

GOLDEN MAJD Co.



Rating @ 0.8 PF		Prime rating	Stand-by rating
Voltage ^{*1}	Freq. ^{*2}	PT 1250 ^{*3}	PT 1375S ^{*4}
400 V	50 Hz	1250 KVA	1375 KVA
480 V	60 Hz	1256 KVA	1387 KVA

The above ratings represent the generating set capability guaranteed within $\pm 3\%$ at the reference conditions equivalent to those specified in ISO 8528/1, ISO 3046/1 and BS 5514/1

NOTES

- 1- The applicable voltage range is 380V to 480V for 50Hz applications and 380V to 480V for 60Hz applications.
- 2 - This generating set is of fixed speed of 1500rpm. Genset working at 1800rpm are available on request.
- 3 - **PT1250** is the prime power rating of the generating set, where a variable load and unlimited hours usage are applied on the generating set with an average load factor of 80% of the prime rating over each 24 hour period. Noting that a 10% overload is available for 1 hour in every 12 hours operation.
- 4 - **PT1375S** is the standby power rating of the generating set, where a variable load limited to an annual usage up to 500 hours is applied, with 300 hours of which may be continuous running. Noting that no overload is permitted.

Engine Technical Data

Model	Perkins 4012-46TWG2A	
Cylinders	12;60° Vee Form	
Aspiration	Turbocharged & A/A charge cooled	
Combustion	Direct injection	
Cooling System	Water cooled	
Displacement	45.842 L	
Oil consumption	0.7 g/KWhr	
Lube oil capacity	177 L	
Coolant capacity	201 L	
Governor	Electronic - Digital	
Emissions regulations	TA-Luft(1986)	
Speed	1500 rpm	1800 rpm
Fuel Consumption PT1250	259 L/H	266 L/H
Fuel Consumption PT1375S	288 L/H	298 L/H
Radiator Cooling Air Flow	28.0 m ³ /s	28.33 m ³ /s
Max Exhaust Gas Flow	235 m ³ /min	235 m ³ /min

The above performance data are valid as per the following specs:

- Diesel Fuel is according to BS2869 Class A2 or equivalent.
- Lubricating oil is according to API CG 4 (15W/40).
- The coolant should be 50% antifreeze and 50% fresh water.

Alternator Technical Data

Model	Leroy Somer LSA 50.2 M6	
Regulation	$\pm 0.5\%$	
International protection	IP23	
Insulation class	H	
Terminals	6	
Frequency	50 Hz	60 Hz
Coolant Air Flow	1.8 m ³ /s	2.2 m ³ /s

Shipping Data

Length	Width	Height	Weight
4600 mm	1800 mm	2500 mm	9000 kg

All information given in this leaflet is correct at the time of printing but it may be changed subsequently by the company



1250 - 1375S

62nd St. - Baghdad - Iraq
العراق - بغداد - شارع ٦٢

Mobile : 07901150364
07901109589
07801970163
07801970166

www.goldenmajd.com
Email : info@goldenmajd.com
golden_majd@yahoo.com

4000 Series 4012-46TWG2A Diesel Engine – Electropak

Non-Emissions compliant

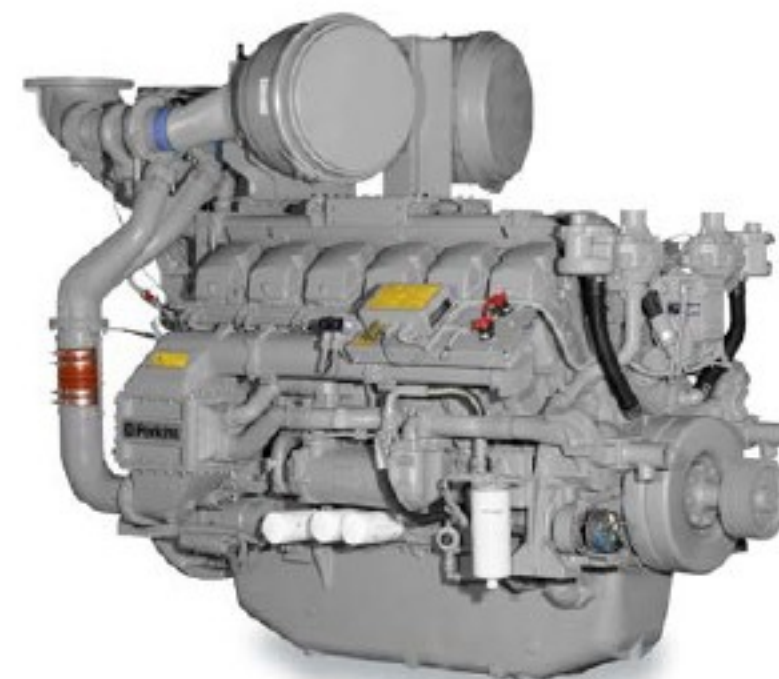
1166 kWm 1500 rpm

1166 kWm 1800 rpm

The new 4012-46TWG engine has been developed using the latest engineering techniques and builds on the strengths of the already very successful 4012 Series family and addresses today's uncompromising demands within the power generation industry. Developed from a proven heavy-duty industrial base these products offer superior performance and reliability.

