# CELL TOWERS POWER SOLUTIONS

POWER SYSTEM SOLUTIONS FOR TELECOM BTS SITE





\*YEARS\*
EXPERIENCE
SINCE 1960

WWW.VISA.IT

RECOMMENDED POWER GENERATORS FOR TELECOM APPLICATIONS FOX, BIGFOX AND GALAXY AIR

**ENGLISH VERSION** 

# ONIS VISA POWER SYSTEMS FOR TELECOM APPLICATIONS

- POWER RANGE 7 48 KW
- LARGE RANGE OF SPECIAL TELCO OPTIONALS
- BACK-UP POWER OR PRIME POWER FOR REMOTE AREAS INSTALLATIONS
- BUILT FOR LONG AUTONOMY AND EXTENDED SERVICE MAINTENANCE





# A PARTNER TO DRIVE GROWTH



In an interconnected world, Visa offers a product created for those who live in a fast paced environment.

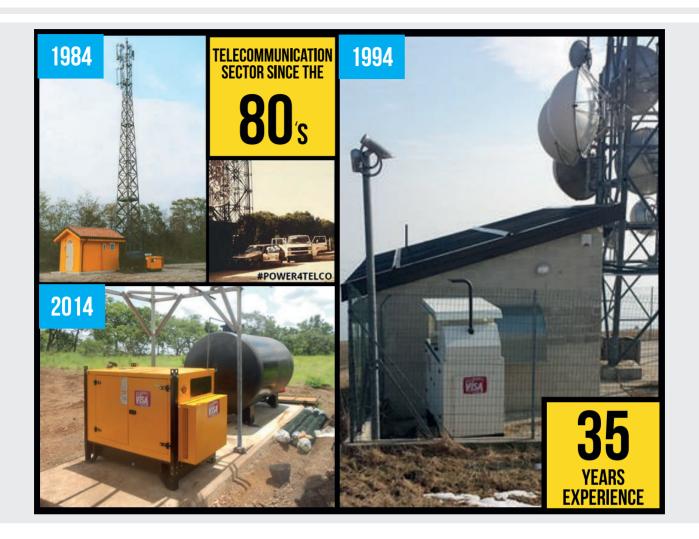
Onis Visa generating sets have been specifically designed for Telecommunications; these have been developed adhering to the current international standards which meet the needs of those who work in this sector day to day.







# PROVIDING POWER SUPPLY FOR TELECOMMUNCATION SINCE THE 1980'S



# WE KNOW THE REQUIREMENTS ON THE BTS POWER SUPPLY

Visa SpA has been serving the needs of the telecommunication sector for over 35 years with power generating solutions.

For reliable power supply every off-grid BTS needs a generating set. In fact, even those connected to the grid are likely to need a genset as back-up (particularly if located in a region with an unreliable grid infrastructure).

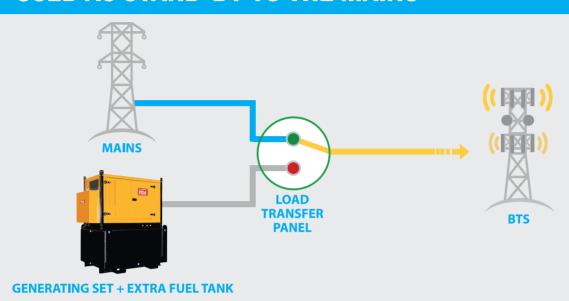
With many BTS' located in remote areas, telecom operators and tower companies require the most suitable solutions to manage their sites more effectively, reducing fuel consumption, lowering maintenance and refilling trips to the field and reducing operating costs (OPEX).

Visa Spa is the ideal partner for telecom companies; having the right experience and know-how required by supplying thousands of genset BTS applications every year.



# POWERING A TELECOM APPLICATION - EXAMPLE

# BACK-UP AC DIESEL GENERATING SETS USED AS STAND-BY TO THE MAINS

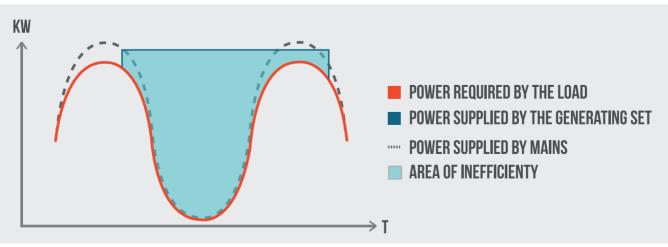


# **GENERATING SET WITH LOAD TRANSFER PANEL TO SWITCH THE POWER SURCE**

Where the Mains is available, the BTS can be directly grid connected and having as power back-up an AC Generating Set in standby mode.

If the Mains supply is interrupted or it does not respect the parameters set, the load shifts to the generating set, that is started automatically, and after having checked the electric and mechanical parameters which must be within certain limits, will feed the BTS.

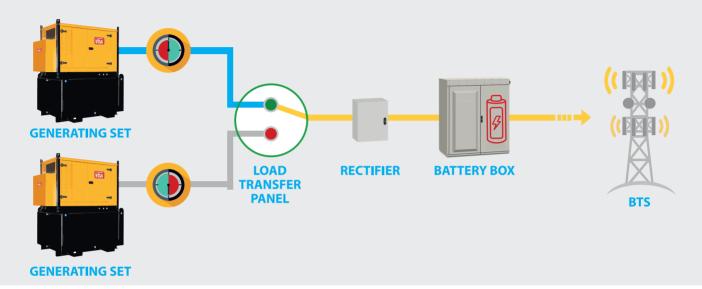
The genset works until the Mains returns or the conditions of use are restored, then the load is shifted back to the Mains power supply and the generating set reverts back in stand-by mode.





# **POWERING A TELECOM APPLICATION - EXAMPLE**

# **2** DUAL AC GENERATING SETS - 24/7

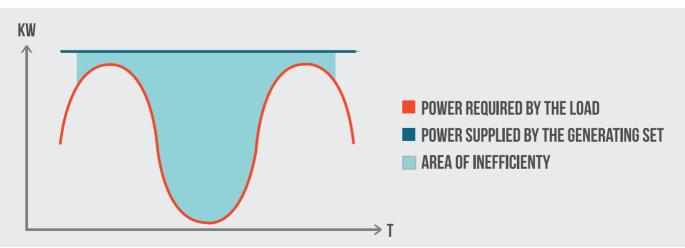


# TWIN GENERATING SET FOR OFF GRID APPLICATIONS

When the grid is not available, this application is a good solution because the BTS is fed by the batteries charged by one or two generating sets.

In order to reduce the genset's operating hours and related management costs, the BTS load are fed by batteries. When those batteries run down, the genset itself will recharge. An additional genset is added as a stand-by, in order to build in redundancy; make the system fail safe.

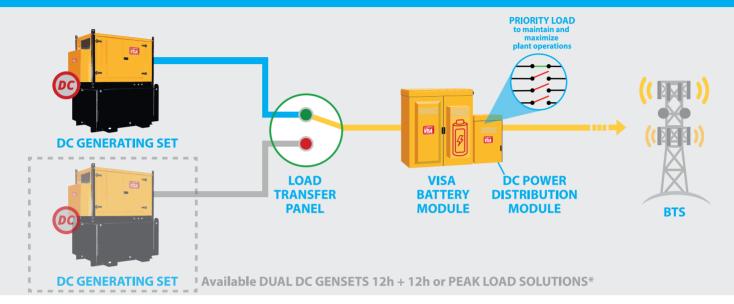
The control system has the function to evenly distribute the working hours among the gensets, so that all machines will be subjected to the same level of wear and tear.





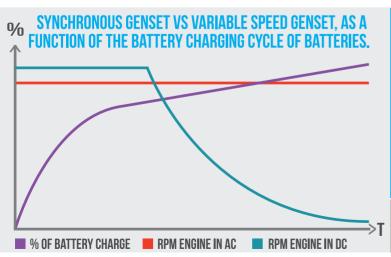
# **POWERING A TELECOM APPLICATION - CONFIGURATIONS EXAMPLES**

# **OC GENSET (VARIABLE SPEED) THAT SUPPLIES A HYBRID CONFIGURATION**



# **OFF GRID APPLICATIONS GENERATING SET**

This application is suitable to feed transmission sites in remote areas, where no connections to the Mains are available (no grid area). In this case, the BTS is exclusively supplied by batteries charged by one or two generating sets. In order to further reduce the system's operating costs, where the BTS' electrical loadings are supplied by batteries, a DC genset at variable speed is used, equipped with an alternator with PMG and an AC/DC converter or PMG with direct supply - 48DC, commonly used to charge the batteries at 48 VDC. If an AC generator works with a medium-low load, the use of it at variable speed in DC allows a reduction of fuel consumption that corresponds to a higher efficiency of the plant. A variable speed genset works at a speed that grants the maximum efficiency depending on the electric power required, reducing the noise level and lengthening the maintenance intervals. An additional genset can be added to the first one in mutual stand-by mode, in order to increase the system's level of safety. The control system has the function to evenly distribute the working hours among the gensets, so that all machines will be subjected to the same level of wear and tear.



**PHASE ONE:** At constant current it requires more power to the generator and is used to restart the current that had been previously discharged.

**PHASE TWO:** At constant voltage it is used to complete the charge. Current and power values required to the genset decrease until they reach a very low level.

Thanks to our intelligent device GUARD TOUCH, the DC variable speed generating set regulates the engine speed depending on the real amount of power needed during the charge cycle of the battery, which allows a reduction of fuel consumption and prevents excessive wear of the engine. Otherwise, the standard AC generating set always runs at full speed, regardless of the power required during the charging phase of the battery.

\* The 2 gensets can work in parallel on the DC bus so the ATS is no longer necessary. This is useful in case of incereased load.

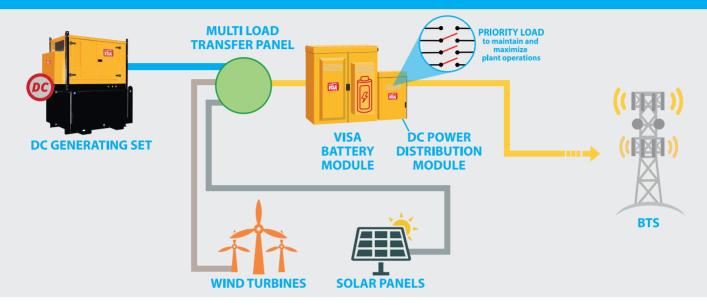




# **POWERING A TELECOM APPLICATION - CONFIGURATIONS EXAMPLES**

# 4

# DC GENSET (VAR. SPEED) IN HYBRID CONFIGURATION WITH SOLAR PANELS AND/OR WIND TURBINES.



# **HYBRID CONFIGURATION COMBINATED WITH OF GREEN SOLUTIONS**

This application is suitable to feed telecommunication sites in remote areas, where there are no connections to the Mains, because the BTS is exclusively fed by batteries that have been charged by one or two generating sets, with the support of green energy coming from renewable technologies. In addition to the benefits coming from the use of the genset in DC mode, as previously mentioned, the system is also suitable to interact with one or more sophisticated technologies, capable of producing energy from renewable sources, such as solar and wind power. This can be considered an additional advantage in terms of reduction both of fuel consumption and of management costs.

Since the system has been designed to be flexible, as well as "Customer Friendly," it allows that synergy to be activated at any time, even in those sites where at the time of their construction the system was not yet available. This solution ensures a low environmental impact.





# A GENUINE PARTNER, NOT JUST A SUPPLIER

# **TOGETHER TO MAKE THINGS EASIER**

Step by step, Visa supports its clients in choosing and defining the most suitable solution and application to address the clients' needs.

The design of the electrical part of the complex systems requires integration of all the elements involved in the project, perfectly interfacing communication towers and complex systems. Our highly qualified Telco division is at your disposal for the complete design of the electrical supply referring new Telecommunication applications or to restore the existing ones, supporting the clients in the choice of genset and its equipment, as well as in the supply of different components, such as control panels, battery boxes, rectifiers, BTS. etc.



# **ADVANCED SYNERGY FOR EXCELLENT RESULTS**





# FROM THE IDEA TO THE PRODUCT, WE ARE THINKING OF YOU!

An idea triggers the creative process that rationally assumes its own form and creates a very personal feature: that is how the Onis Visa product is created.

The work, always carried out with a sense of responsibility and discipline, and with care poured into every stage of the process, be it technical or conceptual, puts the client at its center.



# **SCHEDULE OF MAINTENANCE / SERVICE**

It is generally a good idea to establish and adhere to a maintenance /service schedule based on the specific power application and the severity of the environment. For example, if the generator set will be used frequently or subjected to extreme operating conditions, the recommended service intervals should be shortened accordingly. Some of the factors that require more frequent maintenance include:

- Using the diesel generator set for continuous duty (prime power)
- Extreme ambient temperatures
- Exposure to weather
- Exposure to salt water
- Exposure to dust, sand, or other airborne contaminates

If the generator set will be subjected to some or all of these extreme operating conditions, it is best to consult with the engine manufacturer to develop an appropriate maintenance schedule. The best way to keep track of maintenance intervals is to use the running-time meter on the generator set to keep an accurate log of all services performed. This log also will be important for warranty support. The Table shows a typical diesel engine maintenance schedule for generator sets.

## MAINTENANCE SCHEDULE FOR GENERATOR SETS IN BACK UP MODE

Preventive maintenance for diesel engine generators plays a critical role in maximizing the reliability of these standby systems and reducing the financial and life-safety risks associated with the loss of power. Preventive maintenance also minimizes the need for repairs and reduces equipment life cycle costs.

Maintenance items	6 months	Yearly
Change Oil and Filter	Х	
Change coolant filter	Х	
Cleancrankcase breather	Х	
Change air cleaner elements	Х	
Check radiator hoses	х	
Change fuel Filters	Х	
Clean cooling systems		Х

# MAINTENANCE SCHEDULE FOR DC GENERATOR SETS IN REMOTE AREAS - 24H RUNNING-TIME

Our special range of generating sets include a special kit that allows for longer maintenance intervals up to 1000 / 2000 / 4000 hours.

P15 FOX P.R.P. 15 KWA

PRIME POWER CONFIGURATION 24H /7 D 1000 LITRE FUEL TANK

> 15 DAY AUTONOMY

1000 H Maintenance Kit

> 60 DAY AUTONOMY

PROGRAMMABLE
MAINTENANCE PROGRAM
AND REDUCED SITE VISIT
LOW OPEX!

DAYS

FUEL Refuelling FUEL REFUELLING FUEL REFUELLIN FUEL REFUELLING + MAINTENANCE FUEL REFLIELLIN FUEL REFUELLING FUEL REFLIELLING FUEL Refuelling + Maintenance



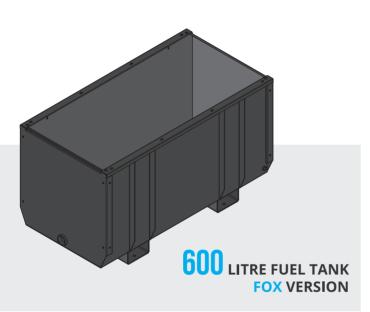


# BUILT FOR LOW MAINTENANCE, EXTENDED SERVICE INTERVALS AND LONG AUTONOMY

Visa SpA developed several high-performance solutions for BTS sites.

