

Order Nr: 566-0900      Ordered by:      For:

Engine Data			
Engine type:	Engine No:	kW	r/min
16V25SG	3894	2960	1000
Turbocharger type:	Turbocharger I No:	Turbocharger II No:	
VTR254-11	406251	406568	

Generator Data				
Generator type:	Generator No:	kW		
HSG 710 LR6	4547379	3536 at Cos. $\phi = 0.8$		
KVA	Volt	Amp	Hz	Efficiency ( $\eta$ ):
4420	10 000	255	50	96.83 at 100%

General Data			
Main Gas Control Valve:	Prechamber Gas Control Valve:	Prechamber:	
Gas Fuel:	Lower Heat Value:	Specific Gravity:	
Natural Gas	37.816 MJ/nm <sup>3</sup>	kg/nm <sup>3</sup>	
Lubrication oil:	Brake k=1/		

Test Data																	
Load % of Nominal:	%	25 %	50 %	75 %	100 %												
Date/Time for test:		941103/1950	941103/1800	941103/1815	941103/1700												
Engine room temperature:	°C	24	25	29	29												
Outside temperature:	°C	3	3	5	5												
Ambient air pressure:	mmHg	767	767	767	767												
Relative Humidity:	%	46	46	46	46												
Gas pressure: Supply	bar	3.9	3.9	3.9	3.9												
Gas Temperature:	°C	5	3	5	3												
Gas pressure: Main injector	bar	1.43	1.81	2.30	2.73												
Gas pressure: PCC	bar	1.43	1.43	2.30	2.73												
Duration, PCC valve opening:	ms	21.5	26.5	29.4	31.0												
Gas consumption:	m <sup>3</sup>																
Gas consumption, period:	min.																
Gas consumption:	m <sup>3</sup> /h																
Gas consumption:	nm <sup>3</sup> /kWh																
Main bearing temperature at 100% nominal load:	No	1	2	3	4	5	6	7	8	9							
	°C	91	94	95	93	94	94	94	95	87							
Max firing pressure at 100% nominal load:	Cyl.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
	bar	101	108	102	101	108	106	103	104	114	118	108	112	100	112	110	104
Compression pressure:	bar																

GUGUWVORKFILE/QI1134-1.PM5

Tested and approved by: *Bong/Steiggen*      Date: *941111*      Checked/Verified by: *ewf*

Type of Engine:  
16V25SG

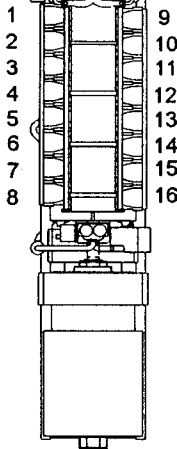
Engine No:  
3894

QI-1134 Encl. 2 Page 2(5)

Load % of Nominal:	%	25 %	50 %	75 %	100 %
Date/Time for test:		941027	941027	941027	941027
Engine Speed:	RPM	1000	1000	1000	1000
Ignition timing:	°btdc	14	14	14	14
Brake load:	kNm				
Alternator Voltage/Current:	V/A				
Alternator Load:	kW	671	1437	2118	2843

A = Exhaust Gas Temperature  
B = Duration of main gas valve opening in milliseconds.

Cylinders 1 - 8      Cylinders 9 - 16



Cyl.	A °C	B ms	A °C	B ms	A °C	B ms	A °C	B ms
1	390		486		506		511	
2	397		480		506		519	
3	395		491		503		515	
4	393		489		506		510	
5	385		491		509		517	
6	395		482		510		518	
7	394		491		501		518	
8	384		483		508		521	
Average value:	392	11.7	486	15.5	507		516	

Cyl.	A °C	B ms	A °C	B ms	A °C	B ms	A °C	B ms
9	398		485		510		516	
10	389		485		505		520	
11	395		488		504		514	
12	396		485		509		518	
13	397		485		508		510	
14	397		487		508		519	
15	390		485		505		517	
16	389		486		508		514	
Average value:	393	11.7		15.5	507		516	

Turbocharger speed I/II:	RPM	12700/12500	17800/17600	22100/22000	26000/25900
Exhaust temp after turbocharger:	°C	286/289	356/358	367/370	
Exhaust press. after turbocharger:	kPa				

Throttle valve position:	°	90	90	90	90
Charge air pressure:	bar	1.24	1.63	2.13	2.75
Charge air temperature after CAC:	°C	47	48	48	56
Pressure drop over CAC:	kPa				

FW pressure after pump:	bar	3.8	4.0	4.1	4.2
FW temp before engine:	°C	89	88	87	88
FW temp after engine:	°C	92	92	93	95
FW temp before CAC:	°C	46	46	42	47
FW temp after CAC:	°C	54	61	65	75
Lube oil pressure before filter:	bar				
Lube oil pressure after filter:	bar	4.2	4.1	4.0	4.2
Lube oil temp. before engine:	°C	73	73	73	74
Lube oil temp. after engine:	°C	84	84	84	84
Raw water temp. in:	°C	28	24	16	17
Raw water temp. out:	°C	47	55	59	65

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Tested and approved by:

*Rang Huu*

Date:

94 11 11

Checked/Verified by:

*ee*

*Aug*

Order Nr:

566-0900

Year:

1994

**Engine Data**

Engine type:	Engine No:	kW	r/min
16V25SG	3894	2960	1000

**Exhaust Gas Composition:**

Oxygen (O <sub>2</sub> ) :	12.1	% volume, dry.
Carbon dioxide (CO <sub>2</sub> ) :	5.1	% volume, dry.