The 4012-46TWG2A is a turbocharged and air-to-water charge-cooled, 12 cylinder diesel engine which offers a choice of temperate or tropical cooling. Its premium features provide exceptional power-to-weight ratio resulting in exceptional fuel consumption.

The overall performance and reliability characteristics makes this one of the prime choices for today's power generation industry.



Economic power

- Individual 4 valve per cylinder give optimised gas flows, while unit fuel injectors ensure ultra fine fuel atomisation and hence controlled rapid combustion for efficiency and economy
- Commonality of components with other engines in the 4000 Series family allows reduced parts stocking levels for the end users

Reliable power

- Developed and tested using latest engineering techniques
- Piston temperatures are controlled by an advanced gallery jet cooling system
- All engines are tolerant of a wide range of temperatures without derate
- Service is provided through the extensive Perkins network of distributors and dealers worldwide

Clean, efficient power

- Exceptional power to weight ratio and compact size for easier transportation and installation
- Designed to provide excellent service access for ease of maintenance

- Engines designed to comply with major international standards
- Low gaseous emissions for cleaner operation

Product support

- Perkins actively pursues product support excellence by ensuring our distribution network invest in their territory – strengthening relationships and providing more value to you, our customer
- Through an experienced global network of distributors and dealers, fully trained engine experts deliver total service support around the clock, 365 days a year. They have a comprehensive suite of web based tools at their fingertips covering technical information, parts identification and ordering systems, all dedicated to maximising the productivity of your engine
- Throughout the entire life of a Perkins engine, we provide access to genuine OE specification parts and service. We give 100% reassurance that you receive the very best in terms of quality for lowest possible cost .. wherever your Perkins powered machine is operating in the world

This engine does not comply with harmonized international regulated emissions limits.

Engine Speed (rev/min)	Type of Operation	Typical Generator Output (Net)		Engine Power			
				Gross		Net	
		kVA	kWe	kWm	bhp	kWm	bhp
1500	Baseload Power	989	791	891	1194	833	1117
	Prime Power	1250	1000	1113	1492	1055	1414
	Standby (maximum)	1385	1108	1224	1641	1166	1563
1800	Baseload Power	989	791	891	1194	833	1117
	Prime Power	1250	1000	1113	1492	1055	1414
	Standby (maximum)	1375	1100	1224	1641	1166	1563

The above ratings represent the engine performance capabilities guaranteed within plus or minus 3% at the reference conditions equivalent to those specified in ISO 8528/1, ISO 3046/1, BS 5514/1.

Rating conditions: 25°C air inlet temperature, barometric pressure 100 kPa, relative humidity 30%. Please consult your distributor or the factory for ratings in other ambient conditions. *Note: For full ratings please refer to Perkins Engines Company Limited. All electrical ratings are based on an average alternator efficiency and a power factor of 0.8. Fuel specification: BS2889: Class A2.*

Rating Definitions

Baseload Power: Power available for continuous full load operation. No overload is permitted. Prime Power: Power available for variable load with an average load factor not exceeding 80% of the prime power rating in any 24 hour period. Overload of 10% permitted for 1 hour in every 12 hours operation. Standby (maximum): Power available at variable load in the event of a main power network failure up to a maximum of 500 hours per year. No overload is permitted.

Photographs are for illustrative purposes only and may not reflect final specification.

All information in this document is substantially correct at time of printing and may be altered subsequently.

Publication No. PN1853/10/13 Produced in England ©2013 Perkins Engines Company Limited

 **Perkins®**

THE HEART OF EVERY GREAT MACHINE

4000 Series 4012-46TWG2A Diesel Engine – ElectropaK Non-Emissions compliant

1166 kWm 1500 rpm

1166 kWm 1800 rpm



Standard ElectropaK specification

Air inlet

- Mounted air filters and turbochargers

Fuel system

- Direct fuel injection system with fuel lift pump
- Governing to ISO 8528-5 class G3 with isochronous capability
- Full-flow spin-on fuel oil filters

Lubrication system

- Wet sump with filler and dipstick
- Full-flow spin-on oil filters
- Engine jacket water/lub oil temperature stabiliser