Generator sets with more autonomy, reduced refueling frequency and longer maintenance intervals, developed for telecommunications companies, transmission towers, radar, data centers. These gensets guarantee reduced operation costs, especially for those that will be installed on remote sites. This special range of generating sets include a special kit that allows for longer maintenance intervals up to 1000 / 2000 / 4000 hours.

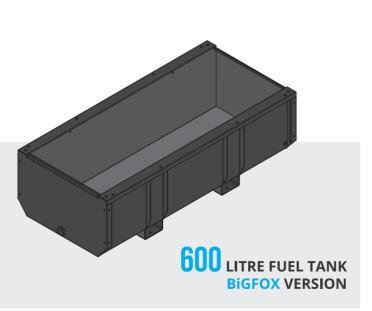
# **LONG RUNNING TELCO KIT**



# **OVERSIZE FUEL TANK**

The oversize fuel tank allows a considerable reduction of site visits for refueling. These are without any doubt, highly appreciated improvements for the telecom sector, where the gensets are often located in remote areas with difficult access.

Due to the fact that many applications need different size tanks. This range of optionals is made up of high quality components, with highsafety requirements and in different capacities.



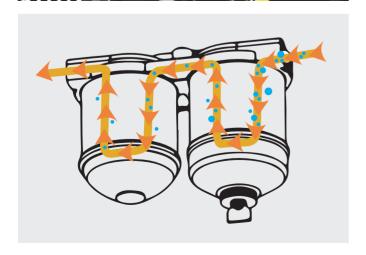












#### **PREMIUM OIL FILTER - LONG LIFE**

Oil is the life-blood of an engine, which means the oil filter should never be taken for granted, especially in harsh heavy-duty environments.

This oil filter is engineered to increase work hours of the engine between oil changes by up to 50 percent, thus reducing down time and allowing fleets to significantly extend oil change intervals.

Sturdy element supports designed to resist vibration, and high and low temperatures, which will not deform under constant spring-load pressure.

# PROTECT THE ENGINE BY KEEPING HARMFUL PARTICLES AND DIRT OUT, PREVENTING PREMATURE WEAR AND ENGINE FAILURE

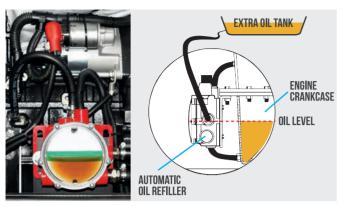
#### **DOUBLE DIESEL FUEL FILTER / WATER SEPARATOR**

The double fuel filter remove up to 100% of the damaging water and solid contaminants from diesel fuel. The filter eliminates water from fuel before reaching the fuel pump and injectors. This prevents the major cause of diesel fuel injection system failure:

- It prolongs system life by eliminating pump and injector overhauls caused by water contaminated fuel.
- It reduces the need to repair the fuel pump and/or injectors that could easily tie up equipment for one or two days. The loss of income in just a few hours of equipment downtime.

EVERY DROP OF FUEL THROUGH BOTH FILTERS EVERY TIME IT ENTERS THE UNIT FOR TRULY DOUBLE FILTERED ENGINE FUEL.





#### **AUTOMATIC OIL REFILLER**

Adjusted to the correct running-oil-level, the oil mantainer will replenish engine lubricating oil as it is used. The devices reduce ongoing oil level maintenance and eliminate problems due to oil underfill or overfill.

The low-level switch will alarm and/or shutdown the equipment if supply oil is lost and the equipment continues to use oil.

# ITS GIVES AUTOMATIC MAINTENANCE OF ENGINE CRANKCASE OIL LEVEL, FOR POWER GENERATOR ENGINES.



### **BACK UP ENGINE OIL STORAGE TANK**

Oil tank for auto refilling oil system: Automatic maintenance of engine oil with built-in tank as an extra oil storage.

# EXTEND OIL CHANGE MAINTENANCE INTERVAL WITH ADDITIONAL OIL TANK



# **MARCHE DEGRADEE**

In case of a controller failure (lightning or other causes), Visa SpA provides the "marche degradée", an optional system consisting of a manual starting key, mounted on board, and a protection circuit that gets activated in case of high temperature or low engine oil pressure. That system allows the use of the generating set and the continuity of the service with the standard essential protections.

# MONITORING OF EQUIPMENT OPERATIONAL CAPABILITY

More than 50 different measuraments shown on the different pages of the control panel, possibility to do statistics in time.

# BLACK BOX PREDICTIVE MAINTENANCE SCHEDULING

Up to 2300 events recorded in the black box.

### **MANAGE SERVICE WITH AUTHORISED KEY**

Selector to set the genset's functioning in OFF-MAN AUTO-TEST mode and designed to operate only with the key inserted.

Through the use of a specific key, once the maintenance operations are finished, the operator is allowed to remove the key only if it is set in the AUTO position, always guaranteeing that the genset is functioning in automatic mode, before the operator gives back the key to the service manager.



# TELCO KIT - INTEGRATED CONTROL UNIT



# **EQUIPMENT MONITORING OPERATIONAL CAPABILITY**

Access common genset parameters: oil pressure, engine temperature, power output, diesel levels, engine run time and engine RPM. More than 50 different measuraments.

# REMOTE OPERATION AND CONTROL

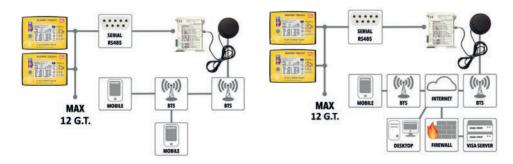
Remotely start and stop your generator in the field from any location. Remotely acknowledge generated alarms. Reduce expensive on-site maintenance trips.

## **BLACK BOX PREVENTIVE MAINTENANCE SCHEDULES**

Telecom tower companies or mobile operators can benefit from predictive maintenance of their sites, which contributes additional OPEX savings. Prepare a maintenance plan for your gensets setting up to 16 different maintenance intervals, programmable by month or working hours. 2300 events recorded in the BLACK BOX

#### **MONITORING MANAGEMENT**

GSM GPRS WEB APP







Remote control and monitoring for all Onis Visa generators.





# **SECURITY AGAINST THEFT**



# ANTI FUEL THEFT AND LEAK DETECTION SYSTEM

**REAL TIME PROTECTION** 











**WEB MONITORING ALLERT** 

# DETECT UNAUTHORIZED FUEL USAGE. LEAKS AND LEVELS

Monitoring fuel level in the tanks for power generators is critical, not only to ensure smooth operation and provide constant power for the BTS site, but increasing fuel level monitoring is used to protect the fuel asset.

# **ANTI FUEL THEFT OPTIONALS - KEY FEATURES:**

- lock and burglar-proof screws;
- Anti-theft fuel cap;
- Guard touch with GSM module with alerting feature to one of 15 notification types you can receive an SMS, E-Mail or SNMP. Alert to allow your security personnel to respond to the situation appropriately by sounding alarms, triggering deterrent devices via relay or placing an automatic call to local police stations in the area.

ARMOR YOUR GENERATOR



# POWERING TELECOM APPLICATIONS WITH **FOX**



**AVAILABLE ENGINES** 



**AVAILABLE ALTERNATORS** 





The Onis Visa FOX is a fully integrated power generation system, providing optimum performance, reliability and versatility for stationery standby, prime power, and continuous duty applications at remote locations. The compact and sturdy design and maximum noise reduction make it suitable for all telecom sites.

Well-supplied equipment and a large range of accessories are available for customization specifically designed for TLC applications.

As with all Visa products, all the unit's parts are subject to a strict operating test involving over 30 checks prior to delivery.





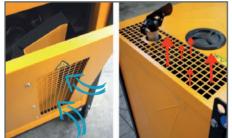






# POWERING TELECOM APPLICATIONS WITH FOX





# **AIR INLET AND THE COOLING SYSTEM**

Three large, protected, sound attenuated openings, guarantee good cooling air flow. The air intake is located in the back, avoiding the recirculation of hot air that is expelled from the front top part of the canopy.



### **DESIGN FOR MAINTENANCE ACCESSIBILITY**

Total access to the main components from the side doors making control and maintenance operations easy to carry out.



# **SOUND ATTENUATION SYSTEM**

Galvanised sound attenuated enclosures. Long lasting, durable enclosure with excellent sound reduction for residential areas. Sound attenuation using high-density rock wool and synthetic fibers; polyester fiber with low wear and tear and easier maintenance. Moreover, polyester fiber allows a more pleasant aesthetic result.



# **HEAT SHIELDED**

Vulnerable parts are heat shielded from high temperatures.



# POWERING TELECOM APPLICATIONS WITH FOX



# **INSPECTION POINTS**

The FOX generating set has been studied in minimal detail; a removable lid allows easy access for radiator inspection.



#### **PAINTING**

Galvanized sheet steel is used to manufacture the canopy: minimum zinc thickness is 20 micron. The powder-coated thermoset paint has a polyester resin base highly resistant to atmospheric agents. The painting process is preceded by a phospho-degreasing cycle with a demineralised water rinse and then dried. Minimum paint thickness is 70 micron. Durability class is C3-M according to UNI EN ISO 12944 -2.



#### **CONTROL PANEL**

The Fox includes, as standard, the well tested and reliable Guard **Evolution controller**, equipped with a very efficient software that has no equal in the market in terms of accuracy and number of functions. As optional we deal with a wide range of brands and parts, including:





# STOCKABLE IN CONTAINER HC



P 9 FOX UP TO 46 UNITS IN 40" CONTAINER P 14/21 FOX UP TO 30 UNITS IN 40" CONTAINER

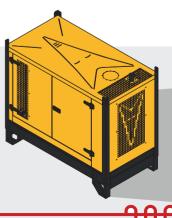
> CONSIDERING A STANDARD GE VERSION WITH 50 L FUEL TANK

FOX is stackable and allows space to be optimised for transport.

A 40' HC container contains up to 46 stacked units.



1400 SOLD IN 2015 **OUR MOST POPULAR PRODUCT** 





# SERIES: FOX MODEL: P9 VERSION: BTS MODEL

# Model P9 FOX + 1000 I (optional) Fuel Tank.

MAIN DATA	
Continuous Power (PRP)	9.0 kVA
Continuous Power (PRP)	7.2 kW
Stand-by Power (LTP)	10.0 kVA
Stand-by Power (LTP)	8.8 kW
Voltage · Frequency · Power Factor	400V·50Hz·0.8cosφ
Sound pressure 7 metres	62.0 dBA

DIMENSIONS AND WEIGH	Т	
Width	770 mm	
Length	1470 mm	
Height	1330 mm	
Weight	515 kg	

#### **GENERAL DATA**

ENGINE		
Engine brand	PERKINS	
Engine model	403A-11G1	
Cylinders	3	nr
Speed	1500	r.p.m.
Cubic capacity	1.13	I
Air intake	Aspirated	
Standard voltage	12	Vdc
Optional voltage	-	Vdc
Sae	5-6 <sup>1/2</sup>	
BMEP	_	kPa
Cooling	Water	
Flywheel P.R.P. Power	8.6	kW
Flywheel Stand-by Power	9.4	kW
Fuel Cons. at 100% (L.T.P.)	2.9	l/h
Fuel Cons. at 100% (P.R.P)	2.6	l/h
Fuel Cons. at 75% (P.R.P.)	2.0	l/h
Fuel Cons. at 50% (P.R.P.)	1.5	l/h
Fuel Cons. at 25% (P.R.P.)	-	l/h
Engine speed regulator	mechanical	
Precision class	-	+/-%
Oil quantity	4.9	I
Engine Antifreeze capacity	3.3	ı
Heat from radiator	8.3	kW
Heat from exhaust	7.3	kW
Heat from radiation	2.1	kW
	2.1	
Exhaust temperature	368.4	°C
Exhaust temperature Cooling air flow		°C m³/min
·	368.4	

ALTERNATOR				
Alternator brand	STAMFORD	MECCALTE		
Alternator model	UCI224E	ECP3-1L/4		
P.R.P. Power	10	.0	kVA	
L.T.P. Power	11	11.0		
Connection	Series	Star		
Phases	3F-	+N		
Winding	12 term	. W 311		
Terminal Number	1:	2	nr	
IP Protection	2			
Electronic regulator	AS480	DSR		
Precision	1.	5	+/-%	

BASEFRAME					
Model		FOX			
standard fuel tank		55			I
Long range fuel tank	600	1000	600	1000	1
Hours at 75% of load	300	500	300	500	h

CANOPY & SILENCER		
Canopy model	FOX	
Silencer model	MSR/a 35	
Silencer outlet diameter	45.0	mm

Standard reference conditions: temperature 25°C, altitude 100m asl, relative humidity 30%, atmospheric pressure 100 kPa (1 bar), power factor 0.8 lag, balanced load - non distortional. Fuel consumption is nominal and refers to specific weight 0,850kg/l. Sound power values refer to free field conditions: the installation site may influence the values. Dimensions, weights and other specifications contained in the technical data sheet and related attachments are nominal, subject to tolerances and refer to the model with standard equipment; any optional and additional equipment/accessories can modify weight, dimensions, performance. P.R.P. Prime Power-Continuous power at variable load: The power that a genset can supply in continuous service at a variable load for an unlimited number of hours per year while respecting the maintenance intervals established in the environmental conditions stated by the Manufacturer. according to ISO8528-1. The average power supplied over time and any applicable overload must be less than the percentages stated by the Manufacturer. L.T.P. Limited-time running power-Limited power: The maximum power that a genset can supply for a limited time respecting the maintenance intervals established in the environmental conditions stated by the Manufacturer according to ISO 8528-1. The number of hours per year is stated by the Manufacturer. Overload is not permitted.



# SERIES: FOX MODEL: P14 VERSION: BTS MODEL

# ENCLOSURE

MAIN DATA	
Continuous Power (PRP)	13.1 kVA
Continuous Power (PRP)	10.5 kW
Stand-by Power (LTP)	14.5 kVA
Stand-by Power (LTP)	11.6 kW
Voltage · Frequency · Power Factor	400V·50Hz·0.8cosφ
Sound pressure 7 metres	63.0 dBA

DIMENSIONS AND WEI	GHT	
Width	770 mm	
Length	1660 mm	
Height	1330 mm	
Weight	650 kg	

#### **GENERAL DATA**

Model P14 FOX + 1000 l (optional) Fuel Tank.

