

Generating Set Functional Test Report
In accordance with ISO 8528 - 6 2005

PLANT NUMBER: ES781/1 CE: 110

RATED OUTPUT	KVA	<u>60</u>	RATING CLASSIFICATION	<u>PRP</u>	
	KW	<u>48</u>			
	PHASE	<u>3</u>			
	VOLTS	<u>400</u>		PERFORMANCE CLASS	<u>6A</u>
	AMPS	<u>87</u>		(AS DEFINED BY ISO 8528-1)	
	HZ	<u>50</u>			
	RPM	<u>1500</u>			
GOVERNOR TYPE		COOLING METHOD	<u>WATERCOOLED</u>		

ENGINE MAKE	<u>PERKINS</u>	BUILD NUMBER	<u>DK514.36</u>
ENGINE MODEL	<u>1103A-33TG2</u>	SERIAL NUMBER	<u>U245093U</u>
ALTERNATOR MAKE	<u>MECC-ALTE</u>		
ALTERNATOR MODEL	<u>ECO 32-2L/4</u>	SERIAL NUMBER	<u>A1082758</u>
CONTROL PANEL(S)	<u>AUTO-START</u>	SERIAL NUMBER(S)	
SWITCHGEAR		SERIAL NUMBER(S)	

LOAD TEST RESULTS (AT UNITY POWER FACTOR)

TYPE	LOAD %	HZ	VOLTS	AMPS	KW	ENGINE TEMP DEG C	OIL TEMP DEG C	OIL PRESS BAR
load acceptance	<u>85</u>	<u>50.7</u>	<u>400</u>	<u>588</u>	<u>40.8</u>	<u>-</u>	<u>-</u>	<u>4.6</u>
standby/ prime+10%	<u>110%</u>	<u>50</u>	<u>400</u>	<u>762</u>	<u>52.8</u>	<u>87</u>	<u>-</u>	<u>3.8</u>

GENERATING SET ENCLOSURE MECHANICAL PROTECTION IP
AVERAGE SOUND PRESSURE LEVEL (DBA AT 1 M) 75

(UNITS WITH ACOUSTIC CANOPIES ONLY & MEASURED UNDER TEST BAY CONDITIONS AT 75% LOAD IN ACCORDANCE WITH ISO8528-10)

AMBIENT TEST CONDITIONS		FUEL/OIL USED	
ALTITUDE (M)	<u>Sea Level</u>	FUEL SPEC	<u>BS2869A2</u>
BAROMETRIC PRESSURE (kpa)		DENSITY	<u>0.84 kg/l</u>
TEMPERATURE (Deg c)		CALORIFIC VALUE	<u>42.5 MJ/kg</u>
HUMIDITY (%)		LUB OIL SPEC	<u>Multigrade</u>

WIRING DIAGRAMS:

ENGINE	<u>06-130700</u>	CONTROL PANEL(S)	<u>10-170300</u>
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TESTED BY
L. Zambelli

DATE
09/08/2010

Generating Set Functional Test Report
In accordance with ISO 8528 - 6 2005

PLANT NUMBER: E9781/2 CE: 110

RATED OUTPUT	KVA	<u>60</u>	RATING CLASSIFICATION	<u>PRP</u>	
	KW	<u>48</u>			
	PHASE	<u>3</u>			
	VOLTS	<u>400</u>		PERFORMANCE CLASS	<u>G1</u>
	AMPS	<u>87</u>		(AS DEFINED BY ISO 8528-1)	
	HZ	<u>50</u>			
	RPM	<u>1500</u>	GOVERNOR TYPE		
			COOLING METHOD	<u>WATERCOOLED</u>	