Cooling system

- Two twin thermostats
- System designed for ambients up to 50°C
- Powder coated radiator comprising: water radiator; fuel oil cooling (optional); all pipes, hoses and clips; fan; pulleys; fan belts and safety guards

Electrical equipment

- 24 volt starter motor and 24 volt alternator with integral regulator and DC output
- Overspeed switch and magnetic pickup
- Turbine inlet temperature shutdown switch
- Twin high coolant temperature shutdown switches
- Twin low oil pressure shutdown switches

Flywheel and housing

- Flywheel to SAE J620 size 18
- SAE 00 flywheel housing

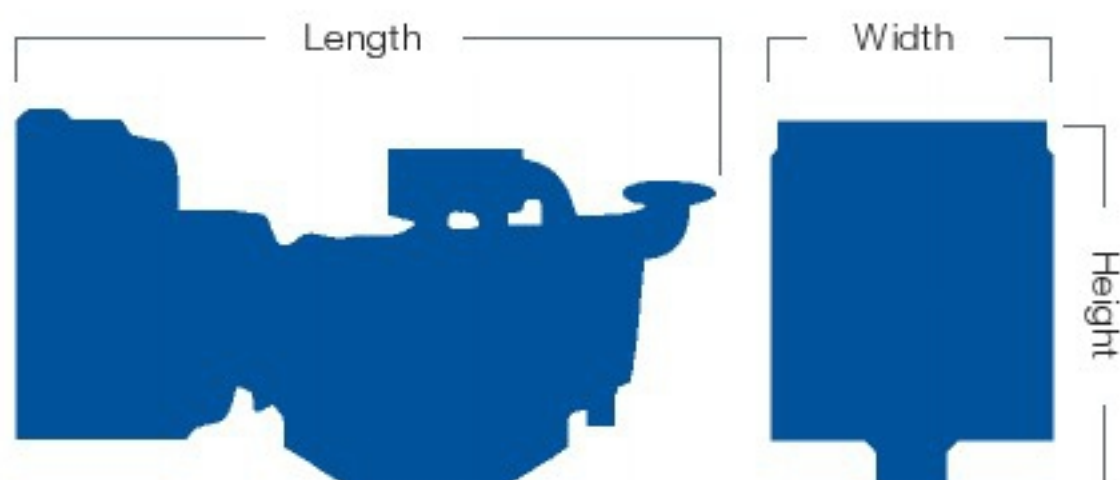
Optional equipment

Choice of temperate or tropical radiators available dependant on operational cooling requirements

Fuel oil cooler integral to the radiator assembly

Immersion heater with thermostat

Note: This list is not exhaustive, further options will be available at the product's introduction



See 'General data – Dimensions' below

Fuel Consumption				
Engine Speed	1500 rev/min		1800 rev/min	
	g/kWh	l/hr	g/kWh	l/hr
Standby	213	288	220	298
Prime Power	212	259	217	266
Continuous Baseload	214	207	216	209
75% of Prime Power	216	196	tbc	tbc
50% of Prime Power	233	143	tbc	tbc

General data

Number of cylinders	12
Cylinder arrangement	60° Vee form
Bore and stroke.....	160 x 190 mm
Displacement	45.842 litres
Induction system	Turbocharged and air to water charge cooled
Cycle.....	4 stroke
Combustion system.....	Direct injection
Compression ratio	13.6:1
Rotation.....	Anti-clockwise, viewed from flywheel end
Cooling system.....	Water-cooled
Firing order	1A, 6B, 5A, 2B, 3A, 4B, 6A, 1B, 2A, 5B, 4A, 3B
Total lubrication system capacity.....	177 litres
	Temperate Tropical
Total coolant capacity	196 litres
Total weight (dry).....	5220 kg
Dimensions – Length	3714 mm
Width	1780 mm
Height	2255 mm

Final weight and dimensions will depend on completed specification

Photographs are for illustrative purposes only and may not reflect final specification.

All information in this document is substantially correct at time of printing and may be altered subsequently.

Publication No. PN1853/10/13 Produced in England

©2013 Perkins Engines Company Limited

Perkins Engines Company Limited

Peterborough PE1 5FQ

United Kingdom

Telephone +44 (0)1733 583000

Fax +44 (0)1733 582240

www.perkins.com



THE HEART OF EVERY GREAT MACHINE



Low Voltage alternators - 4 pole
LSA 50.2 - 6 wires (12 wires optional)

1250 ... 1640 kVA - 50 Hz / 1250 ... 2000 kVA - 60 Hz

Electrical and mechanical data

Low Voltage alternators 4 pole 3-phase **PARTNER**

LSA 50.2

1250 ... 1640 kVA - 50 Hz / 1250 ... 2000 kVA - 60 Hz

SPECIALLY ADAPTED TO APPLICATIONS

The LSA 50.2 alternator is designed to be suitable for typical generator applications, such as: backup, marine applications, rental, telecommunications, etc.