ENGINE		
Engine brand	PERKINS	
Engine model	403A-15G1	
Cylinders	3	nr
Speed	1500	r.p.m.
Cubic capacity	1.50	I
Air intake	Aspirated	
Standard voltage	12	Vdc
Optional voltage	-	Vdc
Sae	4-71/2	
BMEP	650	kPa
Cooling	Water	
Flywheel P.R.P. Power	12.2	kW
Flywheel Stand-by Power	13.5	kW
Fuel Cons. at 100% (L.T.P.)	4.1	l/h
Fuel Cons. at 100% (P.R.P)	3.7	l/h
Fuel Cons. at 75% (P.R.P.)	2.8	l/h
Fuel Cons. at 50% (P.R.P.)	2.1	l/h
Fuel Cons. at 25% (P.R.P.)	1.3	l/h
Engine speed regulator	mechanical	
Precision class	-	+/-%
Oil quantity	6.0	1
Engine Antifreeze capacity	2.6	1
Heat from radiator	11.6	kW
Heat from exhaust	9.3	kW
Heat from radiation	3.2	kW
Exhaust temperature	445	°C
Cooling air flow	25.20	m³/min
Combustion air flow	1.10	kg/h
Exhaust gas flow	2.70	kg/h

ALTERNATOR			
Alternator brand	STAMFORD	MECCALTE	
Alternator model	PI044G	ECP3-2L/4	
P.R.P. Power	15	.0	kVA
L.T.P. Power	16	kVA	
Connection	Series		
Phases	3F-	+N	
Winding	12 term	. W 311	
Terminal Number	12		nr
IP Protection	23		
Electronic regulator	AS480	DSR	
Precision	1.	0	+/-%

BASEFRAME					
Model	FOX				
standard fuel tank	55			1	
Long range fuel tank	600	1000	600	1000	1
Hours at 75% of load	214	357	214	357	h

CANOPY & SILENCER		
Canopy model	FOX	
Silencer model	MSR/a 35	
Silencer outlet diameter	45.0	mm

Standard reference conditions: temperature 25°C, altitude 100m asl, relative humidity 30%, atmospheric pressure 100 kPa (1 bar), power factor 0.8 lag, balanced load - non distortional. Fuel consumption is nominal and refers to specific weight 0,850kg/l. Sound power values refer to free field conditions: the installation site may influence the values. Dimensions, weights and other specifications contained in the technical data sheet and related attachments are nominal, subject to tolerances and refer to the model with standard equipment; any optional and additional equipment/accessories can modify weight, dimensions, performance. P.R.P. Prime Power-Continuous power at variable load: The power that a genset can supply in continuous service at a variable load for an unlimited number of hours per year while respecting the maintenance intervals established in the environmental conditions stated by the Manufacturer. according to ISO8528-1. The average power supplied over time and any applicable overload must be less than the percentages stated by the Manufacturer. L.T.P. Limited-time running power-Limited power: The maximum power that a genset can supply for a limited time respecting the maintenance intervals established in the environmental conditions stated by the Manufacturer according to ISO 8528-1. The number of hours per year is stated by the Manufacturer. Overload is not permitted.



# SERIES: FOX MODEL: P15 VERSION: BTS MODEL

# ENCLOSURE

MAIN DATA	
Continuous Power (PRP)	15.0 kVA
Continuous Power (PRP)	12.0 kW
Stand-by Power (LTP)	16.5 kVA
Stand-by Power (LTP)	13.2 kW
Voltage · Frequency · Power Factor	400V·50Hz·0.8cosφ
Sound pressure 7 metres	63.0 dBA

DIMENSIONS AND WEIGHT	Г	
Width	770 mm	
Length	1660 mm	
Height	1330 mm	
Weight	650 kg	

#### **GENERAL DATA**

Model P15 FOX + 1000 l (optional) Fuel Tank.

ENGINE		
Engine brand	PERKINS	
Engine model	403A-15G2	
Cylinders	3	nr
Speed	1500	r.p.m.
Cubic capacity	1.50	I
Air intake	Aspirated	
Standard voltage	12	Vdc
Optional voltage	-	Vdc
Sae	4-71/2	
BMEP	746	kPa
Cooling	Water	
Flywheel P.R.P. Power	14.0	kW
Flywheel Stand-by Power	15.4	kW
Fuel Cons. at 100% (L.T.P.)	5.0	l/h
Fuel Cons. at 100% (P.R.P)	4.3	l/h
Fuel Cons. at 75% (P.R.P.)	3.1	l/h
Fuel Cons. at 50% (P.R.P.)	2.2	l/h
Fuel Cons. at 25% (P.R.P.)	1.5	l/h
Engine speed regulator	mechanical	
Precision class	-	+/-%
Oil quantity	6.0	I
Engine Antifreeze capacity	2.6	ı
Heat from radiator	14.6	kW
Heat from exhaust	11.6	kW
Heat from radiation	4.0	kW
Exhaust temperature	580	°C
Cooling air flow	-	m³/min
Combustion air flow	1.00	kg/h
Exhaust gas flow	2.20	kg/h

ALTERNATOR				
Alternator brand	STAMFORD	MECCALTE		
Alternator model	PI044G	ECP3-3L/4		
P.R.P. Power	15	15.0		
L.T.P. Power	16	kVA		
Connection	Series			
Phases	3F-			
Winding	12 term			
Terminal Number	12		nr	
IP Protection	23			
Electronic regulator	AS480	DSR		
Precision	1.	0	+/-%	

BASEFRAME					
Model		FC	ΟX		
standard fuel tank	55			I	
Long range fuel tank	600	1000	600	1000	
Hours at 75% of load	193	323	193	323	h

CANOPY & SILENCER		
Canopy model	FOX	
Silencer model	MSR/a 35	
Silencer outlet diameter	45.0	mm

Standard reference conditions: temperature 25°C, altitude 100m asl, relative humidity 30%, atmospheric pressure 100 kPa (1 bar), power factor 0.8 lag, balanced load - non distortional. Fuel consumption is nominal and refers to specific weight 0,850kg/l. Sound power values refer to free field conditions: the installation site may influence the values. Dimensions, weights and other specifications contained in the technical data sheet and related attachments are nominal, subject to tolerances and refer to the model with standard equipment; any optional and additional equipment/accessories can modify weight, dimensions, performance. P.R.P. Prime Power-Continuous power at variable load: The power that a genset can supply in continuous service at a variable load for an unlimited number of hours per year while respecting the maintenance intervals established in the environmental conditions stated by the Manufacturer. according to ISO8528-1. The average power supplied over time and any applicable overload must be less than the percentages stated by the Manufacturer. L.T.P. Limited-time running power-Limited power: The maximum power that a genset can supply for a limited time respecting the maintenance intervals established in the environmental conditions stated by the Manufacturer according to ISO 8528-1. The number of hours per year is stated by the Manufacturer. Overload is not permitted.



# SERIES: FOX MODEL: P21 VERSION: BTS MODEL

# **ENCLOSURE**



MAIN DATA	
Continuous Power (PRP)	20.0 kVA
Continuous Power (PRP)	16.0 kW
Stand-by Power (LTP)	22.0 kVA
Stand-by Power (LTP)	17.6 kW
Voltage · Frequency · Power Factor	400V·50Hz·0.8cosφ
Sound pressure 7 metres	65.0 dBA

DIMENSIONS AND WEIGH	IT	
Width	770 mm	
Length	1660 mm	
Height	1330 mm	
Weight	690 kg	

#### **GENERAL DATA**

Engine brand Engine model Cylinders Speed 1500 Cubic capacity Air intake Standard voltage Optional voltage Sae BMEP Cooling Flywheel P.R.P. Power Flywheel Stand-by Power Fuel Cons. at 100% (P.R.P) Fuel Cons. at 75% (P.R.P.) Fuel Cons. at 25% (P.R.P.) Fuel Cons. at 25% (P.R.P.) Engine speed regulator Precision class Oil quantity Heat from radiator Heat from radiator Heat from radiator Heat from radiator Engine Speed regulator Heat from radiator Heat from radiator Heat from radiator Engine Speed regulator Heat from radiator Exhaust temperature Cooling air flow Combustion air flow Exhaust gas flow  840 Avalea Appirated Appirate  45 Appirate	ENGINE		
Cylinders         4         nr           Speed         1500         r.p.m.           Cubic capacity         2.22         I           Air intake         Aspirated         Standard voltage         12         Vdc           Standard voltage         -         Vdc         Vd	Engine brand	PERKINS	
Speed         1500         r.p.m.           Cubic capacity         2.22         I           Air intake         Aspirated         Standard voltage         12         Vdc           Optional voltage         -         Vdc         Vdc         Vdc           Sae         4-71/2         KPa         KP	Engine model	404A-22G1	
Cubic capacity  Air intake  Standard voltage  Optional voltage  Optional voltage  Sae  BMEP  Cooling  Flywheel P.R.P. Power  Flywheel Stand-by Power  Fuel Cons. at 100% (L.T.P.)  Fuel Cons. at 75% (P.R.P.)  Fuel Cons. at 50% (P.R.P.)  Fuel Cons. at 25% (P.R.P.)  Fuel Cons. at 25% (P.R.P.)  Fuel Cons. at 36 I  Engine speed regulator  Precision class  Oil quantity  Heat from radiator  Heat from radiator  Heat from radiation  Exhaust temperature  Cooling air flow  1.45 kg/h  Vdc  Aspirated  Ada  Vdc  Aspirated  Aspirated  At 71/2  Aud  I/h  Fuel Cooling  Aud  Exhaust temperature  Aud  Aspirated  Aspirate  Aspirate  Aspirated  Aspirate  Asp	Cylinders	4	nr
Air intake Standard voltage Optional voltage Sae BMEP Cooling Flywheel P.R.P. Power Flywheel Stand-by Power Fuel Cons. at 100% (L.T.P.) Fuel Cons. at 75% (P.R.P.) Fuel Cons. at 50% (P.R.P.) Fuel Cons. at 25% (P.R.P.) Fuel Cons. at 25% (P.R.P.) Fuel Cons. at 35% (P.R.P.) Fuel Cons. at 40% (P.R.P.) Fuel Cons. at 50% (P	Speed	1500	r.p.m.
Standard voltage Optional voltage Sae BMEP Cooling Flywheel P.R.P. Power Flywheel Stand-by Power Fuel Cons. at 100% (L.T.P.) Fuel Cons. at 75% (P.R.P.) Fuel Cons. at 50% (P.R.P.) Fuel Cons. at 25% (P.R.P.) Fuel Cons. at 25% (P.R.P.) Fuel Cons. at 35% (P.R.P.) Fuel Cons. at 45% (P.R.P.) Fuel Cons. at 45% (P.R.P.) Fuel Cons. at 50% (P.R.P.) Fuel	Cubic capacity	2.22	I
Optional voltage         -         Vdc           Sae         4-71/2         -           BMEP         669         kPa           Cooling         Water         -           Flywheel P.R.P. Power         18.7         kW           Flywheel Stand-by Power         20.6         kW           Fuel Cons. at 100% (L.T.P.)         6.1         I/h           Fuel Cons. at 100% (P.R.P.)         5.3         I/h           Fuel Cons. at 75% (P.R.P.)         4.0         I/h           Fuel Cons. at 50% (P.R.P.)         2.9         I/h           Fuel Cons. at 25% (P.R.P.)         -         I/h           Fuel Cons. at 75% (P.R.P	Air intake	Aspirated	
Sae         4-71/2           BMEP         669         kPa           Cooling         Water           Flywheel P.R.P. Power         18.7         kW           Flywheel Stand-by Power         20.6         kW           Fuel Cons. at 100% (L.T.P.)         6.1         I/h           Fuel Cons. at 100% (P.R.P)         5.3         I/h           Fuel Cons. at 75% (P.R.P.)         4.0         I/h           Fuel Cons. at 50% (P.R.P.)         2.9         I/h           Fuel Cons. at 25% (P.R.P.)         -         I/h           Engine speed regulator         mechanical           Precision class         -         +/-%           Oil quantity         10.6         I           Engine Antifreeze capacity         3.6         I           Heat from radiator         17.0         kW           Heat from radiation         4.0         kW           Exhaust temperature         445         °C           Cooling air flow         29.40         m³/min           Combustion air flow         1.45         kg/h	Standard voltage	12	Vdc
BMEP         669         kPa           Cooling         Water           Flywheel P.R.P. Power         18.7         kW           Flywheel Stand-by Power         20.6         kW           Fuel Cons. at 100% (L.T.P.)         6.1         I/h           Fuel Cons. at 100% (P.R.P)         5.3         I/h           Fuel Cons. at 75% (P.R.P.)         4.0         I/h           Fuel Cons. at 50% (P.R.P.)         2.9         I/h           Fuel Cons. at 25% (P.R.P.)         -         I/h           Engine speed regulator         mechanical           Precision class         -         +/-%           Oil quantity         10.6         I           Engine Antifreeze capacity         3.6         I           Heat from radiator         17.0         kW           Heat from radiation         4.0         kW           Exhaust temperature         445         °C           Cooling air flow         29.40         m³/min           Combustion air flow         1.45         kg/h	Optional voltage	-	Vdc
Cooling         Water           Flywheel P.R.P. Power         18.7         kW           Flywheel Stand-by Power         20.6         kW           Fuel Cons. at 100% (L.T.P.)         6.1         I/h           Fuel Cons. at 100% (P.R.P.)         5.3         I/h           Fuel Cons. at 75% (P.R.P.)         4.0         I/h           Fuel Cons. at 50% (P.R.P.)         2.9         I/h           Fuel Cons. at 25% (P.R.P.)         -         I/h           Engine speed regulator         mechanical           Precision class         -         +/-%           Oil quantity         10.6         I           Engine Antifreeze capacity         3.6         I           Heat from radiator         17.0         kW           Heat from radiation         4.0         kW           Exhaust temperature         445         °C           Cooling air flow         29.40         m³/min           Combustion air flow         1.45         kg/h	Sae	4-71/2	
Flywheel P.R.P. Power         18.7         kW           Flywheel Stand-by Power         20.6         kW           Fuel Cons. at 100% (L.T.P.)         6.1         I/h           Fuel Cons. at 100% (P.R.P)         5.3         I/h           Fuel Cons. at 75% (P.R.P.)         4.0         I/h           Fuel Cons. at 50% (P.R.P.)         2.9         I/h           Fuel Cons. at 25% (P.R.P.)         -         I/h           Engine speed regulator         mechanical           Precision class         -         +/-%           Oil quantity         10.6         I           Engine Antifreeze capacity         3.6         I           Heat from radiator         17.0         kW           Heat from exhaust         3.3         kW           Heat from radiation         4.0         kW           Exhaust temperature         445         °C           Cooling air flow         29.40         m³/min           Combustion air flow         1.45         kg/h	BMEP	669	kPa
Flywheel Stand-by Power         20.6         kW           Fuel Cons. at 100% (L.T.P.)         6.1         I/h           Fuel Cons. at 100% (P.R.P)         5.3         I/h           Fuel Cons. at 75% (P.R.P.)         4.0         I/h           Fuel Cons. at 50% (P.R.P.)         2.9         I/h           Fuel Cons. at 25% (P.R.P.)         -         I/h           Engine speed regulator         mechanical           Precision class         -         +/-%           Oil quantity         10.6         I           Engine Antifreeze capacity         3.6         I           Heat from radiator         17.0         kW           Heat from exhaust         3.3         kW           Heat from radiation         4.0         kW           Exhaust temperature         445         °C           Cooling air flow         29.40         m³/min           Combustion air flow         1.45         kg/h	Cooling	Water	
Fuel Cons. at 100% (L.T.P.)       6.1       I/h         Fuel Cons. at 100% (P.R.P)       5.3       I/h         Fuel Cons. at 75% (P.R.P.)       4.0       I/h         Fuel Cons. at 50% (P.R.P.)       2.9       I/h         Fuel Cons. at 25% (P.R.P.)       -       I/h         Engine speed regulator       mechanical         Precision class       -       +/-%         Oil quantity       10.6       I         Engine Antifreeze capacity       3.6       I         Heat from radiator       17.0       kW         Heat from exhaust       3.3       kW         Heat from radiation       4.0       kW         Exhaust temperature       445       °C         Cooling air flow       29.40       m³/min         Combustion air flow       1.45       kg/h	Flywheel P.R.P. Power	18.7	kW
Fuel Cons. at 100% (P.R.P)       5.3       I/h         Fuel Cons. at 75% (P.R.P.)       4.0       I/h         Fuel Cons. at 50% (P.R.P.)       2.9       I/h         Fuel Cons. at 25% (P.R.P.)       -       I/h         Engine speed regulator       mechanical         Precision class       -       +/-%         Oil quantity       10.6       I         Engine Antifreeze capacity       3.6       I         Heat from radiator       17.0       kW         Heat from exhaust       3.3       kW         Heat from radiation       4.0       kW         Exhaust temperature       445       °C         Cooling air flow       29.40       m³/min         Combustion air flow       1.45       kg/h	Flywheel Stand-by Power	20.6	kW
Fuel Cons. at 75% (P.R.P.)       4.0       I/h         Fuel Cons. at 50% (P.R.P.)       2.9       I/h         Fuel Cons. at 25% (P.R.P.)       -       I/h         Engine speed regulator       mechanical         Precision class       -       +/-%         Oil quantity       10.6       I         Engine Antifreeze capacity       3.6       I         Heat from radiator       17.0       kW         Heat from exhaust       3.3       kW         Heat from radiation       4.0       kW         Exhaust temperature       445       °C         Cooling air flow       29.40       m³/min         Combustion air flow       1.45       kg/h	Fuel Cons. at 100% (L.T.P.)	6.1	l/h
Fuel Cons. at 50% (P.R.P.)  Fuel Cons. at 25% (P.R.P.)  Engine speed regulator  Precision class  Oil quantity  Engine Antifreeze capacity  Heat from radiator  Heat from exhaust  Heat from radiation  Exhaust temperature  Cooling air flow  Length Precision Class  - +/-%  10.6  I  House Trom Rechanical  Frecision Class  - +/-%  10.6  I  Heat from radiator  17.0  kW  Heat from exhaust  4.0  kW  Exhaust temperature  445  Cooling air flow  Combustion air flow  1.45  kg/h	Fuel Cons. at 100% (P.R.P)	5.3	l/h
Fuel Cons. at 25% (P.R.P.)  Engine speed regulator  Precision class  - +/-%  Oil quantity  Engine Antifreeze capacity  Heat from radiator  Heat from exhaust  Heat from radiation  Exhaust temperature  445  Cooling air flow  Combustion air flow  - I/h  10.6  I  17.0  kW  4.0  kW  4.0  kW  29.40  m³/min  Combustion air flow  1.45  kg/h	Fuel Cons. at 75% (P.R.P.)	4.0	l/h
Engine speed regulator Precision class - +/-% Oil quantity 10.6 I Engine Antifreeze capacity 3.6 I Heat from radiator Heat from exhaust Heat from radiation 4.0 Exhaust temperature 445 Cooling air flow Combustion air flow  **Mechanical**  10.6 I Explain 10.6 I E	Fuel Cons. at 50% (P.R.P.)	2.9	l/h
Precision class  Oil quantity  10.6  Engine Antifreeze capacity  Heat from radiator  Heat from exhaust  Heat from radiation  Exhaust temperature  445  Coling air flow  Combustion air flow  - +/-%  10.6  I  10.6  I  10.6  I  14.0  kW  EW  EW  29.40  m³/min  Combustion air flow  1.45  kg/h	Fuel Cons. at 25% (P.R.P.)	-	l/h
Oil quantity  Engine Antifreeze capacity  Heat from radiator  Heat from exhaust  Heat from radiation  Exhaust temperature  Cooling air flow  Combustion air flow  10.6  I  I  10.6  I  I  I  I  I  I  I  I  I  I  I  I  I	Engine speed regulator	mechanical	
Engine Antifreeze capacity  Heat from radiator  Heat from exhaust  Heat from radiation  Heat from radiation  Exhaust temperature  Cooling air flow  1.45  Au  MW  MW  Mary Mary  1.45  Lag  1.7.0  MW  MW  MW  MW  Lag  Lag  Lag  Lag  Lag  Lag  Lag  La	Precision class	-	+/-%
Heat from radiator Heat from exhaust Heat from radiation Heat from exhaust Heat from exhaust Heat from exhaust Heat from radiator Heat from exhaust Heat from radiator Heat from exhaust Heat from radiator Heat from exhaust Heat from radiation Heat from exhaust Heat from radiation Heat from exhaust Heat from radiation Heat from	Oil quantity	10.6	1
Heat from exhaust Heat from radiation Heat from radiation Heat from radiation  Exhaust temperature Heat from exhaust  4.0  Exhaust temperature Heat from radiation  4.0  Exh	Engine Antifreeze capacity	3.6	1
Heat from radiation  4.0 kW  Exhaust temperature  445 °C  Cooling air flow  29.40 m³/min  Combustion air flow  1.45 kg/h	Heat from radiator	17.0	kW
Exhaust temperature 445 °C  Cooling air flow 29.40 m³/min  Combustion air flow 1.45 kg/h	Heat from exhaust	3.3	kW
Cooling air flow 29.40 m³/min Combustion air flow 1.45 kg/h	Heat from radiation	4.0	kW
Combustion air flow 1.45 kg/h	Exhaust temperature	445	°C
	Cooling air flow	29.40	m³/min
Exhaust gas flow 3.64 kg/h	Combustion air flow	1.45	kg/h
	Exhaust gas flow	3.64	kg/h