ENGINE MAKE	<u>PERKINS</u>	BUILD NUMBER	<u>DK514.36</u>
ENGINE MODEL	<u>1103A-33TG2</u>	SERIAL NUMBER	<u>0244603U</u>
ALTERNATOR MAKE	<u>MECC-ALTE</u>		
ALTERNATOR MODEL	<u>ECO 32-2L/4</u>	SERIAL NUMBER	<u>A1092883</u>
CONTROL PANEL(S)	<u>AUTO-START</u>	SERIAL NUMBER(S)	
SWITCHGEAR		SERIAL NUMBER(S)	

LOAD TEST RESULTS (AT UNITY POWER FACTOR)

LOAD TYPE	LOAD %	HZ	VOLTS	AMPS	KW	ENGINE TEMP	OIL TEMP	OIL PRESS
						DEG C	DEG C	BAR
load acceptance	<u>85</u>	<u>50,5</u>	<u>400</u>	<u>588</u>	<u>40,8</u>	<u>-</u>	<u>-</u>	<u>5,0</u>
standby/prime+10%	<u>110%</u>	<u>50</u>	<u>400</u>	<u>762</u>	<u>52,8</u>	<u>84</u>	<u>-</u>	<u>4,0</u>

GENERATING SET ENCLOSURE MECHANICAL PROTECTION

IP: 75

AVERAGE SOUND PRESSURE LEVEL (DBA AT 1 M)

(UNITS WITH ACOUSTIC CANOPIES ONLY & MEASURED UNDER TEST BAY CONDITIONS AT 75% LOAD IN ACCORDANCE WITH ISO8528-10)

AMBIENT TEST CONDITIONS		FUEL/OIL USED	
ALTITUDE (M)	<u>Sea Level</u>	FUEL SPEC	<u>BS2869A2</u>
BAROMETRIC PRESSURE (kpa)	<u>102,1</u>	DENSITY	<u>0.84 kg/l</u>
TEMPERATURE (Deg c)	<u>17</u>	CALORIFIC VALUE	<u>42.5 MJ/kg</u>
HUMIDITY (%)	<u>72</u>	LUB OIL SPEC	<u>Multigrade</u>

WIRING DIAGRAMS:

ENGINE	<u>06-130700</u>	CONTROL PANEL(S)	<u>10-170300</u>
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TESTED BY

L. Zammit

DATE

05/08/2010

Generating Set Functional Test Report
In accordance with ISO 8528 - 6 2005

PLANT NUMBER: E8781/3 CE: NO

RATED OUTPUT	KVA	<u>60</u>	RATING CLASSIFICATION	<u>PRP</u>	
	KW	<u>48</u>			
	PHASE	<u>3</u>			
	VOLTS	<u>400</u>		PERFORMANCE CLASS	<u>B1</u>
	AMPS	<u>87</u>		(AS DEFINED BY ISO 8528-1)	
	HZ	<u>50</u>			
	RPM	<u>1500</u>			
GOVERNOR TYPE			COOLING METHOD	<u>WATERCOOLED</u>	

ENGINE MAKE	<u>PERKINS</u>	BUILD NUMBER	<u>DK514.36</u>
ENGINE MODEL	<u>1103A-33TG2</u>	SERIAL NUMBER	<u>D2443560</u>
ALTERNATOR MAKE	<u>MECC-ALTE</u>		
ALTERNATOR MODEL	<u>ECO 32-2L/4</u>	SERIAL NUMBER	<u>A1092878</u>
CONTROL PANEL(S)	<u>AUTO-START</u>	SERIAL NUMBER(S)	
SWITCHGEAR		SERIAL NUMBER(S)	

LOAD TEST RESULTS (AT UNITY POWER FACTOR)

LOAD TYPE	LOAD %	HZ	VOLTS	AMPS	KW	ENGINE TEMP DEG C	OIL TEMP DEG C	OIL PRESS BAR
load acceptance	<u>85</u>	<u>50.5</u>	<u>400</u>	<u>588</u>	<u>40.8</u>	<u>-</u>	<u>-</u>	<u>4.8</u>
standby/prime+10%	<u>110%</u>	<u>50</u>	<u>400</u>	<u>762</u>	<u>52.8</u>	<u>84</u>	<u>-</u>	<u>3.7</u>