COMPLIANT WITH INTERNATIONAL STANDARDS

The LSA 50.2 alternator conforms to the main international standards and regulations:

- IEC 60034, NEMA MG 1.32-33, ISO 8528-3, CSA / UL 1446 (UL 1004 on request), marine regulations, etc.

It can be integrated into a CE marked generator.

The LSA 50.2 is designed, manufactured and marketed in an ISO 9001 environment and ISO 14001.

TOP OF THE RANGE ELECTRICAL PERFORMANCE

- Class H insulation.
- Standard 6 wire re-connectable winding, 2/3 pitch, type no. 6S (12 wires optional / winding no. 6).
- Voltage range 50 Hz: 380V - 400V - 415V - 440 V and 220V - 230V - 240V.
- Voltage range 60 Hz: 380V - 416V - 440V - 480V and 220 V - 240 V.
- High efficiency and motor starting capacity.
- Other voltages are possible with optional adapted windings:
 - 50 Hz : 440 V (n° 7S), 500 V (n° 9S), 600 V (n° 22S or 23S), 690 V (n° 52S).
 - 60 Hz : 380 V and 416 V (n° 8S), 600 V (n° 9S).
- R 791 interference suppression conforming to standard EN 55011 group 1 class B standard for European zone (CE marking).

EXCITATION AND REGULATION SYSTEM SUITED TO THE APPLICATION

The LSA 50.2 can be supplied with AREP or PMG excitation system, according to the alternator specification.

Excitation system			Regulation options				
Volage regulator	AREP	PMG	Current transformer for paralleling	Mains paralleling	3-phase sensing	3-phase sensing for mains paralleling unbalanced	Remote voltage potentiometer
R450	Std	Option	C.T.	R726	-	R 734	√
D510C	Option	Option	C.T.	included	included	contact factory	√

√ : possible mounting

PROTECTION SYSTEM SUITED TO THE ENVIRONMENT

- The LSA 50.2 is IP 23.
- Standard winding protection for clean environments with relative humidity $\leq 95\%$, including indoor marine environments.
- Options :
 - Filters on air inlet : derating 5%.
 - Filters on air inlet and air outlet (IP 44) : derating 10%.
 - Winding protections for harsh environments and relative humidity greater than 95%.
 - Space heaters.
 - Thermal protection for winding.

REINFORCED MECHANICAL STRUCTURE USING FINITE ELEMENT MODELLING

- Compact and rigid assembly to better withstand generator vibrations.
- Steel frame.
- Cast iron flanges and shields.
- Twin-bearing and single-bearing versions designed to be suitable for engines on the market.
- Half-key balancing.
- Sealed for life ball bearings, regreasable bearings (optional).
- Standard direction of rotation : clockwise when looking at the drive end view (for anti-clockwise, derate the machine by 5%).

ACCESSIBLE TERMINAL BOX PROPORTIONED FOR OPTIONAL EQUIPMENT

- Easy access to the voltage regulator and to the connections.
- Possible inclusion of accessories for paralleling, protection and measurement.
- Connection bars for winding reconnection.

Low Voltage alternators 4 pole 3-phase **PARTNER**

LSA 50.2

1250 ... 1640 kVA - 50 Hz / 1250 ... 2000 kVA - 60 Hz

General characteristics

Insulation class	H	Excitation system	AREP or PMG
Winding pitch	2/3	AVR type	R 450
Number of wires	6 - (option 12)	Voltage regulation (*)	± 0.5 %
Protection	IP 23	Short-circuit current	300% (3 IN) : 10s
Altitude	≤ 1000 m	Totale Harmonic distortion THD (**) in no-load	< 3.5 % according to IEC
Overspeed	2250 min ⁻¹	Totale Harmonic distortion THD (**) on linear load:	< 3.5 % according to IEC
Air flow	1.8m ³ /s, 50 Hz - 2.2m ³ /s, 60 Hz	Waveform: NEMA = TIF (**)	< 50

(*) Steady state. (**) Total harmonic distortion between phases, no-load or on-load (non-distorting)

Ratings 50 Hz - 1500 R.P.M.

