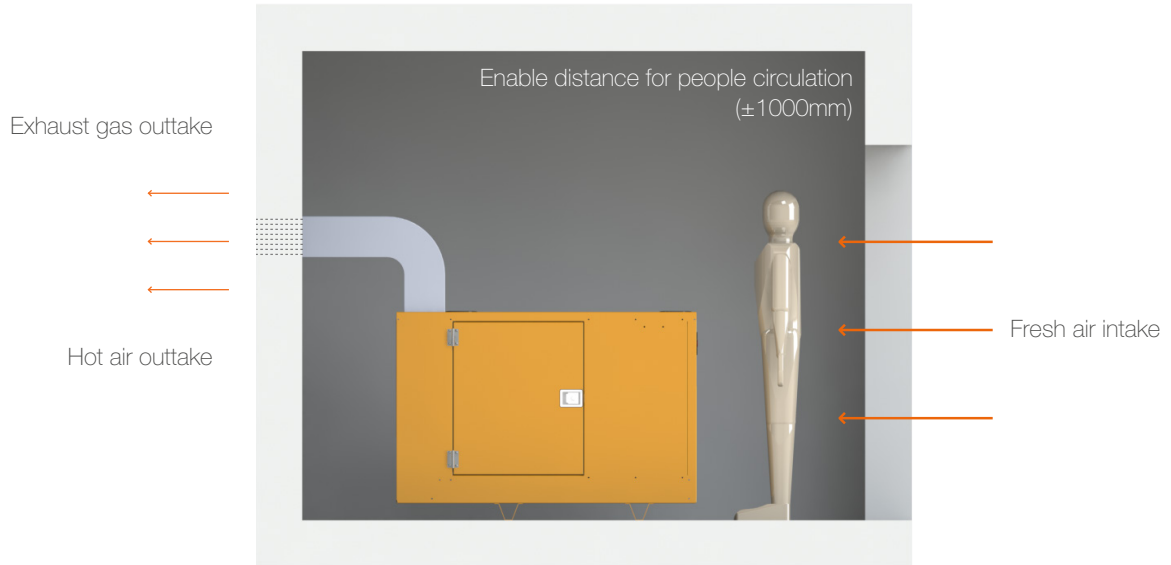


EXHAUST GASES EXIT

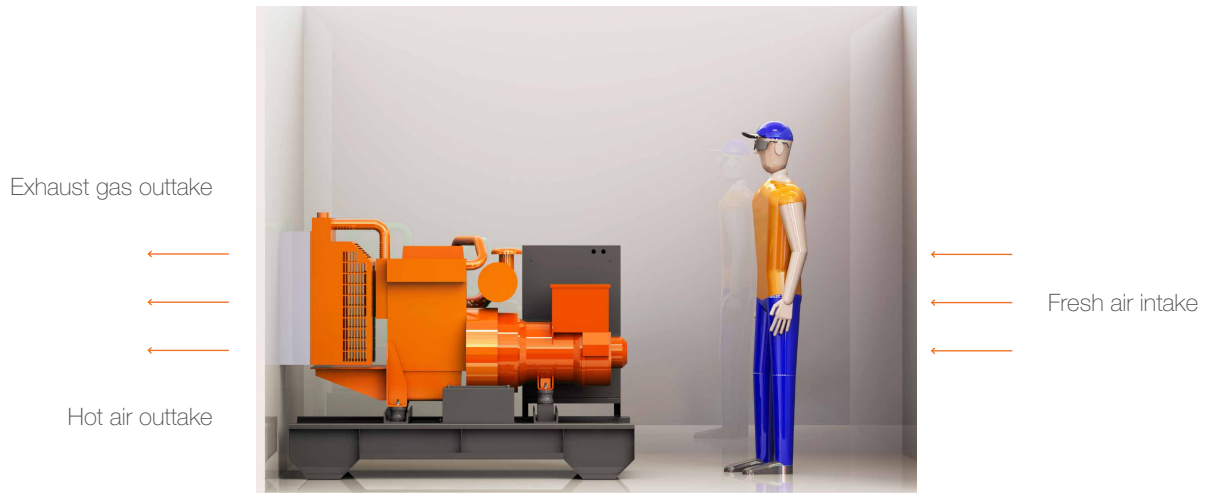
The exhaust gases of the gensets were designed to minimize the noise emissions and allow all the exhaust gases to come to the exterior.

The Exhaust gases are harmful to the human being, so it is very important to conduct all these gases to the exterior.

SOUNDPROOF GENSET



OPEN GENSET



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