ALTERNATOR				
Alternator brand	STAMFORD	MECCALTE		
Alternator model	PI144G	ECP28-M/4		
P.R.P. Power	20	20.0		
L.T.P. Power	22	22.0		
Connection	Serie	Series Star		
Phases	3F-	3F+N		
Winding	12 term	12 term. W 311		
Terminal Number	1	12		
IP Protection	2	23		
Electronic regulator	AS480	DSR		
Precision	1.	1.0		

BASEFRAME					
Model	FOX				
standard fuel tank		55			I
Long range fuel tank	600	1000	600	1000	1
Hours at 75% of load	150	250	150	250	h

CANOPY & SILENCER		
Canopy model	FOX	
Silencer model	MSR/a 35	
Silencer outlet diameter	45.0	mm

Standard reference conditions: temperature 25°C, altitude 100m asl, relative humidity 30%, atmospheric pressure 100 kPa (1 bar), power factor 0.8 lag, balanced load - non distortional. Fuel consumption is nominal and refers to specific weight 0,850kg/l. Sound power values refer to free field conditions: the installation site may influence the values. Dimensions, weights and other specifications contained in the technical data sheet and related attachments are nominal, subject to tolerances and refer to the model with standard equipment; any optional and additional equipment/accessories can modify weight, dimensions, performance. P.R.P. Prime Power-Continuous power at variable load: The power that a genset can supply in continuous service at a variable load for an unlimited number of hours per year while respecting the maintenance intervals established in the environmental conditions stated by the Manufacturer. according to ISO8528-1. The average power supplied over time and any applicable overload must be less than the percentages stated by the Manufacturer. L.T.P. Limited-time running power-Limited power: The maximum power that a genset can supply for a limited time respecting the maintenance intervals established in the environmental conditions stated by the Manufacturer according to ISO 8528-1. The number of hours per year is stated by the Manufacturer. Overload is not permitted.



# POWERING TELECOM APPLICATIONS WITH BIGFOX



**AVAILABLE ENGINES** 





**AVAILABLE ALTERNATORS** 

**STAMFORD** 

Onis Visa BIG FOX the smartest range, expands its own power up to 60.0 kVA. Compact and sturdy, low noise level and extremely versatile!

Available from 20.0 to 60.0 kVA, the BiGFOX can fully satisfy everyone's needs.

Suitable for continuous or emergency service, both for mobile and stationary applications, for civil or industrial use, BIG FOX represents a reliable solution for all those projects where power as well as compact size are required.

A wide choice of optional accessories is available to fully customize your BIG FOX version.



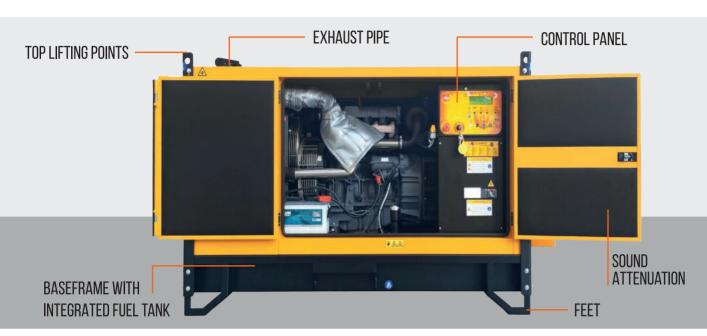








# POWERING TELECOM APPLICATIONS WITH BIGFOX





# **AIR INLET AND THE COOLING SYSTEM**

Large, protected, sound attenuated openings, guarantee good cooling air flow. The air intake is located on top of the canopy, avoiding the recirculation. The exhaust gas line is complete with a rain cap.



### **DESIGN FOR MAINTENANCE ACCESSIBILITY**

BiG FOX has 4 wide doors with robust hinges that open completely to allow complete access to all components.

The easily removable front panel facilitates access to the exhaust line and radiator instead the back panel gives full access to the alternator. Usefull for cleaning and maintenance tasks



# **SOUND ATTENUATION SYSTEM**

Galvanised sound attenuated enclosures. Long lasting, durable enclosure with excellent sound reduction for residential areas. Sound attenuation using high-density rock wool and synthetic fibers; polyester fiber with low wear and tear and easier maintenance. Moreover, polyester fiber allows a more pleasant aesthetic result.



# **HEAT SHIELDED**

Vulnerable parts are heat shielded from high/low temperature.



# POWERING TELECOM APPLICATIONS WITH BIGFOX



### **RETENTION BASIN**

The BiGFOX baseframe is equipped with a retention basin, integrated fuel tank and fuel level sensor.

A convenient external plug allows any liquid collected to be emptied easily.



# **PAINTING**

Galvanized sheet steel is used to manufacture the canopy: minimum zinc thickness is 20 micron. The powder-coated thermoset paint has a polyester resin base highly resistant to atmospheric agents. The painting process is preceded by a phospho-degreasing cycle with a demineralised water rinse and then dried. Minimum paint thickness is 70 micron. Durability class is **C3-M** according to **UNI EN ISO 12944 -2.** 



# **CONTROL PANEL**

The Fox includes, as standard, the well tested and reliable **Guard Evolution controller**, equipped with a very efficient software that has no equal in the market in terms of accuracy and number of functions. As optional we deal with a wide range of brands and parts, including:





### STOCKABLE IN CONTAINER HC



CONSIDERING A STANDARD GE VERSION WITH 90 L FUEL TANK

BiG FOX is stackable and allows space to be optimised for transport. A

40' HC container contains up to 24 stacked units ("Stackable" function is standard for gensets assembled with Deutz engines and optional for versions with Perkins and Lovol engines).





# SERIES: BIGFOX MODEL: D21 VERSION: BTS MODEL

# Model D21 BiGFOX + 600 I (optional) Fuel Tank.

MAIN DATA	
Continuous Power (PRP)	20.0 kVA
Continuous Power (PRP)	16.0 kW
Stand-by Power (LTP)	21.5 kVA
Stand-by Power (LTP)	17.0 kW
Voltage · Frequency · Power Factor	400V·50Hz·0.8cosφ
Sound pressure 7 metres	65.0 dBA

DIMENSIONS AND WEIGHT		
Width	945 mm	
Length	2030 mm	
Height	1340 mm	
Weight	830 kg	

#### **GENERAL DATA**

ENGINE		
Engine brand	DEUTZ	
Engine model	F3M2011	
Cylinders	3	nr
Speed	1500	r.p.m.
Cubic capacity	2.33	I
Air intake	Aspirated	
Standard voltage	12	Vdc
Optional voltage	24	Vdc
Sae	3-111/2	
BMEP	690	kPa
Cooling	Oil	
Flywheel P.R.P. Power	19.4	kW
Flywheel Stand-by Power	20.4	kW
Fuel Cons. at 100% (L.T.P.)	5.6	l/h
Fuel Cons. at 100% (P.R.P)	5.3	l/h
Fuel Cons. at 75% (P.R.P.)	4.0	l/h
Fuel Cons. at 50% (P.R.P.)	3.1	l/h
Fuel Cons. at 25% (P.R.P.)	2.5	l/h
Engine speed regulator	mechanical	
Precision class	_	+/-%
Oil quantity	8.5	I
Engine Antifreeze capacity	-	1
Heat from radiator	11.3	kW
Heat from exhaust	18.1	kW
Heat from radiation	-	kW
Exhaust temperature	540	°C
Cooling air flow	30.00	m³/mir
Combustion air flow	-	kg/h
Exhaust gas flow	4.16	kg/h

ALTERNATOR		
Alternator brand	STAMFORD	
Alternator model	PI144D	
P.R.P. Power	20.0	kVA
L.T.P. Power	22.0	kVA
Connection	Series Star	
Phases	3F+N	
Winding	12 term. W 311	
Terminal Number	12	nr
IP Protection	23	
Electronic regulator	AS480	
Precision	1.0	+/-%

BASEFRAME			
Model	FC	OX	
standard fuel tank	90		1
Long range fuel tank	600	1000	1
Hours at 75% of load	150	250	h

CANOPY & SILENCER		
Canopy model	FOX	
Silencer model	F50/03	
Silencer outlet diameter	50.0	mm

Standard reference conditions: temperature 25°C, altitude 100m asl, relative humidity 30%, atmospheric pressure 100 kPa (1 bar), power factor 0.8 lag, balanced load - non distortional. Fuel consumption is nominal and refers to specific weight 0,850kg/l. Sound power values refer to free field conditions: the installation site may influence the values. Dimensions, weights and other specifications contained in the technical data sheet and related attachments are nominal, subject to tolerances and refer to the model with standard equipment; any optional and additional equipment/accessories can modify weight, dimensions, performance. P.R.P. Prime Power-Continuous power at variable load: The power that a genset can supply in continuous service at a variable load for an unlimited number of hours per year while respecting the maintenance intervals established in the environmental conditions stated by the Manufacturer. according to ISO8528-1. The average power supplied over time and any applicable overload must be less than the percentages stated by the Manufacturer. L.T.P. Limited-time running power-Limited power: The maximum power that a genset can supply for a limited time respecting the maintenance intervals established in the environmental conditions stated by the Manufacturer according to ISO 8528-1. The number of hours per year is stated by the Manufacturer. Overload is not permitted.