GENERATING SET ENCLOSURE MECHANICAL PROTECTION IP

AVERAGE SOUND PRESSURE LEVEL (DBA AT 1 M) 75

(UNITS WITH ACOUSTIC CANOPIES ONLY & MEASURED UNDER TEST BAY CONDITIONS AT 75% LOAD IN ACCORDANCE WITH ISO8528-10)

AMBIENT TEST CONDITIONS		FUEL/OIL USED	
ALTITUDE (M)	<u>Sea Level</u>	FUEL SPEC	<u>BS2869A2</u>
BAROMETRIC PRESSURE (kpa)	<u>102.2</u>	DENSITY	<u>0.84 kg/l</u>
TEMPERATURE (Deg c)	<u>18</u>	CALORIFIC VALUE	<u>42.5 MJ/kg</u>
HUMIDITY (%)	<u>73</u>	LUB OIL SPEC	<u>Multigrade</u>

WIRING DIAGRAMS:

ENGINE	<u>06-130700</u>	CONTROL PANEL(S)	<u>10-170300</u>
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TESTED BY
L. Zucchi

DATE
05/09/2010

Generating Set Functional Test Report

In accordance with ISO 8528 - 6 2005

PLANT NUMBER: E8781/4 CE: NO

RATED OUTPUT	KVA	60	RATING CLASSIFICATION	PRP	
	KW	48			
	PHASE	3			
	VOLTS	400		PERFORMANCE CLASS	G1
	AMPS	87			
	HZ	50			
	RPM	1500			
GOVERNOR TYPE			COOLING METHOD	WATERCOOLED	

ENGINE MAKE	PERKINS	BUILD NUMBER	DK51436
ENGINE MODEL	1103A-33TG2	SERIAL NUMBER	U2443510
ALTERNATOR MAKE	MECC - ALTE		
ALTERNATOR MODEL	ECO 32-2L/4	SERIAL NUMBER	A1082880
CONTROL PANEL(S)	AUTO-START	SERIAL NUMBER(S)	
SWITCHGEAR		SERIAL NUMBER(S)	

LOAD TEST RESULTS (AT UNITY POWER FACTOR)

LOAD TYPE	LOAD %	HZ	VOLTS	AMPS	KW	ENGINE TEMP DEG C	OIL TEMP DEG C	OIL PRESS BAR
load acceptance	85	50.9	400	588	40.8	—	—	4.8
standby/ prime+10%	110%	50	400	762	52.8	86	—	3.5

GENERATING SET ENCLOSURE MECHANICAL PROTECTION IP

AVERAGE SOUND PRESSURE LEVEL (DBA AT 1 M) 75

(UNITS WITH ACOUSTIC CANOPIES ONLY & MEASURED UNDER TEST BAY CONDITIONS AT 75% LOAD IN ACCORDANCE WITH ISO8528-10)

AMBIENT TEST CONDITIONS		FUEL/OIL USED	
ALTITUDE (M)	Sea Level	FUEL SPEC	BS2869A2
BAROMETRIC PRESSURE (kpa)	10.71	DENSITY	0.84 kg/l
TEMPERATURE (Deg c)	20	CALORIFIC VALUE	42.5 MJ/kg
HUMIDITY (%)	60	LUB OIL SPEC	Multigrade

WIRING DIAGRAMS:

ENGINE	06-130700	CONTROL PANEL(S)	10-170300
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TESTED BY

L. Zammit

DATE

05/08/2010

Generating Set Functional Test Report
In accordance with ISO 8528 - 6 2005

PLANT NUMBER: E8781/5 CE: NO

RATED OUTPUT	KVA	<u>60</u>	RATING CLASSIFICATION	<u>PRP</u>		
	KW	<u>48</u>				
	PHASE	<u>3</u>				
	VOLTS	<u>400</u>			PERFORMANCE CLASS	<u>B1</u>
	AMPS	<u>87</u>				
	HZ	<u>50</u>				
	RPM	<u>1500</u>				
GOVERNOR TYPE			COOLING METHOD <u>WATERCOOLED</u>			