kVA / kW - P.F. = 0.8																	
Duty/T°C		Continuous duty/40°C				Continuous duty/40°C				Stand-by/40°C				Stand-by/27°C			
Class/T°K		H/125°K				F/105°K				H/150°K				H/163°K			
Phase		3 ph.				3 ph.				3 ph.				3 ph.			
Y		380V	400V	415V	440V	380V	400V	415V	440V	380V	400V	415V	440V	380V	400V	415V	440V
Δ		220V	230V	240V		220V	230V	240V		220V	230V	240V		220V	230V	240V	
6 wires version winding no. 6S																	
LSA 50.2 M6	kVA	1250	1250	1250	1190	1125	1125	1125	1095	1315	1315	1315	1275	1375	1375	1375	1330
	kW	1000	1000	1000	952	900	900	900	876	1052	1052	1052	1020	1100	1100	1100	1064
LSA 50.2 L7	kVA	1350	1350	1350	1260	1215	1215	1215	1150	1420	1420	1420	1365	1485	1485	1485	1425
	kW	1080	1080	1080	1008	972	972	972	920	1136	1136	1136	1092	1188	1188	1188	1140
LSA 50.2 L8	kVA	1450	1500	1500	1440	1320	1350	1350	1320	1520	1575	1575	1555	1595	1650	1650	1625
	kW	1160	1200	1200	1152	1056	1080	1080	1056	1216	1260	1260	1244	1276	1320	1320	1300
LSA 50.2 VL10	kVA	1600	1640	1600	1545	1455	1475	1455	1420	1680	1720	1680	1670	1760	1800	1760	1730
	kW	1280	1312	1280	1236	1164	1180	1164	1136	1344	1376	1344	1336	1408	1440	1408	1384
12 wires version winding no. 6 (option)																	
Y		380V	400V	415V	440V	380V	400V	415V	440V	380V	400V	415V	440V	380V	400V	415V	440V
Δ		220V	230V	240V		220V	230V	240V		220V	230V	240V		220V	230V	240V	
YY					220V				220V				220V				220V
LSA 50.2 M6	kVA	1045	1100	1140	1210	940	990	1026	1287	1045	1100	1140	1210	1045	1100	1140	1210
	kW	836	880	912	968	752	792	821	1030	836	880	912	968	836	880	912	968
LSA 50.2 L8	kVA	1250	1300	1350	1430	1125	1170	1215	1089	1250	1300	1350	1430	1250	1300	1350	1430
	kW	1000	1040	1080	1144	900	936	972	871	1000	1040	1080	1144	1000	1040	1080	1144

Ratings 60 Hz - 1800 R.P.M.

kVA / kW - P.F. = 0.8																	
Duty/T°C		Continuous duty/40°C				Continuous duty/40°C				Stand-by/40°C				Stand-by/27°C			
Class/T°K		H/125°K				F/105°K				H/150°K				H/163°K			
Phase		3 ph.				3 ph.				3 ph.				3 ph.			
Y		380V	416V	440V	480V	380V	416V	440V	480V	380V	416V	440V	480V	380V	416V	440V	480V
Δ		220V	240V			220V	240V			220V	240V			220V	240V		
6 wires version winding n°6S																	
LSA 50.2 M6	kVA	1285	1405	1455	1560	1155	1265	1310	1405	1350	1475	1530	1640	1410	1545	1600	1720
	kW	1028	1124	1164	1250	924	1012	1048	1124	1080	1180	1224	1312	1128	1236	1280	1376
LSA 50.2 L7	kVA	1375	1500	1555	1680	1240	1350	1400	1510	1440	1575	1630	1765	1510	1650	1710	1850
	kW	1100	1200	1244	1344	992	1080	1120	1208	1152	1260	1304	1412	1208	1320	1368	1480
LSA 50.2 L8	kVA	1485	1625	1720	1875	1335	1460	1550	1685	1560	1705	1805	1965	1630	1785	1890	2060
	kW	1188	1300	1376	1500	1068	1168	1240	1350	1250	1364	1444	1572	1304	1428	1512	1650
LSA 50.2 VL10	kVA	1635	1785	1860	2000	1470	1605	1675	1800	1715	1875	1950	2100	1800	1965	2050	2200
	kW	1308	1428	1488	1600	1176	1284	1340	1440	1372	1500	1560	1680	1440	1572	1640	1760
12 wires version winding n°6 (option)																	
Y		380V	416V	440V	480V	380V	416V	440V	480V	380V	416V	440V	480V	380V	416V	440V	480V
Δ		220V	240V	240V		220V	240V	240V		220V	240V	240V		220V	240V	240V	
YY			208V	220V	240V		208V	220V	240V		208V	220V	240V		208V	220V	240V
LSA 50.2 S4	kVA	990	1080	1145	1250	891	972	1030	1125	990	1080	1145	1250	990	1080	1145	1250
	kW	792	864	916	1000	713	778	824	900	792	864	916	1000	792	864	916	1000
LSA 50.2 M6	kVA	1210	1320	1400	1525	1089	1188	1260	1372	1210	1320	1400	1525	1210	1320	1400	1525
	kW	968	1056	1120	1220	871	950	1008	1098	968	1056	1120	1220	968	1056	1120	1220
LSA 50.2 L8	kVA	1430	1565	1655	1800	1287	1409	1490	1620	1430	1565	1655	1800	1430	1565	1655	1800
	kW	1144	1252	1324	1440	1029	1127	1192	1296	1144	1252	1324	1440	1144	1252	1324	1440