# SERIES: BIGFOX MODEL: D30 VERSION: BTS MODEL

# ENCLOSURE

Model D30 BiGFOX + 600 I (optional) Fuel Tank.
The genset photo displayed may be an example only.
Because of the numerous possible combinations of genset models, colors and optionals, the genset picture may not match your genset exactly

MAIN DATA	
Continuous Power (PRP)	30.0 kVA
Continuous Power (PRP)	24.0 kW
Stand-by Power (LTP)	33.0 kVA
Stand-by Power (LTP)	26.4 kW
Voltage · Frequency · Power Factor	400V·50Hz·0.8cosφ
Sound pressure 7 metres	65.0 dBA

DIMENSIONS AND WEIGHT	
Width	945 mm
Length	2030 mm
Height	1340 mm
Weight	910 kg

#### **GENERAL DATA**

Engine brand Engine model Cylinders Speed Speed Speed Standard voltage Optional voltage Sae Sae Sae SabPer Share Cooling Shywheel P.R.P. Power Shywheel Stand-by Power Suel Cons. at 100% (L.T.P.) Fuel Cons. at 100% (P.R.P) Fuel Cons. at 25% (P.R.P.) Fuel Cons. at 25% (P.R.P.) Singine speed regulator Speed regulator Speed Sae Sabper Share Speed Spe	ENGINE		
Cylinders         4         nr           Speed         1500         r.p.m.           Cubic capacity         3.11         I           Air intake         Aspirated         Standard voltage         12         Vdc           Standard voltage         24         Vdc         V	Engine brand	DEUTZ	
Speed         1500         r.p.m.           Cubic capacity         3.11         I           Air intake         Aspirated         Standard voltage         12         Vdc           Standard voltage         24         Vdc         Vd	Engine model	F4M2011	
Cubic capacity Air intake Standard voltage Optional voltage Optional voltage Sae  BMEP Cooling Flywheel P.R.P. Power Flywheel Stand-by Power Fuel Cons. at 100% (L.T.P.) Fuel Cons. at 100% (P.R.P) Fuel Cons. at 75% (P.R.P.) Fuel Cons. at 55% (P.R.P.) Fuel Cons. at 25% (P.R.P.) Fuel Cons. at 100% (P.R.P.) F	Cylinders	4	nr
Air intake  Standard voltage  Optional voltage  Sae  BMEP  Cooling  Flywheel P.R.P. Power  Flywheel Stand-by Power  Fuel Cons. at 100% (L.T.P.)  Fuel Cons. at 75% (P.R.P.)  Fuel Cons. at 50% (P.R.P.)  Fuel Cons. at 50% (P.R.P.)  Fuel Cons. at 25% (P.R.P.)  Engine speed regulator  Precision class  Oil quantity  Engine Antifreeze capacity  Heat from radiator  Heat from radiation  Exhaust temperature  Cooling air flow  Ndc  Ydc  Vdc  Vdc  Vdc  Vdc  Vdc  Vdc  V	Speed	1500	r.p.m.
Standard voltage Optional voltage Sae  BMEP Cooling Flywheel P.R.P. Power Flywheel Stand-by Power Fuel Cons. at 100% (L.T.P.) Fuel Cons. at 75% (P.R.P.) Fuel Cons. at 50% (P.R.P.) Fuel Cons. at 25% (P.R.P.) Fuel Cons. at 25% (P.R.P.) Engine speed regulator Precision class Oil quantity Fleat from radiator Heat from radiator Heat from radiation Exhaust temperature Combustion air flow  Fud Cons. at flow Combustion air flow  12 Vdc	Cubic capacity	3.11	I
Optional voltage  Sae  3-111/2  BMEP  Cooling  Flywheel P.R.P. Power  Flywheel Stand-by Power  Fuel Cons. at 100% (L.T.P.)  Fuel Cons. at 100% (P.R.P)  Fuel Cons. at 75% (P.R.P.)  Fuel Cons. at 50% (P.R.P.)  Fuel Cons. at 25% (P.R.P.)  Fuel Cons. at 75% (P.R.P.)  Fuel Cons. at 75% (P.R.P.)  Fuel Cons. at 75% (P.R.P.)  Fuel Cons. at 25% (P.R.P.)  Fuel Cons. at 75% (P.R.P.)  Fuel Cons. at 25%	Air intake	Aspirated	
Sae         3-111/2         RPa           BMEP         750         kPa           Cooling         Oil         Flywheel P.R.P. Power         28.0         kW           Flywheel Stand-by Power         29.4         kW           Fuel Cons. at 100% (L.T.P.)         7.7         l/h           Fuel Cons. at 100% (P.R.P.)         7.2         l/h           Fuel Cons. at 75% (P.R.P.)         5.5         l/h           Fuel Cons. at 50% (P.R.P.)         3.1         l/h           Fuel Cons. at 25% (P.R.P.)         3.1         l/h           Engine speed regulator         mechanical           Precision class         G2         +/-%           Oil quantity         13.0         I           Engine Antifreeze capacity         -         I           Heat from radiator         17.0         kW           Heat from radiation         -         kW           Exhaust temperature         600         °C           Cooling air flow         30.00         m³/min           Combustion air flow         -         kg/h	Standard voltage	12	Vdc
BMEP Cooling Cooling Flywheel P.R.P. Power Flywheel Stand-by Power Fuel Cons. at 100% (L.T.P.) Fuel Cons. at 100% (P.R.P) Fuel Cons. at 75% (P.R.P.) Fuel Cons. at 50% (P.R.P.) Fuel Cons. at 25% (P.R.P.) Fuel Cons. at 75% (P.R.P.) Fuel Cons. at 50% (P.R.P.) Fuel Cons. at 75% (P.R.P.) Fuel Co	Optional voltage	24	Vdc
Cooling Flywheel P.R.P. Power Flywheel Stand-by Power Fuel Cons. at 100% (L.T.P.) Fuel Cons. at 100% (P.R.P) Fuel Cons. at 75% (P.R.P.) Fuel Cons. at 50% (P.R.P.) Fuel Cons. at 25% (P	Sae	3-111/2	
Flywheel P.R.P. Power         28.0         kW           Flywheel Stand-by Power         29.4         kW           Fuel Cons. at 100% (L.T.P.)         7.7         l/h           Fuel Cons. at 100% (P.R.P)         7.2         l/h           Fuel Cons. at 75% (P.R.P.)         5.5         l/h           Fuel Cons. at 50% (P.R.P.)         3.1         l/h           Fuel Cons. at 25% (P.R.P.)         3.1         l/h           Engine speed regulator         mechanical           Precision class         G2         +/-%           Oil quantity         13.0         I           Engine Antifreeze capacity         -         I           Heat from radiator         17.0         kW           Heat from exhaust         25.0         kW           Heat from radiation         -         kW           Exhaust temperature         600         °C           Cooling air flow         30.00         m³/min           Combustion air flow         -         kg/h	BMEP	750	kPa
Flywheel Stand-by Power         29.4         kW           Fuel Cons. at 100% (L.T.P.)         7.7         l/h           Fuel Cons. at 100% (P.R.P)         7.2         l/h           Fuel Cons. at 75% (P.R.P.)         5.5         l/h           Fuel Cons. at 50% (P.R.P.)         3.1         l/h           Fuel Cons. at 25% (P.R.P.)         3.1         l/h           Engine speed regulator         mechanical           Precision class         G2         +/-%           Oil quantity         13.0         I           Engine Antifreeze capacity         -         I           Heat from radiator         17.0         kW           Heat from exhaust         25.0         kW           Heat from radiation         -         kW           Exhaust temperature         600         °C           Cooling air flow         30.00         m³/min           Combustion air flow         -         kg/h	Cooling	Oil	
Fuel Cons. at 100% (L.T.P.)       7.7       I/h         Fuel Cons. at 100% (P.R.P)       7.2       I/h         Fuel Cons. at 75% (P.R.P.)       5.5       I/h         Fuel Cons. at 50% (P.R.P.)       4.2       I/h         Fuel Cons. at 25% (P.R.P.)       3.1       I/h         Engine speed regulator       mechanical         Precision class       G2       +/-%         Oil quantity       13.0       I         Engine Antifreeze capacity       -       I         Heat from radiator       17.0       kW         Heat from exhaust       25.0       kW         Heat from radiation       -       kW         Exhaust temperature       600       °C         Cooling air flow       30.00       m³/min         Combustion air flow       -       kg/h	Flywheel P.R.P. Power	28.0	kW
Fuel Cons. at 100% (P.R.P)       7.2       I/h         Fuel Cons. at 75% (P.R.P.)       5.5       I/h         Fuel Cons. at 50% (P.R.P.)       4.2       I/h         Fuel Cons. at 25% (P.R.P.)       3.1       I/h         Engine speed regulator       mechanical         Precision class       G2       +/-%         Oil quantity       13.0       I         Engine Antifreeze capacity       -       I         Heat from radiator       17.0       kW         Heat from exhaust       25.0       kW         Heat from radiation       -       kW         Exhaust temperature       600       °C         Cooling air flow       30.00       m³/min         Combustion air flow       -       kg/h	Flywheel Stand-by Power	29.4	kW
Fuel Cons. at 75% (P.R.P.)  Fuel Cons. at 50% (P.R.P.)  Fuel Cons. at 25% (P.R.P.)  Fuel Cons. at 25% (P.R.P.)  Engine speed regulator  Precision class  G2 +/-%  Oil quantity  Engine Antifreeze capacity  Heat from radiator  Heat from exhaust  Heat from radiation  Exhaust temperature  G00 °C  Cooling air flow  Combustion air flow  5.5  I/h  Mechanical  Mechanical  Too  KW  KW  KW  Too  Too  Too  Too  T	Fuel Cons. at 100% (L.T.P.)	7.7	l/h
Fuel Cons. at 50% (P.R.P.)  Fuel Cons. at 25% (P.R.P.)  Engine speed regulator  Precision class  Oil quantity  Engine Antifreeze capacity  Heat from radiator  Heat from exhaust  Heat from radiation  Exhaust temperature  Cooling air flow  Combustion air flow  4.2  I/h  A.2  I/h  Mechanical  Precision class  G2  +/-%  13.0  I  Exhaust  17.0  kW  Exhaust  600  °C  Cooling air flow  Combustion air flow  - kg/h	Fuel Cons. at 100% (P.R.P)	7.2	l/h
Fuel Cons. at 25% (P.R.P.)  Engine speed regulator  Precision class  G2 +/-%  Oil quantity  Engine Antifreeze capacity  Heat from radiator  Heat from exhaust  Heat from radiation  Exhaust temperature  Cooling air flow  Combustion air flow  A 1. I/h  Mechanical  13.0  I  E2.0  kW  E4.0  Cooling air flow  Combustion air flow  30.00  Mai/min  Kg/h	Fuel Cons. at 75% (P.R.P.)	5.5	l/h
Engine speed regulator Precision class  Oil quantity  Engine Antifreeze capacity  Heat from radiator  Heat from exhaust  Heat from radiation  Exhaust temperature  Cooling air flow  Combustion air flow  Mechanical  13.0  I  17.0  kW  25.0  kW  600  °C  600  °C  30.00  m³/min  Combustion air flow  - kg/h	Fuel Cons. at 50% (P.R.P.)	4.2	l/h
Precision class  Oil quantity  Engine Antifreeze capacity  Heat from radiator  Heat from exhaust  Heat from radiation  Exhaust temperature  Cooling air flow  Combustion air flow  Oil quantity  13.0  I  Exhaust 17.0  Exhaust 25.0  Exhaust 16.0  Exhaust 17.0  Exhaust 17	Fuel Cons. at 25% (P.R.P.)	3.1	l/h
Oil quantity  Engine Antifreeze capacity  Heat from radiator  Heat from exhaust  Heat from radiation  Exhaust temperature  Cooling air flow  Combustion air flow  13.0  kW  25.0  kW  25.0  kW  600  °C  600  °C  600  m³/min  6w/h	Engine speed regulator	mechanical	
Engine Antifreeze capacity  Heat from radiator  Heat from exhaust  Heat from radiation  Exhaust temperature  Cooling air flow  Combustion air flow  Engine Antifreeze capacity  - I  kw  Exhaust temperature  600  °C  Cooling air flow  30.00  m³/min  kg/h	Precision class	G2	+/-%
Heat from radiator 17.0 kW Heat from exhaust 25.0 kW Heat from radiation - kW Exhaust temperature 600 °C Cooling air flow 30.00 m³/min Combustion air flow - kg/h	Oil quantity	13.0	I
Heat from exhaust 25.0 kW Heat from radiation - kW Exhaust temperature 600 °C Cooling air flow 30.00 m³/min Combustion air flow - kg/h	Engine Antifreeze capacity	-	ı
Heat from radiation - kW  Exhaust temperature 600 °C  Cooling air flow 30.00 m³/min  Combustion air flow - kg/h	Heat from radiator	17.0	kW
Exhaust temperature 600 °C  Cooling air flow 30.00 m³/min  Combustion air flow - kg/h	Heat from exhaust	25.0	kW
Cooling air flow 30.00 m³/min Combustion air flow - kg/h	Heat from radiation	-	kW
Combustion air flow - kg/h	Exhaust temperature	600	°C
1.6.1.	Cooling air flow	30.00	m³/min
Exhaust gas flow 5.54 kg/h	Combustion air flow	-	kg/h
	Exhaust gas flow	5.54	kg/h

ALTERNATOR		
Alternator brand	STAMFORD	
Alternator model	PI144G	
P.R.P. Power	30.0	kVA
L.T.P. Power	33.0	kVA
Connection	Series Star	
Phases	3F+N	
Winding	12 term. W 311	
Terminal Number	12	nr
IP Protection	23	
Electronic regulator	AS480	
Precision	1.0	+/-%

BASEFRAME			
Model	FC	ΟX	
standard fuel tank	9	90	
Long range fuel tank	600	1000	
Hours at 75% of load	109	182	h

CANOPY & SILENCER		
Canopy model	FOX	
Silencer model	F50/03	
Silencer outlet diameter	50.0	mm

Standard reference conditions: temperature 25°C, altitude 100m asl, relative humidity 30%, atmospheric pressure 100 kPa (1 bar), power factor 0.8 lag, balanced load - non distortional. Fuel consumption is nominal and refers to specific weight 0,850kg/l. Sound power values refer to free field conditions: the installation site may influence the values. Dimensions, weights and other specifications contained in the technical data sheet and related attachments are nominal, subject to tolerances and refer to the model with standard equipment; any optional and additional equipment/accessories can modify weight, dimensions, performance. P.R.P. Prime Power-Continuous power at variable load: The power that a genset can supply in continuous service at a variable load for an unlimited number of hours per year while respecting the maintenance intervals established in the environmental conditions stated by the Manufacturer. according to ISO8528-1. The average power supplied over time and any applicable overload must be less than the percentages stated by the Manufacturer. L.T.P. Limited-time running power-Limited power: The maximum power that a genset can supply for a limited time respecting the maintenance intervals established in the environmental conditions stated by the Manufacturer according to ISO 8528-1. The number of hours per year is stated by the Manufacturer. Overload is not permitted.



# SERIES: BIGFOX MODEL: D41 VERSION: BTS MODEL

# ENCLOSURE

MAIN DATA	
Continuous Power (PRP)	40.0 kVA
Continuous Power (PRP)	32.0 kW
Stand-by Power (LTP)	44.0 kVA
Stand-by Power (LTP)	35.2 kW
Voltage · Frequency · Power Factor	400V·50Hz·0.8cosφ
Sound pressure 7 metres	65.0 dBA

DIMENSIONS AND WEIGHT		
Width	945 mm	
Length	2030 mm	
Height	1340 mm	
Weight	940 kg	

#### **GENERAL DATA**

Model D41 BiGFOX + 600 l (optional) Fuel Tank.

