

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

PLANT NUMBER: E9782/1 CE: No

RATED OUTPUT	KVA	<u>20</u>	RATING CLASSIFICATION	<u>PRP</u>	
	KW	<u>16</u>			
	PHASE	<u>3</u>			
	VOLTS	<u>415/240</u>		PERFORMANCE CLASS	<u>G1</u>
	AMPS	<u>28</u>		(AS DEFINED BY ISO 8528-1)	
	HZ	<u>50</u>			
	RPM	<u>1500</u>			
GOVERNOR TYPE			<u>Mechanical</u>	COOLING METHOD	<u>WATERCOOLED</u>

ENGINE MAKE	<u>Perkins</u>	BUILD NUMBER	<u>G1065732</u>
ENGINE MODEL	<u>404D-22G</u>	SERIAL NUMBER	<u>U985737T</u>
ALTERNATOR MAKE	<u>Meccalte</u>	SERIAL NUMBER	<u>0001338471</u>
ALTERNATOR MODEL	<u>ECO 28-14/4</u>	SERIAL NUMBER(S)	
CONTROL PANEL(S)	<u>Automatic</u>	SERIAL NUMBER(S)	
SWITCHGEAR	<u>ATS</u>	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>80%</u>	<u>50.8</u>	<u>415</u>	<u>18</u>	<u>13</u>	<u>-</u>	<u>-</u>	<u>5.2</u>
standby/ prime+10%	<u>110%</u>	<u>50.0</u>	<u>415</u>	<u>25</u>	<u>18</u>	<u>83</u>	<u>-</u>	<u>4.2</u>

GENERATING SET ENCLOSURE MECHANICAL PROTECTION IP

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>101.7</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>08-152300</u>	CONTROL PANEL(S)	<u>10-170300</u>
			<u>10-173300</u>

TESTED BY H. Wal

DATE 02/08/2010

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

PLANT NUMBER: E9782/2 CE: No

RATED OUTPUT	KVA	<u>20</u>	RATING CLASSIFICATION	<u>PRP</u>	
	KW	<u>16</u>			
	PHASE	<u>3</u>			
	VOLTS	<u>415/240</u>		PERFORMANCE CLASS	<u>G1</u>
	AMPS	<u>28</u>		(AS DEFINED BY ISO 8528-1)	
	HZ	<u>50</u>			
	RPM	<u>1500</u>			
GOVERNOR TYPE	<u>Mechanical</u>		COOLING METHOD	<u>WATERCOOLED</u>	

ENGINE MAKE	<u>Perkins</u>	BUILD NUMBER	<u>GND65732</u>
ENGINE MODEL	<u>404D-22G</u>	SERIAL NUMBER	<u>UA88978T</u>
ALTERNATOR MAKE	<u>Mecc Alte</u>	SERIAL NUMBER	<u>0001338484</u>
ALTERNATOR MODEL	<u>ECO 28-1U/4</u>	SERIAL NUMBER(S)	
CONTROL PANEL(S)	<u>Automatic</u>	SERIAL NUMBER(S)	
SWITCHGEAR	<u>ATS</u>	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>80%</u>	<u>51.0</u>	<u>415</u>	<u>18</u>	<u>13</u>	<u>-</u>	<u>-</u>	<u>5.2</u>
standby/prime+10%	<u>110%</u>	<u>50.0</u>	<u>415</u>	<u>25</u>	<u>18</u>	<u>83</u>	<u>-</u>	<u>4.3</u>

GENERATING SET ENCLOSURE MECHANICAL PROTECTION IP

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>101.7</u>	DENSITY	<u>0.84 kg/l</u>
TEMPERATURE (Deg c)	<u>19</u>	CALORIFIC VALUE	<u>42.5 MJ/kg</u>
HUMIDITY (%)	<u>64</u>	LUB OIL SPEC	<u>Multigrade</u>

**WIRING DIAGRAMS:**

ENGINE	<u>08-152300</u>	CONTROL PANEL(S)	<u>10-170300</u>
			<u>10-173300</u>

TESTED BY H. Wal

DATE 02/08/2010

## Generating Set Functional Test Report

In accordance with ISO 8528 - 6 2005

PLANT NUMBER: E9782/3 CE: No

RATED OUTPUT	KVA	20	RATING CLASSIFICATION	PRP
	KW	16		
	PHASE	3		
	VOLTS	415/240		
	AMPS	28		
	HZ	50		
	RPM	1500		
GOVERNOR TYPE			PERFORMANCE CLASS	G1
			(AS DEFINED BY ISO 8528-1)	
GOVERNOR TYPE			COOLING METHOD	WATERCOOLED
Mechanical				

ENGINE MAKE	Perkins	BUILD NUMBER	G1065732
ENGINE MODEL	404-D-22G	SERIAL NUMBER	U985765T
ALTERNATOR MAKE	Mecc Alte	SERIAL NUMBER	0001338469
ALTERNATOR MODEL	ECO 28-1LW4	SERIAL NUMBER(S)	
CONTROL PANEL(S)	Automatic	SERIAL NUMBER(S)	
SWITCHGEAR	ATS	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	80%	50.6	415	18	13	—	—	5.0
standby/ prime+10%	110%	50.0	415	25	18	83	—	3.6

GENERATING SET ENCLOSURE MECHANICAL PROTECTION IP

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)	101.7	DENSITY	0.84 kg/l
TEMPERATURE (Deg c)	20	CALORIFIC VALUE	42.5 MJ/kg
HUMIDITY (%)	60	LUB OIL SPEC	Multigrade