ENGINE MAKE	<u>PERKINS</u>	BUILD NUMBER	<u>DK514.36</u>
ENGINE MODEL	<u>4103A-33TG2</u>	SERIAL NUMBER	<u>024.50510</u>
ALTERNATOR MAKE	<u>MECC-ALTE</u>	SERIAL NUMBER	<u>A1082.873</u>
ALTERNATOR MODEL	<u>ECO 32-2L/4</u>	SERIAL NUMBER(S)	
CONTROL PANEL(S)	<u>AUTO-START</u>	SERIAL NUMBER(S)	
SWITCHGEAR		SERIAL NUMBER(S)	

LOAD TEST RESULTS (AT UNITY POWER FACTOR)								
LOAD TYPE	LOAD %	HZ	VOLTS	AMPS	KW	ENGINE TEMP DEG C	OIL TEMP DEG C	OIL PRESS BAR
standby/prime+10%	<u>110%</u>	<u>50</u>	<u>400</u>	<u>762</u>	<u>52.8</u>	<u>85</u>	<u>-</u>	<u>3.7</u>

GENERATING SET ENCLOSURE MECHANICAL PROTECTION IP
 AVERAGE SOUND PRESSURE LEVEL (DBA AT 1 M) 75
 (UNITS WITH ACOUSTIC CANOPIES ONLY & MEASURED UNDER TEST BAY CONDITIONS AT 75% LOAD IN ACCORDANCE WITH ISO8528-10)

AMBIENT TEST CONDITIONS		FUEL/OIL USED	
ALTITUDE (M)	<u>Sea Level</u>	FUEL SPEC	<u>BS2869A2</u>
BAROMETRIC PRESSURE (kpa)	<u>102.1</u>	DENSITY	<u>0.84 kg/l</u>
TEMPERATURE (Deg c)	<u>20</u>	CALORIFIC VALUE	<u>42.5 MJ/kg</u>
HUMIDITY (%)	<u>60</u>	LUB OIL SPEC	<u>Multigrade</u>

WIRING DIAGRAMS:	
ENGINE <u>06-130700</u>	CONTROL PANEL(S) <u>10-170300</u>

TESTED BY L. TreviNU DATE 05/08/2010

Generating Set Functional Test Report

In accordance with ISO 8528 - 6 2005

PLANT NUMBER: E8781/6 CE: N10

RATED OUTPUT	KVA	60	RATING CLASSIFICATION	PRP
	KW	48		
	PHASE	3		
	VOLTS	400		
	AMPS	87		
	HZ	50		
	RPM	1500		
GOVERNOR TYPE			PERFORMANCE CLASS	B1
			(AS DEFINED BY ISO 8528-1)	
			COOLING METHOD	WATERCOOLED

ENGINE MAKE	PERKINS	BUILD NUMBER	DK514.36
ENGINE MODEL	4103A-33TG2	SERIAL NUMBER	U2450800
ALTERNATOR MAKE	MECC - ALTE	SERIAL NUMBER	A1032872
ALTERNATOR MODEL	ECO 32-2L/4	SERIAL NUMBER(S)	
CONTROL PANEL(S)	AUTO-START	SERIAL NUMBER(S)	
SWITCHGEAR		SERIAL NUMBER(S)	

LOAD TEST RESULTS (AT UNITY POWER FACTOR)

LOAD TYPE	LOAD %	HZ	VOLTS	AMPS	KW	ENGINE TEMP	OIL TEMP	OIL PRESS
						DEG C	DEG C	BAR
load acceptance	85	50.6	400	588	40.8	—	—	4.9
standby/prime+10%	110%	50	400	762	52.8	85	—	3.6