ENGINE		
Engine brand	DEUTZ	
Engine model	BF4M2011	
Cylinders	4	nr
Speed	1500	r.p.m.
Cubic capacity	3.11	I
Air intake	Turbocharged	
Standard voltage	12	Vdc
Optional voltage	24	Vdc
Sae	3-111/2	
BMEP	980	kPa
Cooling	Oil	
Flywheel P.R.P. Power	37.4	kW
Flywheel Stand-by Power	39.2	kW
Fuel Cons. at 100% (L.T.P.)	10.5	l/h
Fuel Cons. at 100% (P.R.P)	9.9	l/h
Fuel Cons. at 75% (P.R.P.)	7.4	l/h
Fuel Cons. at 50% (P.R.P.)	5.3	l/h
Fuel Cons. at 25% (P.R.P.)	3.1	l/h
Engine speed regulator	mechanical	
Precision class	G2	+/-%
Oil quantity	13.0	I
Engine Antifreeze capacity	-	I
Heat from radiator	24.2	kW
Heat from exhaust	38.6	kW
Heat from radiation	-	kW
Exhaust temperature	610	°C
Cooling air flow	39.50	m³/min
Combustion air flow	2.50	kg/h
Exhaust gas flow	8.53	kg/h

ALTERNATOR		
Alternator brand	STAMFORD	
Alternator model	PI144J	
P.R.P. Power	40.0	kVA
L.T.P. Power	45.0	kVA
Connection	Series Star	
Phases	3F+N	
Winding	12 term. W 311	
Terminal Number	12	nr
IP Protection	23	
Electronic regulator	AS480	
Precision	1.0	+/-%

BASEFRAME			
Model	FC	OX	
standard fuel tank	9	90	
Long range fuel tank	600	1000	
Hours at 75% of load	81	135	h

CANOPY & SILENCER		
Canopy model	FOX	
Silencer model	F50/03	
Silencer outlet diameter	50.0	mm

Standard reference conditions: temperature 25°C, altitude 100m asl, relative humidity 30%, atmospheric pressure 100 kPa (1 bar), power factor 0.8 lag, balanced load - non distortional. Fuel consumption is nominal and refers to specific weight 0,850kg/l. Sound power values refer to free field conditions: the installation site may influence the values. Dimensions, weights and other specifications contained in the technical data sheet and related attachments are nominal, subject to tolerances and refer to the model with standard equipment; any optional and additional equipment/accessories can modify weight, dimensions, performance. P.R.P. Prime Power-Continuous power at variable load: The power that a genset can supply in continuous service at a variable load for an unlimited number of hours per year while respecting the maintenance intervals established in the environmental conditions stated by the Manufacturer. according to ISO8528-1. The average power supplied over time and any applicable overload must be less than the percentages stated by the Manufacturer. L.T.P. Limited-time running power-Limited power: The maximum power that a genset can supply for a limited time respecting the maintenance intervals established in the environmental conditions stated by the Manufacturer according to ISO 8528-1. The number of hours per year is stated by the Manufacturer. Overload is not permitted.



# SERIES: BIGFOX MODEL: D62 VERSION: BTS MODEL

# ENCLOSURE

MAIN DATA	
Continuous Power (PRP)	60.0 kVA
Continuous Power (PRP)	48.0 kW
Stand-by Power (LTP)	62.0 kVA
Stand-by Power (LTP)	49.6 kW
Voltage · Frequency · Power Factor	400V·50Hz·0.8cosφ
Sound pressure 7 metres	68.0 dBA

DIMENSIONS AND WEIGHT		
Width	945 mm	
Length	2240 mm	
Height	1340 mm	
Weight	1150 kg	

#### **GENERAL DATA**

Model D62 BiGFOX + 600 l (optional) Fuel Tank.

ENGINE		
Engine brand	DEUTZ	
Engine model	BF4M2011C	
Cylinders	4	nr
Speed	1500	r.p.m.
Cubic capacity	3.11	I
Air intake	Turbocharged	
Standard voltage	12	Vdc
Optional voltage	24	Vdc
Sae	3-111/2	
ВМЕР	1520	kPa
Cooling	Oil	
Flywheel P.R.P. Power	53.3	kW
Flywheel Stand-by Power	56.1	kW
Fuel Cons. at 100% (L.T.P.)	14.9	l/h
Fuel Cons. at 100% (P.R.P)	14.2	l/h
Fuel Cons. at 75% (P.R.P.)	10.4	l/h
Fuel Cons. at 50% (P.R.P.)	7.0	l/h
Fuel Cons. at 25% (P.R.P.)	3.9	l/h
Engine speed regulator	mechanical	
Precision class	G2	+/-%
Oil quantity	13.0	- 1
Engine Antifreeze capacity	_	ı
Heat from radiator	28.3	kW
Heat from exhaust	-	kW
Heat from radiation	7.9	kW
Exhaust temperature	570	°C
Cooling air flow	53.30	m³/min
Combustion air flow	4.00	kg/h
Exhaust gas flow	11.70	kg/h

ALTERNATOR		
Alternator brand	STAMFORD	
Alternator model	UCI224E	
P.R.P. Power	60.0	kVA
L.T.P. Power	63.0	kVA
Connection	Series Star	
Phases	3F+N	
Winding	12 term. W 311	
Terminal Number	12	nr
IP Protection	23	
Electronic regulator	AX460	
Precision	1.0	+/-%

BASEFRAME			
Model	FC	OX	
standard fuel tank	9	90	
Long range fuel tank	600	1000	1
Hours at 75% of load	58	96	h

CANOPY & SILENCER		
Canopy model	FOX	
Silencer model	F60/00	
Silencer outlet diameter	60.0	mm

Standard reference conditions: temperature 25°C, altitude 100m asl, relative humidity 30%, atmospheric pressure 100 kPa (1 bar), power factor 0.8 lag, balanced load - non distortional. Fuel consumption is nominal and refers to specific weight 0,850kg/l. Sound power values refer to free field conditions: the installation site may influence the values. Dimensions, weights and other specifications contained in the technical data sheet and related attachments are nominal, subject to tolerances and refer to the model with standard equipment; any optional and additional equipment/accessories can modify weight, dimensions, performance. P.R.P. Prime Power-Continuous power at variable load: The power that a genset can supply in continuous service at a variable load for an unlimited number of hours per year while respecting the maintenance intervals established in the environmental conditions stated by the Manufacturer. according to ISO8528-1. The average power supplied over time and any applicable overload must be less than the percentages stated by the Manufacturer. L.T.P. Limited-time running power-Limited power: The maximum power that a genset can supply for a limited time respecting the maintenance intervals established in the environmental conditions stated by the Manufacturer according to ISO 8528-1. The number of hours per year is stated by the Manufacturer. Overload is not permitted.



# SERIES: BIGFOX MODEL: P30 VERSION: BTS MODEL

# **ENCLOSURE**



MAIN DATA	
Continuous Power (PRP)	30.0 kVA
Continuous Power (PRP)	24.0 kW
Stand-by Power (LTP)	33.0 kVA
Stand-by Power (LTP)	26.4 kW
Voltage · Frequency · Power Factor	400V·50Hz·0.8cosφ
Sound pressure 7 metres	63.0 dBA

DIMENSIONS AND WEIGHT		
Width	945 mm	
Length	2030 mm	
Height	1470 mm	
Weight	1010 kg	

#### **GENERAL DATA**

ENGINE		
Engine brand	PERKINS	
Engine model	1103A-33G	
Cylinders	3	nr
Speed	1500	r.p.m.
Cubic capacity	3.30	I
Air intake	Aspirated	
Standard voltage	12	Vdc
Optional voltage	-	Vdc
Sae	3-111/2	
BMEP	684	kPa
Cooling	Water	
Flywheel P.R.P. Power	28.2	kW
Flywheel Stand-by Power	30.9	kW
Fuel Cons. at 100% (L.T.P.)	7.9	l/h
Fuel Cons. at 100% (P.R.P)	7.1	l/h
Fuel Cons. at 75% (P.R.P.)	5.4	l/h
Fuel Cons. at 50% (P.R.P.)	3.9	l/h
Fuel Cons. at 25% (P.R.P.)	2.5	l/h
Engine speed regulator	mechanical	
Precision class	-	+/-%
Oil quantity	8.3	1
Engine Antifreeze capacity	4.4	ı
Heat from radiator	16.0	kW
Heat from exhaust	22.0	kW
Heat from radiation	5.0	kW
Exhaust temperature	500	°C
Cooling air flow	53.00	m³/min
Combustion air flow	2.16	kg/h
Exhaust gas flow	5.70	kg/h

ALTERNATOR		
Alternator brand	STAMFORD	
Alternator model	PI144G	
P.R.P. Power	30.0	kVA
L.T.P. Power	33.0	kVA
Connection	Series Star	
Phases	3F+N	
Winding	12 term. W 311	
Terminal Number	12	nr
IP Protection	23	
Electronic regulator	AS480	
Precision	1.0	+/-%

BASEFRAME			
Model	FC	OX	
standard fuel tank	9	90	
Long range fuel tank	600	600 1000	
Hours at 75% of load	112	185	h

CANOPY & SILENCER		
Canopy model	FOX	
Silencer model	F60/00	
Silencer outlet diameter	60.0	mm

Standard reference conditions: temperature 25°C, altitude 100m asl, relative humidity 30%, atmospheric pressure 100 kPa (1 bar), power factor 0.8 lag, balanced load - non distortional. Fuel consumption is nominal and refers to specific weight 0,850kg/l. Sound power values refer to free field conditions: the installation site may influence the values. Dimensions, weights and other specifications contained in the technical data sheet and related attachments are nominal, subject to tolerances and refer to the model with standard equipment; any optional and additional equipment/accessories can modify weight, dimensions, performance. P.R.P. Prime Power-Continuous power at variable load: The power that a genset can supply in continuous service at a variable load for an unlimited number of hours per year while respecting the maintenance intervals established in the environmental conditions stated by the Manufacturer. according to ISO8528-1. The average power supplied over time and any applicable overload must be less than the percentages stated by the Manufacturer. L.T.P. Limited-time running power-Limited power: The maximum power that a genset can supply for a limited time respecting the maintenance intervals established in the environmental conditions stated by the Manufacturer according to ISO 8528-1. The number of hours per year is stated by the Manufacturer. Overload is not permitted.



# SERIES: BIGFOX MODEL: P41 VERSION: BTS MODEL

# **ENCLOSURE**



MAIN DATA	
Continuous Power (PRP)	40.0 kVA
Continuous Power (PRP)	32.0 kW
Stand-by Power (LTP)	45.0 kVA
Stand-by Power (LTP)	36.0 kW
Voltage · Frequency · Power Factor	400V·50Hz·0.8cosφ
Sound pressure 7 metres	63.0 dBA

DIMENSIONS AND WEIGHT		
Width	945 mm	
Length	2030 mm	
Height	1470 mm	
Weight	1050 kg	

#### **GENERAL DATA**

ENGINE	,	
Engine brand	PERKINS	
Engine model	1103A-33TG1	
Cylinders	3	nr
Speed	1500	r.p.m.
Cubic capacity	3.30	I
Air intake	Turbocharged	
Standard voltage	12	Vdc
Optional voltage	-	Vdc
Sae	3-111/2	
BMEP	1023	kPa
Cooling	Water	
Flywheel P.R.P. Power	42.2	kW
Flywheel Stand-by Power	46.5	kW
Fuel Cons. at 100% (L.T.P.)	12.0	l/h
Fuel Cons. at 100% (P.R.P)	10.7	l/h
Fuel Cons. at 75% (P.R.P.)	8.2	l/h
Fuel Cons. at 50% (P.R.P.)	5.7	l/h
Fuel Cons. at 25% (P.R.P.)	3.4	l/h
Engine speed regulator	mechanical	
Precision class	-	+/-%
Oil quantity	8.3	
Engine Antifreeze capacity	4.4	ı
Heat from radiator	16.0	kW
Heat from exhaust	22.0	kW
Heat from radiation	5.0	kW
Exhaust temperature	500	°C
Cooling air flow	53.00	m³/min
Combustion air flow	2.16	kg/h
Exhaust gas flow	5.70	kg/h

ALTERNATOR		
Alternator brand	STAMFORD	
Alternator model	PI144J	
P.R.P. Power	40.0	kVA
L.T.P. Power	45.0	kVA
Connection	Series Star	
Phases	3F+N	
Winding	12 term. W 311	
Terminal Number	12	nr
IP Protection	23	
Electronic regulator	AS480	
Precision	1.0	+/-%

BASEFRAME			
Model	FC	ΟX	
standard fuel tank	9	90	
Long range fuel tank	600	1	
Hours at 75% of load	73	122	h

CANOPY & SILENCER		
Canopy model	FOX	
Silencer model	F60/00	
Silencer outlet diameter	60.0	mm

Standard reference conditions: temperature 25°C, altitude 100m asl, relative humidity 30%, atmospheric pressure 100 kPa (1 bar), power factor 0.8 lag, balanced load - non distortional. Fuel consumption is nominal and refers to specific weight 0,850kg/l. Sound power values refer to free field conditions: the installation site may influence the values. Dimensions, weights and other specifications contained in the technical data sheet and related attachments are nominal, subject to tolerances and refer to the model with standard equipment; any optional and additional equipment/accessories can modify weight, dimensions, performance. P.R.P. Prime Power-Continuous power at variable load: The power that a genset can supply in continuous service at a variable load for an unlimited number of hours per year while respecting the maintenance intervals established in the environmental conditions stated by the Manufacturer. according to ISO8528-1. The average power supplied over time and any applicable overload must be less than the percentages stated by the Manufacturer. L.T.P. Limited-time running power-Limited power: The maximum power that a genset can supply for a limited time respecting the maintenance intervals established in the environmental conditions stated by the Manufacturer according to ISO 8528-1. The number of hours per year is stated by the Manufacturer. Overload is not permitted.



# POWERING TELECOM APPLICATIONS WITH GALAXY AIR



**AVAILABLE ENGINES** 



AVAILABLE ALTERNATORS

**STAMFORD** 

Onis Visa GALAXY AiR is the diesel air-cooled series. Adaptabe to any kind of environmental conditions such as cold, extreme heat, and dust, are used for long-run operations.

Every generating set need a cooling component: radiators, water pump, temperature gauge, or water hoses are not required for an air-cooled diesel engine or generator. There is nothing like coolant to leak, freeze, boil, evaporate, cause corrosion or become contaminated in the engine's cooling system. For the reason that the cooling system is simple, it is less disposed to cause system failure, minimizes general downtime, and requires less short-term engine maintenance.











# POWERING TELECOM APPLICATIONS WITH GALAXY AIR





# **AIR INLET**

Two openings, guarantee good cooling air flow. The air intake is located in the back and in the front, avoiding the engine cooling.



# **AIR OUTLET + EXHAUST**

The hot air and the exhaust fumes are expelled from the front top part of the canopy for good air recirculation.





# **DESIGN FOR MAINTENANCE ACCESSIBILITY**

Unaffected by climate. Whether in the taiga of Russia or the savannahs of Africa, whether at  $-40^{\circ}$  or  $+60^{\circ}$ , our gensets always perform their duties stably and steadfastly.