Attenuator-Attenuator

This type of enclosures is distinguished from all of our other types with its excellent capability of noise reduction, this is mainly because of the presense of attenuators on each of the air inlet and outlet sides. It is fully weather proofed and the exhaust muffler is mounted on the top to ensure proper cooling and ventilation.

Charasteristics:

- > Body and components made of steel painted with highly corrosive synthetic gloss.
- > Large doors for maintenance (two or four depending on the size).
- > Stainless steel locks and hinges.
- > Easy access for the radiator and the control panel through the outlet and inlet attenuators.
- > Lube oil pipe can be reached externally to allow easy drainage.
- > Fuel fill and battery are secured through lockable doors.
- > Lifting points on the top of the enclosure.
- > Exhaust silencing system mounted externally.
- > Emergency stop push button installed on the exterior of the enclosure (optional).



GHADDAR
MACHINERY Co. S.A.L.



Range

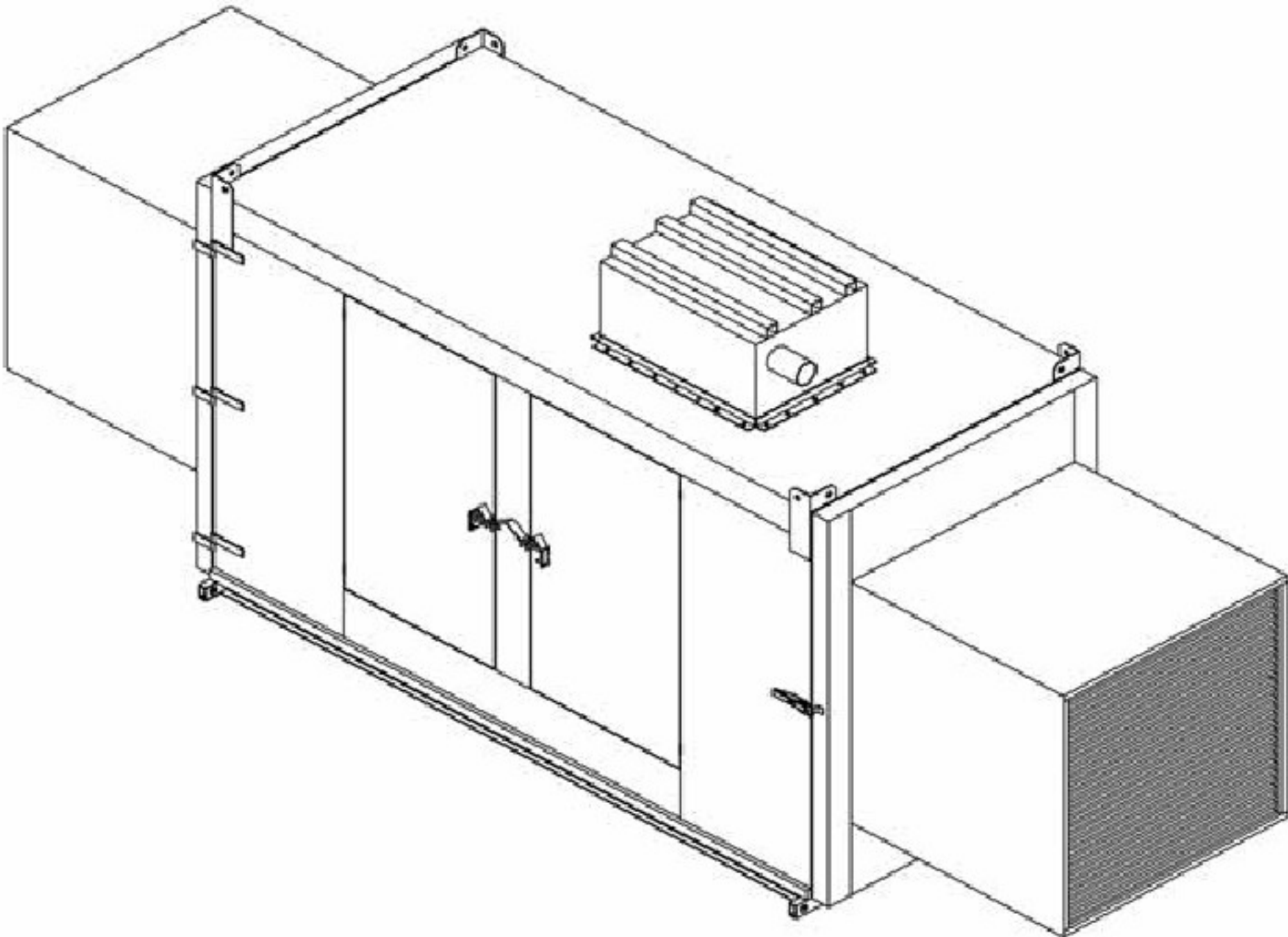
9 - 1500 KVA

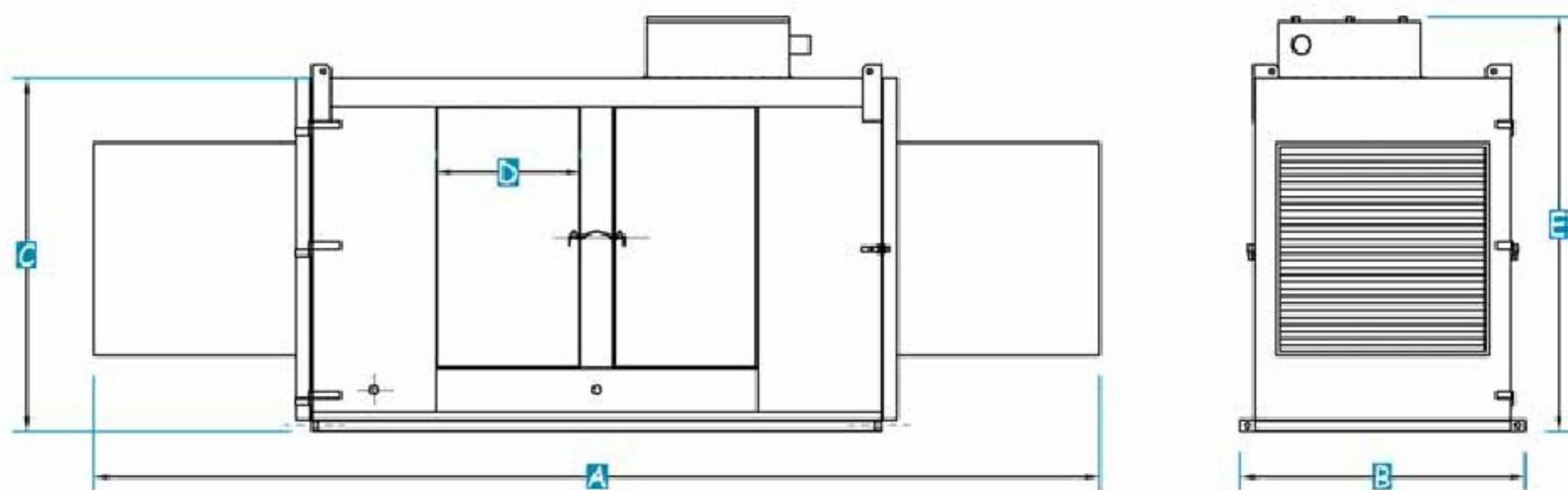


Certificate Numbers: CC1680-009512, 009912

Sound Pressure Levels (dBA)

