

**Technical data:** B35:40 V12AG  
**Fuel type:** NATURAL GAS  
**Application:** Stationary power plant  
**Site conditions:** 100 m /35°C

**Drawing No.:** L1008/23  
**Project No.:** 306000  
**Engine No.:** 17038-39  
**Yard/Power plant:** InquitexII (Spain)



# Rolls-Royce

### Engine data:

Number of cylinders	-	12
Cylinder bore	mm	350
Piston stroke	mm	400
Rated site power, engine	kW	5250
Rated power (ISO), engine	kW	5250
Rated active power, generator	kW	5100
Generator efficiency	-	0,971
Rated output, electric with COS(phi) = 0,9	kVA	5665
Mean effective site pressure	bar	18,2
Mean effective pressure (ISO)	bar	18,2
Rated speed	RPM	750
Mean piston speed	m/s	10
Displacement	l	462

### Gas data:

Specific energy consumption	kJ/kWh	7550
Gas consumption at MCR	m³n/h	1100
Gas consumption at MCR	kg/h	880
Minimum gas feed at MCR:		
-at engine inlet	barg	3,2
-to press. control module	barg	3,5

### Start air data:

Start air pressure, max./min.	barg	30/15
Air consumption per. start	m³n	11
No of starts, 1500l receiver	-	3

### Lubrication data:

Lubrication oil	-	SAE 40
Main pump capacity	m³/h	86
Priming pump capacity	m³/h	13
Lub. oil pressure		
-normal	barg	4-5
-alarm, pressure low	barg	2,5
-shut-down, pressure low	barg	1,7
Lub. oil temp engine inlet		
-normal	°C	65
-Derating 15%/30%, temp high	°C	67/69
-normal stop/shut-down	°C	71/73
Spec. lub. oil consumption	g/kWh	0,4
Lub. oil consumption	kg/h	2,1
Crankcase, lub. oil volume		
-high level	l	3430
-low level	l	2750
Rocker arm system		
-normal pressure	barg	0,5
-alarm, pressure low	barg	0.2-0.3

### Cooling water data:

Two-stage charge air cooler:		
-Low temp. stage:		
-temp. at inlet, max	°C	46
-water flowrate, normal	m³/h	108
-water flowrate, max	m³/h	140
-High temp. stage:		
-water flowrate, normal	m³/h	54
Jacket water system:		
-pump capacity	m³/h	108
-normal stop/shut-down	barg	2.0
-water quantity, engine block	l	750
-Temp. at engine outlet		
-normal	°C	90
-alarm, temp. high	°C	95
-shut-down, temp. high	°C	97
-temp. rise in engine, max	°C	6,8
-incl. high temp. ca-cooler	°C	11,3
-Expansion tank:		
-volum, single-engined	l	300
-volum, multi-engined	l	500
-height above engine	m	3-10

### Air data:

Turbocharger type	ABB	TPS-61E_VTG
Charge air cooler type	-	RR66-132-V12
Air consumption	m³n/h	21200
Air consumption	kg/h	27500
Charge air pressure	barg	2,2
Charge air temperature:		
-normal	°C	55
-derating 15%/30%, temp high	°C	58/60
-normal stop/shutdown	°C	62/64
Air press, in engine room, min	mmWG	5

### Exhaust data:

Mass flow	kg/h	28300
Volume flow, after turbin	m³/h	54200
Temp, after cylinder	°C	505
Temp, after turbine	°C	395
Back pressure, max	mmWG	400
Emission at MCR		
NOx - emission at 5% O2	mg/m³n	500
CO - emission at 5% O2	mg/m³n	650
NMHC - emission at 5% O2	mg/m³n	130

### Heat dissipation:

Lubrication data:		
Lub. oil cooler	kW	595
Cooling water data:		
Low temp. stage	kW	455
High temp. stage	kW	565
Jacket water cooler:		
-Heat dissipation, engine	kW	845
-incl. high temp. ca-cooler	kW	1410
Ventilation data:		
Radiation engine	kW	345
Radiation generator (IP23)	kW	150

Engine power definition is according to ISO 3046-1 and ISO 8528-1  
 However the engine ratings are valid for the following reference conditions:  
 Air inlet temperature max. + 35 °C  
 Air inlet temperature min. + 5°C  
 Heat dissipation. + 25°C.  
 Charge air low temp. cooling water inlet temp. max. +46°C  
 Site altitude above sea level max. 100 m  
 Relative humidity 60%

Specific energy consumption is according to ISO 3046-1 and is given at full load(MCR), running on NATURAL GAS with a lower heating value of 36.0 MJ/m³n and two engine-driven pumps.  
 Methane no. min 70 , according to AVL calculation

Spec. lub. oil consumption is for guidance only

NOTE! Due to continuous development, some data may change

Charge air cooler heat dissipation will vary with water flowrate and inlet temp., these data to be calc. after receipt of final process data