# **HEAT SHIELDED**

Vulnerable parts are heat shielded from high/low temperature.



# POWERING TELECOM APPLICATIONS WITH GALAXY AIR



# **RETENTION BASIN**

The GALAXY AiR baseframe is equipped with a retention basin, integrated fuel tank and fuel level sensor.

A convenient external plug allows any liquid collected to be emptied easily.



## **PAINTING**

Galvanized sheet steel is used to manufacture the canopy: minimum zinc thickness is 20 micron. The powder-coated thermoset paint has a polyester resin base highly resistant to atmospheric agents. The painting process is preceded by a phospho-degreasing cycle with a demineralised water rinse and then dried. Minimum paint thickness is 70 micron. Durability class is **C3-M** according to **UNI EN ISO 12944 -2.** 



#### **CONTROL PANEL**

The GALAXY AiR includes, as standard, the well tested and reliable **Guard Evolution/Guard Touch controller**, equipped with a very efficient software that has no equal in the market in terms of accuracy and number of functions. As optional we deal with a wide range of brands and parts, including:



# SERIES: GALAXY AIR MODEL: DA30 VERSION: BTS MODEL

# ENCLOSURE



MAIN DATA	
Continuous Power (PRP)	30.0 kVA
Continuous Power (PRP)	24.0 kW
Stand-by Power (LTP)	31.0 kVA
Stand-by Power (LTP)	32.8 kW
Voltage · Frequency · Power Factor	400V·50Hz·0.8cosφ

DIMENSIONS AND WE	IGHT
Width	1040 mm
Length	2260 mm
Height	1950 mm
Weight	1550 kg

#### **GENERAL DATA**

ENGINE		
Engine brand	DEUTZ	
Engine model	F3L912	
Cylinders	3	nr
Speed	1500	r.p.m.
Cubic capacity	2,82	I
Air intake	Aspirated	
Standard voltage	12	Vdc
Optional voltage	-	Vdc
Sae	3-11½	
BMEP	792	kPa
Cooling	AIR	
Flywheel P.R.P. Power	27,5	kW
Flywheel Stand-by Power	28,0	kW
Fuel Cons. at 100% (L.T.P.)	7,2	l/h
Fuel Cons. at 100% (P.R.P)	6,9	l/h
Fuel Cons. at 75% (P.R.P.)	5,1	l/h
Fuel Cons. at 50% (P.R.P.)	3,7	l/h
Fuel Cons. at 25% (P.R.P.)	2,7	l/h
Engine speed regulator	mechanical	
Precision class	A1	+/-%
Oil quantity	10,0	I
Engine Antifreeze capacity	-	I
Heat from radiator	23,0	kW
Heat from exhaust	20,0	kW
Heat from radiation	2,7	kW
Exhaust temperature	510	°C
Cooling air flow	26,00	m³/min
Combustion air flow	-	kg/h
Exhaust gas flow	4,55	kg/h

ALTERNATOR		
Alternator brand	STAMFORD	
Alternator model	PI144J	
P.R.P. Power	30.0	kVA
L.T.P. Power	33.0	kVA
Connection	Series Star	
Phases	3F+N	
Winding	12 term. W 311	
Terminal Number	12	nr
IP Protection	23	
Electronic regulator	AS480	
Precision	1.0	+/-%

BASEFRAME			
Model	GV	030	
standard fuel tank	1	60	1
Long range fuel tank	-	-	1
Hours at 75% of load	_	_	h

CANOPY & SILENCER		
Canopy model	GV030+AIR	
Silencer model	F60/00	
Silencer outlet diameter	60.0	mm

Standard reference conditions: temperature 25°C, altitude 100m asl, relative humidity 30%, atmospheric pressure 100 kPa (1 bar), power factor 0.8 lag, balanced load - non distortional. Fuel consumption is nominal and refers to specific weight 0,850kg/l. Sound power values refer to free field conditions: the installation site may influence the values. Dimensions, weights and other specifications contained in the technical data sheet and related attachments are nominal, subject to tolerances and refer to the model with standard equipment; any optional and additional equipment/accessories can modify weight, dimensions, performance. P.R.P. Prime Power-Continuous power at variable load: The power that a genset can supply in continuous service at a variable load for an unlimited number of hours per year while respecting the maintenance intervals established in the environmental conditions stated by the Manufacturer. according to ISO8528-1. The average power supplied over time and any applicable overload must be less than the percentages stated by the Manufacturer. L.T.P. Limited-time running power-Limited power: The maximum power that a genset can supply for a limited time respecting the maintenance intervals established in the environmental conditions stated by the Manufacturer according to ISO 8528-1. The number of hours per year is stated by the Manufacturer. Overload is not permitted.



# SERIES: GALAXYAIR MODEL: DA40 VERSION: BTS MODEL

# ENCLOSURE

MAIN DATA	
Continuous Power (PRP)	40.0 kVA
Continuous Power (PRP)	32.0 kW
Stand-by Power (LTP)	41.0 kVA
Stand-by Power (LTP)	32.8 kW
Voltage · Frequency · Power Factor	400V·50Hz·0.8cosφ

DIMENSIONS AND WEIGH	Т
Width	1040 mm
Length	2260 mm
Height	1950 mm
Weight	1550 kg

#### **GENERAL DATA**

Model Da60 GALAXY AiR

ENGINE		
Engine brand	DEUTZ	
Engine model	F4L912	
Cylinders	6	nr
Speed	1500	r.p.m.
Cubic capacity	5,64	I
Air intake	Aspirated	
Standard voltage	12	Vdc
Optional voltage	-	Vdc
Sae	3-11½	
BMEP	806	kPa
Cooling	AIR	
Flywheel P.R.P. Power	37,0	kW
Flywheel Stand-by Power	38,0	kW
Fuel Cons. at 100% (L.T.P.)	10,0	l/h
Fuel Cons. at 100% (P.R.P)	9,7	l/h
Fuel Cons. at 75% (P.R.P.)	7,2	l/h
Fuel Cons. at 50% (P.R.P.)	5,2	l/h
Fuel Cons. at 25% (P.R.P.)	2,6	l/h
Engine speed regulator	mechanical	
Precision class	A1	+/-%
Oil quantity	12,2	- 1
Engine Antifreeze capacity	-	1
Heat from radiator	29,0	kW
Heat from exhaust	27,0	kW
Heat from radiation	3,6	kW
Exhaust temperature	510	°C
Cooling air flow	30,10	m³/min
Combustion air flow	-	kg/h
Exhaust gas flow	6,3	kg/h

ALTERNATOR		
Alternator brand	STAMFORD	
Alternator model	PI144J	
P.R.P. Power	40.0	kVA
L.T.P. Power	45.0	kVA
Connection	Series Star	
Phases	3F+N	
Winding	12 term. W 311	
Terminal Number	12	nr
IP Protection	23	
Electronic regulator	AS480	
Precision	1.0	+/-%

BASEFRAME			
Model	GV	030	
standard fuel tank	1	160	
Long range fuel tank	-	-	1
Hours at 75% of load	_	_	h

CANOPY & SILENCER		
Canopy model	GV030+AIR	
Silencer model	F60/00	
Silencer outlet diameter	60.0	mm

Standard reference conditions: temperature 25°C, altitude 100m asl, relative humidity 30%, atmospheric pressure 100 kPa (1 bar), power factor 0.8 lag, balanced load - non distortional. Fuel consumption is nominal and refers to specific weight 0,850kg/l. Sound power values refer to free field conditions: the installation site may influence the values. Dimensions, weights and other specifications contained in the technical data sheet and related attachments are nominal, subject to tolerances and refer to the model with standard equipment; any optional and additional equipment/accessories can modify weight, dimensions, performance. P.R.P. Prime Power-Continuous power at variable load: The power that a genset can supply in continuous service at a variable load for an unlimited number of hours per year while respecting the maintenance intervals established in the environmental conditions stated by the Manufacturer. according to ISO8528-1. The average power supplied over time and any applicable overload must be less than the percentages stated by the Manufacturer. L.T.P. Limited-time running power-Limited power: The maximum power that a genset can supply for a limited time respecting the maintenance intervals established in the environmental conditions stated by the Manufacturer according to ISO 8528-1. The number of hours per year is stated by the Manufacturer. Overload is not permitted.



# SERIES: GALAXYAIR MODEL: DA60 VERSION: BTS MODEL

# ENCLOSURE



MAIN DATA	
Continuous Power (PRP)	60.0 kVA
Continuous Power (PRP)	48.0 kW
Stand-by Power (LTP)	63.0 kVA
Stand-by Power (LTP)	50.4 kW
Voltage · Frequency · Power Factor	400V·50Hz·0.8cosφ

DIMENSIONS AND WEIGHT	
Width	1040 mm
Length	2260 mm
Height	1950 mm
Weight	1550 kg