		50 Hz						60 Hz					
		1 m		3 m		7 m		1 m		3 m		7 m	
Generating Set	Powertech	0%	100%	0%	100%	0%	100%	0%	100%	0%	100%	0%	100%
Engine model	KVA	Load	Load	Load	Load	Load	Load	Load	Load	Load	Load	Load	Load
403C-11G	9	66.5	67.8	63.5	64.8	58.5	59.8	68.2	69.5	65.2	66.5	60.2	61.5
403C-15G	13	66.5	67.8	63.5	64.8	58.5	59.8	68.2	69.5	65.2	66.5	60.2	61.5
404C-22G	20	66.5	67.8	63.5	64.8	58.5	59.8	68.2	69.5	65.2	66.5	60.2	61.5
1103A-33G	30	68.7	70.2	65.2	66.7	60.2	61.7	70.6	72.1	67.1	68.6	62.1	63.6
1103A-33TG1	45	67.3	68.8	63.8	65.3	58.8	60.3	69.2	70.7	65.7	67.2	60.7	62.2
1103A-33TG2	60	67.3	68.8	63.8	65.3	58.8	60.3	69.2	70.7	65.7	67.2	60.7	62.2
1104A-44TG1	65	67.3	68.8	63.8	65.3	58.8	60.3	69.2	70.7	65.7	67.2	60.7	62.2
1104A-44TG2	80	68.5	70	65	66.5	60	61.2	70.3	71.8	66.8	68.3	61.8	63
1006TG1A	95	70.3	71.8	66.8	68.3	61.8	63	72.8	74.3	69.3	70.8	64.3	65.5
1104C-44TAG2	100	70.3	71.8	66.8	68.3	61.8	63	72.8	74.3	69.3	70.8	64.3	65.5
1006TG2	105	70.3	71.8	66.8	68.3	61.8	63	72.8	74.3	69.3	70.8	64.3	65.5
1006TAG1	135	71.5	73	68	69.5	63	64.2	74	75.5	70.5	72	65.5	66.7
1006TAG2	150	71.5	73	68	69.5	63	64.2	74	75.5	70.5	72	65.5	66.7
1306C-E87TAG3	200	73.7	76.4	70.2	72.3	65.2	67.6	76.6	79.3	73.1	75.2	68.1	70.5
1306C-E87TAG6	250	73.7	76.4	70.2	72.3	65.2	67.6	76.6	79.3	73.1	75.2	68.1	70.5
2306C-E14TAG2	350	75.2	77.9	71.7	73.8	66.7	69.1	78.1	80.8	74.6	76.7	69.6	72
2306C-E14TAG3	400	75.2	77.9	71.7	73.8	66.7	69.1	78.1	80.8	74.6	76.7	69.6	72
2806C-E16TAG1	450	75.9	78.6	72.4	74.5	67.4	69.8	79	81.7	75.5	77.6	70.5	72.9
2806C-E16TAG2	500	75.9	78.6	72.4	74.5	67.4	69.8	79	81.7	75.5	77.6	70.5	72.9
2806C-E18TAG1	550	77.1	80	73.6	76.9	68.6	71.2	80.3	83.2	76.8	80.1	71.8	74.4
2806C-E18TAG2	625	77.1	80	73.6	76.9	68.6	71.2	80.3	83.2	76.8	80.1	71.8	74.4
4006C-23TAG2A	725	77.8	80.7	74.3	77.6	69.3	71.9	81.3	84.2	77.8	81.1	72.8	75.4
4006C-23TAG3A	800	78.1	81.6	74.6	78.5	69.6	72.8	81.5	85	78	81.9	73	76.2
4008TAG2	1000	78.1	81.6	74.6	78.5	69.6	72.8	81.5	85	78	81.9	73	76.2
4012TWG2	1250	78.9	82.4	75.4	79.3	70.4	73.6	82.9	86.4	79.4	83.3	74.4	77.6
4012TAG2	1500	80.5	84	77	80.9	72	75.2	85	88.5	81.5	85.3	76.5	79.7





Dimensions

Generating Set	Powertech	A: mm	B: mm	C: mm	D: mm	E: mm
Engine model	KVA					
403C-11G	9	2920	1100	1300	834	1650
403C-15G	13	2920	1100	1300	834	1650
404C-22G	20	2920	1100	1300	834	1650
1103A-33G	30	4580	1200	1700	980	2050
1103A-33TG1	45	4580	1200	1700	980	2050
1103A-33TG2	60	4580	1200	1700	980	2050
1104A-44TG1	65	4580	1200	1700	980	2050
1104A-44TG2	80	4580	1200	1700	980	2050
1006TG1A	95	5120	1360	1970	634	2320
1104C-44TAG2	100	5120	1360	1970	634	2320
1006TG2	105	5120	1360	1970	634	2320
1006TAG1	135	5120	1360	1970	634	2320
1006TAG2	150	5120	1360	1970	634	2320
1306C-E87TAG3	200	5570	1800	2410	784	2760
1306C-E87TAG6	250	5570	1800	2410	784	2760
2306C-E14TAG2	350	6370	2000	2410	1000	2760
2306C-E14TAG3	400	6370	2000	2410	1000	2760
2806C-E16TAG1	450	7070	2000	2580	1000	2930
2806C-E16TAG2	500	7070	2000	2580	1000	2930
2806C-E18TAG1	550	7070	2000	2580	1000	2930
2806C-E18TAG2	625	7070	2000	2580	1000	2930
4006C-23TAG2A	725	8620	2552	2850	986	3200
4006C-23TAG3A	800	8620	2552	2850	986	3200
4008TAG2	1000	8620	2552	2850	986	3200
4012TWG2	1250	9120	2552	3200	985	3550
4012TAG2	1500	10700	2750	3450	982	3800