GENERATING SET ENCLOSURE MECHANICAL PROTECTION

IP
75

AVERAGE SOUND PRESSURE LEVEL (DBA AT 1 M)

(UNITS WITH ACOUSTIC CANOPIES ONLY & MEASURED UNDER TEST BAY CONDITIONS AT 75% LOAD IN ACCORDANCE WITH ISO8528-10)

AMBIENT TEST CONDITIONS		FUEL/OIL USED	
ALTITUDE (M)	Sea Level	FUEL SPEC	BS2869A2
BAROMETRIC PRESSURE (kpa)	1020	DENSITY	0.84 kg/l
TEMPERATURE (Deg c)	24	CALORIFIC VALUE	42.5 MJ/kg
HUMIDITY (%)	60	LUB OIL SPEC	Multigrade

WIRING DIAGRAMS:

ENGINE	06-130700	CONTROL PANEL(S)	10-170300
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TESTED BY

L. Zeeuw

DATE

05/09/2010

Generating Set Functional Test Report
In accordance with ISO 8528 - 6 2005

PLANT NUMBER: E9781/7 CE: 110

RATED OUTPUT	KVA	<u>60</u>	RATING CLASSIFICATION	<u>PRP</u>		
	KW	<u>48</u>				
	PHASE	<u>3</u>				
	VOLTS	<u>400</u>			PERFORMANCE CLASS	<u>B1</u>
	AMPS	<u>87</u>				
	HZ	<u>50</u>				
	RPM	<u>1500</u>				
GOVERNOR TYPE			COOLING METHOD <u>WATERCOOLED</u>			

ENGINE MAKE	<u>PERKINS</u>	BUILD NUMBER	<u>DK514.36</u>
ENGINE MODEL	<u>1103A-33TG2</u>	SERIAL NUMBER	<u>02450630</u>
ALTERNATOR MAKE	<u>MECC-ALTE</u>	SERIAL NUMBER	<u>A1082758</u>
ALTERNATOR MODEL	<u>ECO 32-2L/4</u>	SERIAL NUMBER(S)	
CONTROL PANEL(S)	<u>AUTO-START</u>	SERIAL NUMBER(S)	
SWITCHGEAR		SERIAL NUMBER(S)	

LOAD TEST RESULTS (AT UNITY POWER FACTOR)

LOAD TYPE	LOAD %	HZ	VOLTS	AMPS	KW	ENGINE TEMP DEG C	OIL TEMP DEG C	OIL PRESS BAR
load acceptance	<u>85</u>	<u>50.7</u>	<u>400</u>	<u>588</u>	<u>40.8</u>	<u>-</u>	<u>-</u>	<u>4.7</u>
standby/prime+10%	<u>110%</u>	<u>50</u>	<u>400</u>	<u>762</u>	<u>52.8</u>			

GENERATING SET ENCLOSURE MECHANICAL PROTECTION

IP
75

AVERAGE SOUND PRESSURE LEVEL (DBA AT 1 M)

(UNITS WITH ACOUSTIC CANOPIES ONLY & MEASURED UNDER TEST BAY CONDITIONS AT 75% LOAD IN ACCORDANCE WITH ISO8528-10)

AMBIENT TEST CONDITIONS		FUEL/OIL USED	
ALTITUDE (M)	<u>Sea Level</u>	FUEL SPEC	<u>BS2869A2</u>
BAROMETRIC PRESSURE (kpa)	<u>1018</u>	DENSITY	<u>0.84 kg/l</u>
TEMPERATURE (Deg c)	<u>20</u>	CALORIFIC VALUE	<u>42.5 MJ/kg</u>
HUMIDITY (%)	<u>64</u>	LUB OIL SPEC	<u>Multigrade</u>

WIRING DIAGRAMS:

ENGINE	<u>06-130700</u>	CONTROL PANEL(S)	<u>10-170300</u>
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TESTED BY

L. Zamli

DATE

05/09/2010