#### **GENERAL DATA**

Engine brand Engine model Cylinders Speed Speed Standard voltage Optional voltage Sae BMEP Cooling Flywheel P.R.P. Power Flywheel Stand-by Power Fuel Cons. at 100% (L.T.P.) Fuel Cons. at 75% (P.R.P.) Fuel Cons. at 25% (P.R.P.) Fuel Cons. at 25% (P.R.P.) Fuel Cons. at 25% (P.R.P.) Engine speed regulator Precision class Oil quantity Heat from radiator Heat from radiation Exhaust gas flow Exhaust gas flow  Fushous 1500 Furnamental F6L912 Follogo Fruel Cons. at 75% (P.R.P.) Fuel Cons. at 25% (P.R.P.) Fuel Cons. at 300 (P.R.P.) Fuel	ENGINE		
Cylinders Speed Speed Speed Speed Speed Standard voltage Standard voltage Standard voltage Sae Sae Sa-11½ SMEP Soling Speed Sae Soling Speed Speed Soling Speed Sp	Engine brand	DEUTZ	
Speed         1500         r.p.m.           Cubic capacity         5,64         I           Air intake         Aspirated           Standard voltage         12         Vdc           Optional voltage         - Vdc         Vdc           Sae         3-11½         BMEP         792         kPa           Cooling         AIR         Flywheel P.R.P. Power         55,0         kW           Flywheel Stand-by Power         56,0         kW           Fuel Cons. at 100% (L.T.P.)         14,0         I/h           Fuel Cons. at 100% (P.R.P)         13.0         I/h           Fuel Cons. at 75% (P.R.P.)         9,5         I/h           Fuel Cons. at 50% (P.R.P.)         3,9         I/h           Fuel Cons. at 25% (P.R.P.)         3	Engine model	F6L912	
Cubic capacity Air intake Standard voltage Optional voltage Sae  BMEP Cooling Flywheel P.R.P. Power Flywheel Stand-by Power Fuel Cons. at 100% (L.T.P.) Fuel Cons. at 75% (P.R.P.) Fuel Cons. at 25% (P.R.P.) Fuel Cons. at 39,0 Engine Antifreeze capacity Heat from radiation Fxhaust temperature Cooling air flow Combustion air flow  Fixed Cons. As 500 (P.R.P.) Fixed Cons. At 25% (P.R.P.) Fixed Cons.	Cylinders	6	nr
Air intake  Standard voltage  Optional voltage  Sae  3-11½  BMEP  Cooling  Flywheel P.R.P. Power  Flywheel Stand-by Power  Fuel Cons. at 100% (L.T.P.)  Fuel Cons. at 100% (P.R.P)  Fuel Cons. at 50% (P.R.P.)  Fuel Cons. at 25% (P.R.P.)  Engine speed regulator  Precision class  Oil quantity  Heat from radiator  Heat from radiator  Heat from radiation  Exhaust temperature  Cooling air flow  Alr  Fyda  Fyda  Fyda  Fyda  Aspirated  12  Vdc  Vdc  Vdc  Ndc  12  Vdc  Vdc  Ndc  12  Vdc  Ndc  14  P792  kPa  AIR  Fya  Fya  Fya  Fya  Fya  Fya  Fya  Fy	Speed	1500	r.p.m.
Standard voltage Optional voltage Sae  Sae  BMEP Cooling Flywheel P.R.P. Power Flywheel Stand-by Power Fuel Cons. at 100% (L.T.P.) Fuel Cons. at 100% (P.R.P) Fuel Cons. at 75% (P.R.P.) Fuel Cons. at 25% (P.R.P.) Fuel Cons. at 30% (P.R.P.) Fuel Cons. at 50% (P.R.P.	Cubic capacity	5,64	1
Optional voltage  Sae  3-11½  BMEP  792  kPa  Cooling  Flywheel P.R.P. Power  Flywheel Stand-by Power  Fuel Cons. at 100% (L.T.P.)  Fuel Cons. at 100% (P.R.P)  Fuel Cons. at 75% (P.R.P.)  Fuel Cons. at 50% (P.R.P.)  Fuel Cons. at 25% (P.R.P.)  Fuel Cons. at 25% (P.R.P.)  Fuel Cons. at 25% (P.R.P.)  Fuel Cons. at 30% (P.R.P.)  Fuel Cons. at 100%	7 111 111 1011 10	Aspirated	
Sae         3-11½           BMEP         792         kPa           Cooling         AIR         Flywheel P.R.P. Power         55,0         kW           Flywheel Stand-by Power         56,0         kW           Fuel Cons. at 100% (L.T.P.)         14,0         l/h           Fuel Cons. at 100% (P.R.P)         13.0         l/h           Fuel Cons. at 75% (P.R.P.)         9,5         l/h           Fuel Cons. at 50% (P.R.P.)         6,4         l/h           Fuel Cons. at 25% (P.R.P.)         3,9         l/h           Engine speed regulator         mechanical           Precision class         A1         +/-%           Oil quantity         15,2         I           Engine Antifreeze capacity         -         I           Heat from radiator         45,0         kW           Heat from radiation         5,5         kW           Exhaust temperature         530         °C           Cooling air flow         43,50         m³/min           Combustion air flow         -         kg/h	Standard voltage	12	Vdc
BMEP         792         kPa           Cooling         AIR           Flywheel P.R.P. Power         55,0         kW           Flywheel Stand-by Power         56,0         kW           Fuel Cons. at 100% (L.T.P.)         14,0         I/h           Fuel Cons. at 100% (P.R.P)         13.0         I/h           Fuel Cons. at 75% (P.R.P.)         9,5         I/h           Fuel Cons. at 50% (P.R.P.)         6,4         I/h           Fuel Cons. at 25% (P.R.P.)         3,9         I/h           Engine speed regulator         mechanical           Precision class         A1         +/-%           Oil quantity         15,2         I           Engine Antifreeze capacity         -         I           Heat from radiator         45,0         kW           Heat from radiation         5,5         kW           Exhaust temperature         530         °C           Cooling air flow         43,50         m³/min           Combustion air flow         -         kg/h	Optional voltage	-	Vdc
Cooling Flywheel P.R.P. Power Flywheel Stand-by Power Fuel Cons. at 100% (L.T.P.) Fuel Cons. at 100% (P.R.P) Fuel Cons. at 75% (P.R.P.) Fuel Cons. at 50% (P.R.P.) Fuel Cons. at 25% (P.R.P.) Fuel Cons. at 50% (P.R.P.) Fuel Cons. at 75% (P.R.P.) Fuel Cons. at 100% (P.R.P.) Fuel Cons. at 100% (P.R.P.) Fuel Cons. at 100% (P.R.P.) Fuel Cons. at 75%	Sae	3-11½	
Flywheel P.R.P. Power         55,0         kW           Flywheel Stand-by Power         56,0         kW           Fuel Cons. at 100% (L.T.P.)         14,0         l/h           Fuel Cons. at 100% (P.R.P)         13.0         l/h           Fuel Cons. at 75% (P.R.P.)         9,5         l/h           Fuel Cons. at 50% (P.R.P.)         6,4         l/h           Fuel Cons. at 25% (P.R.P.)         3,9         l/h           Engine speed regulator         mechanical           Precision class         A1         +/-%           Oil quantity         15,2         I           Engine Antifreeze capacity         -         I           Heat from radiator         45,0         kW           Heat from exhaust         39,0         kW           Heat from radiation         5,5         kW           Exhaust temperature         530         °C           Cooling air flow         43,50         m³/min           Combustion air flow         -         kg/h	BMEP	792	kPa
Flywheel Stand-by Power         56,0         kW           Fuel Cons. at 100% (L.T.P.)         14,0         I/h           Fuel Cons. at 100% (P.R.P)         13.0         I/h           Fuel Cons. at 75% (P.R.P.)         9,5         I/h           Fuel Cons. at 50% (P.R.P.)         6,4         I/h           Fuel Cons. at 25% (P.R.P.)         3,9         I/h           Engine speed regulator         mechanical           Precision class         A1         +/-%           Oil quantity         15,2         I           Engine Antifreeze capacity         -         I           Heat from radiator         45,0         kW           Heat from exhaust         39,0         kW           Heat from radiation         5,5         kW           Exhaust temperature         530         °C           Cooling air flow         43,50         m³/min           Combustion air flow         -         kg/h	Cooling	AIR	
Fuel Cons. at 100% (L.T.P.)       14,0       I/h         Fuel Cons. at 100% (P.R.P)       13.0       I/h         Fuel Cons. at 75% (P.R.P.)       9,5       I/h         Fuel Cons. at 50% (P.R.P.)       6,4       I/h         Fuel Cons. at 25% (P.R.P.)       3,9       I/h         Engine speed regulator       mechanical         Precision class       A1       +/-%         Oil quantity       15,2       I         Engine Antifreeze capacity       -       I         Heat from radiator       45,0       kW         Heat from exhaust       39,0       kW         Heat from radiation       5,5       kW         Exhaust temperature       530       °C         Cooling air flow       43,50       m³/min         Combustion air flow       -       kg/h	Flywheel P.R.P. Power	55,0	kW
Fuel Cons. at 100% (P.R.P)       13.0       I/h         Fuel Cons. at 75% (P.R.P.)       9,5       I/h         Fuel Cons. at 50% (P.R.P.)       6,4       I/h         Fuel Cons. at 25% (P.R.P.)       3,9       I/h         Engine speed regulator       mechanical         Precision class       A1       +/-%         Oil quantity       15,2       I         Engine Antifreeze capacity       -       I         Heat from radiator       45,0       kW         Heat from exhaust       39,0       kW         Heat from radiation       5,5       kW         Exhaust temperature       530       °C         Cooling air flow       43,50       m³/min         Combustion air flow       -       kg/h	Flywheel Stand-by Power	56,0	kW
Fuel Cons. at 75% (P.R.P.)       9,5       I/h         Fuel Cons. at 50% (P.R.P.)       6,4       I/h         Fuel Cons. at 25% (P.R.P.)       3,9       I/h         Engine speed regulator       mechanical         Precision class       A1       +/-%         Oil quantity       15,2       I         Engine Antifreeze capacity       -       I         Heat from radiator       45,0       kW         Heat from exhaust       39,0       kW         Heat from radiation       5,5       kW         Exhaust temperature       530       °C         Cooling air flow       43,50       m³/min         Combustion air flow       -       kg/h	Fuel Cons. at 100% (L.T.P.)	14,0	l/h
Fuel Cons. at 50% (P.R.P.)  Fuel Cons. at 25% (P.R.P.)  Engine speed regulator  Precision class  Oil quantity  Engine Antifreeze capacity  Heat from radiator  Heat from exhaust  Heat from radiation  Exhaust temperature  Cooling air flow  Combustion air flow  5,4  I/h  mechanical  Precision class  A1 +/-%  15,2  I  Engine Antifreeze capacity  - I  45,0  kW  Heat from radiator  5,5  kW  Exhaust temperature  530  °C  Cooling air flow  - kg/h	Fuel Cons. at 100% (P.R.P)	13.0	l/h
Fuel Cons. at 25% (P.R.P.)  Engine speed regulator  Precision class  A1 +/-%  Oil quantity  Engine Antifreeze capacity  Heat from radiator  Heat from exhaust  Heat from radiation  Exhaust temperature  Cooling air flow  Combustion air flow  A1 +/-%  A1 +/-%  A1 +/-%  A2    A2    A3    A4 +/-%  A4 +/-%  A50 kW  A50 kW  A50 kW  A50 cC	Fuel Cons. at 75% (P.R.P.)	9,5	l/h
Engine speed regulator Precision class  Oil quantity  Engine Antifreeze capacity  Heat from radiator  Heat from exhaust  Heat from radiation  Exhaust temperature  Cooling air flow  Combustion air flow  Mathematical  Prechanical  #/-%  15,2  I  ###  ############################	Fuel Cons. at 50% (P.R.P.)	6,4	l/h
Precision class  A1 +/-%  Oil quantity  Engine Antifreeze capacity  Heat from radiator  Heat from exhaust  Heat from radiation  Exhaust temperature  Cooling air flow  Combustion air flow  A1 +/-%  45,0  kW  46,0  kW  47,0  kW  48,0  co  Cooling air flow  A3,50  Combustion air flow  A3,50  Combustion air flow  A1,50  Combustion air flow	Fuel Cons. at 25% (P.R.P.)	3,9	l/h
Oil quantity  Engine Antifreeze capacity  Heat from radiator  Heat from exhaust  Heat from radiation  Exhaust temperature  Cooling air flow  Combustion air flow  15,2    I		mechanical	
Engine Antifreeze capacity  Heat from radiator  Heat from exhaust  Heat from radiation  Exhaust temperature  Cooling air flow  Combustion air flow  - I  45,0 kW  8W  Exhaust from exhaust  530 °C  6C  6C  6C  6C  6B  6B  6B  6B  6B  6		A1	+/-%
Heat from radiator  Heat from exhaust  Heat from radiation  Exhaust temperature  Cooling air flow  Combustion air flow  45,0  kW  45,0  kW  45,0  kW  45,0  kW  48,50  c  c  c  c  c  c  c  c  d  d  d  d  d	Oil quantity	15,2	I
Heat from exhaust 39,0 kW Heat from radiation 5,5 kW Exhaust temperature 530 °C Cooling air flow 43,50 m³/min Combustion air flow - kg/h	Engine Antifreeze capacity	-	I
Heat from radiation 5,5 kW  Exhaust temperature 530 °C  Cooling air flow 43,50 m³/min  Combustion air flow - kg/h	Heat from radiator	45,0	kW
Exhaust temperature 530 °C  Cooling air flow 43,50 m³/min  Combustion air flow - kg/h	Heat from exhaust	39,0	kW
Cooling air flow 43,50 m³/min Combustion air flow - kg/h	Heat from radiation	5,5	kW
Combustion air flow - kg/h		530	°C
	0	43,50	m³/min
Exhaust gas flow 9,3 kg/h		-	kg/h
	Exhaust gas flow	9,3	kg/h

ALTERNATOR		
Alternator brand	STAMFORD	
Alternator model	UCI224E	
P.R.P. Power	60.0	kVA
L.T.P. Power	63.0	kVA
Connection	Series Star	
Phases	3F+N	
Winding	12 term. W 311	
Terminal Number	12	nr
IP Protection	23	
Electronic regulator	AS480	
Precision	1.0	+/-%

BASEFRAME			
Model	GV	030	
standard fuel tank	10	160	
Long range fuel tank	-	-	1
Hours at 75% of load	-	-	h

CANOPY & SILENCER		
Canopy model	GV030+AIR	
Silencer model	F60/00	
Silencer outlet diameter	60.0	mm

Standard reference conditions: temperature 25°C, altitude 100m asl, relative humidity 30%, atmospheric pressure 100 kPa (1 bar), power factor 0.8 lag, balanced load - non distortional. Fuel consumption is nominal and refers to specific weight 0,850kg/l. Sound power values refer to free field conditions: the installation site may influence the values. Dimensions, weights and other specifications contained in the technical data sheet and related attachments are nominal, subject to tolerances and refer to the model with standard equipment; any optional and additional equipment/accessories can modify weight, dimensions, performance. P.R.P. Prime Power-Continuous power at variable load: The power that a genset can supply in continuous service at a variable load for an unlimited number of hours per year while respecting the maintenance intervals established in the environmental conditions stated by the Manufacturer. according to ISO8528-1. The average power supplied over time and any applicable overload must be less than the percentages stated by the Manufacturer. L.T.P. Limited-time running power-Limited power: The maximum power that a genset can supply for a limited time respecting the maintenance intervals established in the environmental conditions stated by the Manufacturer according to ISO 8528-1. The number of hours per year is stated by the Manufacturer. Overload is not permitted.



# STANDARD CONTROL PANELS

#### STANDARD CONTROL PANEL



### ONIS VISA® GUARD EVO AUTO

The GUARD EVOLUTION automatic device allows automated management of a Mains failure. When the Mains fail GEVO starts the genset according to a pre-set logic, it switches from mains/genset and feeds the User system. When the Mains come back on GEVO switches from genset/mains and proceeds with cooling down the genset and ultimately shutting it down. Main characteristics: clear communication via a large backlit display screen; generating set event analysis through sophisticated algorithms; complete engine and electrical parameters; ; possibility of integrating additional modules and programme extensions; customisation for dealers (optional).

#### **KEY FEATURES**

Language selection (Italian, English, French, German, Spanish); Stop active function; Crank engine speed function; Password-protected user menu via password to change parameters; Programmable maintenance countdown; LED signal status: operating normally, pre-alarm, alarm, alarm/block; Display selected operating mode; Acoustic alarm; PC communication with standard RS 485 serial port; Last 16 alarms memorised in the archives



### ONIS VISA® GUARD TOUCH

The ONIS VISA Guard Touch is a configurable single genset controller suitable for manual and automatic control to the Mains (Utility) Failure. Monitoring a large number of engine and alternator parameters, this module displays warnings, shutdowns and engine status information, automatically starting or stopping the engine in accordance to load demand or fault condition. Guard Touch is equipped with a 320x240 touch screen b/w LCD panel able to grant an immediate graphic visualization of information and an easy and user-friendly touch control interaction. The modules can also be easily configured using dedicated desktop software, locally with USB adapter or remotely via LAN or GPRS adapters.

#### **KEY FEATURES**

Genset status: OFF, MAN, AUTO, TEST; Fuel refilling pump status: OFF, MAN, AUTO; Start/Stop; Remote start; Manual command opening / closing GCB and MCB; Manual command START ON / STOP ON; 16 programmable time-out (or countdown) for maintenance (per hour and months); Monitoring output of coil relay continuity outputs; GCB and MCB feedback monitoring; CANbus SAE J1939 communication monitoring; BLACK BOX: 2500 events; 4 graphic TREND (choose among 40 measurements); HELP with descriptions and solutions for recorded problems; Acoustic alarm; Date and clock with battery



#### ONIS VISA® GUARD REVOLUTION - Coming soon!

The next generation of most advanced Auto Mains Failure (AMF) gen-set controller. The experience in the development of the G.Evo has allowed us to understand the market needs: Efficiency and versatility for the optimization of the time and work operation. Then we have started our cooperation with Comap® in order to develop a new Control Panel covering our whole range.

and we can mix and match our mutual expertise to develop a NEW solution for Generating set Control.

Born by the hardware platform of Comap Inteli-lite 3 and a dedicated firmware with new features developed for the Onis Visa Generating sets is our Control Panel REVOLUTION.. EARLY 2017



# **OPTIONAL CONTROL PANELS**

### **OPTIONAL CONTROL PANELS**



### DEEP SEA® 7320

The DSE7320 is an Auto Mains (Utility) Failure Control Module suitable for a wide variety of single gen-set applications powered by either diesel or gas engines. Monitoring an extensive number of engine parameters, this modules will

display warnings, shutdown and engine status information on the back-lit LCD screen, illuminated LEDs, remote PC and via SMS text alerts (with external modem). The modules can be easily configured using the DSE Configuration Suite PC software. Selected front panel editing is also available.

#### BRAND



#### **KEY FEATURES**

LED and LCD alarm indication
Heated display to operate in extreme cold/heat weather conditions
Power monitoring (kW h, kV Ar, kV Ah, kV Ar h)
Remote communications (RS232 & RS485)
Fuel usage monitor and low level alarms
Manual/automatic load transfer



# COMAP® AMF25

The ComAp InteliLiteNT AMF25 offers integrated control solutions for gen-sets operating in single standby mode. Based on the field proven InteliLite architecture, AMF25 controller fulfills every requirement from simple to complex and AMF to MRS applications – providing modem and Internet control, user configuration and complete gen-set monitoring and protection. AMF25 controllers are easy to use with an intuitive user interface and graphic display and feature a built-in event and performance log.

### BRAND



#### **KEY FEATURES**

Auto Mains Failure (AMF) applications
Full gen-set monitoring and protection
Detailed RTC event and performance log
Plug-in and CAN bus extension modules capability
Optional GSM/GPRS modem/wireless Internet via IL-NT GPRS
Fuel theft protection and Total fuel consumption monitoring
Alternative switchable configuration
Dual mutual stand-by (Dual AMF) support
Supports prime power (MRS) applications





# MAKE THE RIGHT CHOICE



# WE PUT OUR EXPERTS AT YOUR DISPOSAL FOR THE DEVELOPMENT OF THE BEST SOLUTION FOR YOUR TOWER CELL POWER SUPPLY

Choosing Visa SpA today means trusting an organisation with 56 years of international market experience with a brand name that means quality and reliability.

Our typical products include hybrid generators: AC and DC generators designed by a team of in-house, highly skilled engineers in accordance with our customers' specifications, which work with advanced controls and energy storage, often incorporating renewable energy sources.

Telecommunication companies recognise Visa SpA as a big player in the sector thanks to its innovative products and technologies for generators deployed globally in eighty countries.

It's only by visiting remote sites and looking at how they are configured that we can apply our knowledge to optimise energy supply systems. We are fixing the problems of today and tomorrow. Visa SpA is well equipped to meet the specific needs of telecoms.

A cell site in a remote location is critical and maintenance visits must be kept to an absolute minimum. As competition becomes more aggressive in this sector, battles will be won by who can provide the best service at the lowest opex, so it's critical to improve energy efficiency.



# **VISA SPA GROUP IN NUMBERS**





















# YOU HAVE ENOUGH INFORMATION TO UNDERSTAND .. THIS IS THE RIGHT CHOICE FOR YOU!

# **OUR TELECOMMUNICATION CUSTOMERS:**































ALL TRADEMARKS ARE PROPERTY OF THEIR RESPECTIVE OWNERS







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