WIRING DIAGRAMS:			
ENGINE	08-157300	CONTROL PANEL(S)	10-170300
			10-173300

TESTED BY *H. Wal*

DATE 02/08/2010

## Generating Set Functional Test Report

In accordance with ISO 8528 - 6 2005

PLANT NUMBER: E9782/4 CE: No

RATED OUTPUT	KVA	20	RATING CLASSIFICATION	PRP	
	KW	16			
	PHASE	3			
	VOLTS	415/240		PERFORMANCE CLASS	G1
	AMPS	28			(AS DEFINED BY ISO 8528-1)
	HZ	50			
RPM	1500				
GOVERNOR TYPE	Mechanical		COOLING METHOD	WATERCOOLED	

ENGINE MAKE	Perkins	BUILD NUMBER	GND65732
ENGINE MODEL	404D-22G	SERIAL NUMBER	U985718T
ALTERNATOR MAKE	Mecc Alte	SERIAL NUMBER	0001338486
ALTERNATOR MODEL	ECO 28-11N/4	SERIAL NUMBER(S)	
CONTROL PANEL(S)	Automatic	SERIAL NUMBER(S)	
SWITCHGEAR	ATS	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	80%	50.6	415	18	13	—	—	5.1
standby/ prime+10%	110%	50.0	415	25	18	84	—	3.9

GENERATING SET ENCLOSURE MECHANICAL PROTECTION IP

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)	101.7	DENSITY	0.84 kg/l	
TEMPERATURE (Deg c)	21	CALORIFIC VALUE	42.5 MJ/kg	
HUMIDITY (%)	53	LUB OIL SPEC	Multigrade	

WIRING DIAGRAMS:			
ENGINE	08-152300	CONTROL PANEL(S)	10-170300
			10-173300

TESTED BY

DATE 02/08/2010

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

PLANT NUMBER: E9782/S CE: No

RATED OUTPUT	KVA	<u>20</u>	RATING CLASSIFICATION	<u>PRP</u>
	KW	<u>16</u>		
	PHASE	<u>3</u>		
	VOLTS	<u>415/240</u>		PERFORMANCE CLASS
	AMPS	<u>28</u>	(AS DEFINED BY ISO 8528-1)	
	HZ	<u>50</u>		
	RPM	<u>1500</u>		
GOVERNOR TYPE	<u>Mechanical</u>		COOLING METHOD	<u>WATERCOOLED</u>

ENGINE MAKE	<u>Perkins</u>	BUILD NUMBER	<u>GND65732</u>
ENGINE MODEL	<u>404D-22G</u>	SERIAL NUMBER	<u>U985740T</u>
ALTERNATOR MAKE	<u>Mecc Alte</u>		
ALTERNATOR MODEL	<u>ECO 28-11N/4</u>	SERIAL NUMBER	<u>0001335819</u>
CONTROL PANEL(S)	<u>Automatic</u>	SERIAL NUMBER(S)	
SWITCHGEAR	<u>ATS</u>	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>80%</u>	<u>50.8</u>	<u>415</u>	<u>18</u>	<u>13</u>	<u>-</u>	<u>-</u>	<u>5.1</u>
standby/ prime+10%	<u>110%</u>	<u>50.0</u>	<u>415</u>	<u>25</u>	<u>18</u>	<u>82</u>	<u>-</u>	<u>3.9</u>

GENERATING SET ENCLOSURE MECHANICAL PROTECTION IP  
 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>101.6</u>	DENSITY	<u>0.84 kg/l</u>
TEMPERATURE (Deg c)	<u>14</u>	CALORIFIC VALUE	<u>42.5 MJ/kg</u>
HUMIDITY (%)	<u>88</u>	LUB OIL SPEC	<u>Multigrade</u>

**WIRING DIAGRAMS:**

ENGINE	<u>08-152200</u>	CONTROL PANEL(S)	<u>10-170300</u> <u>10-173300</u>
--------	------------------	------------------	--------------------------------------

TESTED BY

*H. Wall*

DATE 03/08/2010

## Generating Set Functional Test Report

In accordance with ISO 8528 - 6 2005

PLANT NUMBER: E9782/6 CE: No

RATED OUTPUT	KVA	20	RATING CLASSIFICATION	PRP	
	KW	16			
	PHASE	3			
	VOLTS	415/240		PERFORMANCE CLASS	G1
	AMPS	28			
	HZ	50			
	RPM	1500			
GOVERNOR TYPE			(AS DEFINED BY ISO 8528-1)		
Mechanical			COOLING METHOD		
			WATERCOOLED		

ENGINE MAKE	Perkins	BUILD NUMBER	G1065732
ENGINE MODEL	404D-22G	SERIAL NUMBER	U988528T
ALTERNATOR MAKE	Mecc Alte	SERIAL NUMBER	0001338460
ALTERNATOR MODEL	ECO 28-11N/4	SERIAL NUMBER(S)	
CONTROL PANEL(S)	Automatic	SERIAL NUMBER(S)	
SWITCHGEAR	ATS	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	80%	50.5	415	18	13	—	—	5.1
standby/prime+10%	110%	50.0	415	25	18	84	—	4.6

GENERATING SET ENCLOSURE MECHANICAL PROTECTION

IP  
—

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)	101.4	DENSITY	0.84 kg/l
TEMPERATURE (Deg c)	15	CALORIFIC VALUE	42.5 MJ/kg
HUMIDITY (%)	82	LUB OIL SPEC	Multigrade

### WIRING DIAGRAMS:

ENGINE	08-152300	CONTROL PANEL(S)	10-170300
			10-173300

TESTED BY I. Johnson

DATE 03/08/2010