**Exhaust Gas Emission:**

Nitrogen oxides (NO <sub>x</sub> ) :	61	ppm, dry.
Carbon monoxide (CO) :	546	ppm, dry.
Total Hydrocarbons (C <sub>1</sub> ) :	-	ppm, wet.

**Remarks**

The above data have been measured at 100 % nominal load using natural gas.  
The composition of the gas is specified in the enclosed analysis report.

Date of engine test:

94 11 11

Verified by:

*Bengt Haggqvist*

Order Nr:  
566-0900

Ordered by:

For:

Genset General Data		
Engine type: 16V25SG	Engine No: 3894	r/min: 1000
Generator type: HSG 710 LR6	Generator No: 4547379	kW: 3536 at Cos. $\phi = 0.8$

Site Conditions			
Altitude (MASL): 49 meter	Ambient Temperature: °C	Ambient Air Pressure: kPa	Relative Humidity: %

Test Data					
Load % of Nominal:	%	25 %	50 %	75 %	100 %
Date/Time for test:		941103	941103	941103	941103
Engine room temperature:	°C	24	25	29	29
Heat run (hours):	h				
Frame Temperature:	°C				
Winding Temperature 1:	°C	31	38	47	44
Winding Temperature 2:	°C	31	38	46	43
Winding Temperature 3:	°C	31	38	47	44
Bearing Temperature NDE:	°C	60	61	60	56
Bearing Temperature DE:	°C	63	64	64	63

*Handwritten mark*

Air Cooled Generator					
Air flow:	m³/h				
Air Inlet Temperature:	°C				
Air Outlet Temperature:	°C				
Pressure drop over filter:	Pa				

Water Cooled Generator					
Cooling Water flow:	m³/h				
Water Inlet Temperature:	°C				
Water Outlet Temperature:	°C				
Pressure drop:	Pa				

Tested and approved by:  
*Bengt Haggen*

Date:  
941111

Checked/Verified by:  
*Carl*

Order No:

566-0900

Engine type:

16V25SG

Engine No:

3894

kW

2960

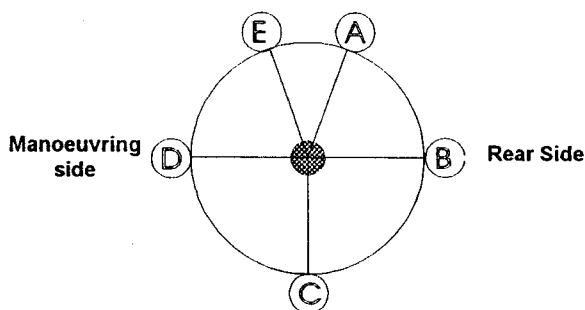
rpm

1000

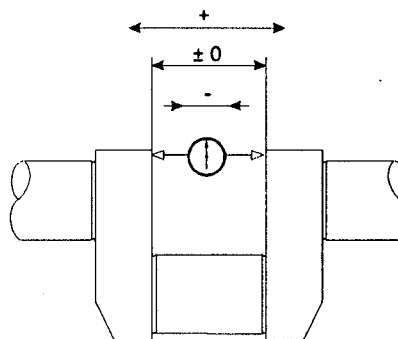
**Crankshaft deflection before factory test (1/100 mm)**

Indicator position:	Cylinder number:							
	1	2	3	4	5	6	7	8
A: Start position (TDC)	± 0	± 0	± 0	± 0	± 0	± 0	± 0	± 0
B: Rear Side	± 0	± 0	± 0	+ 1	+ 1	+ 1	+ 1.5	+ 1
C: Low position (LDC)	- 0.5	- 1	± 0	+ 1.5	+ 1.5	+ 1.5	+ 2.5	+ 2.5
D: Manoeuvring Side	± 0	- 0.5	± 0	+ 1	+ 1	+ 1	+ 2	+ 1.5
E: End position (TDC)	± 0	± 0	± 0	± 0	± 0	± 0	± 0	± 0

Indicator position  
(As seen from flywheel)



Rotate crankshaft in the normal direction.



All Measurements in 1/100 mm

**Remarks**

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Department:

Date:

24/11/11

Signature:

*Fang Haggert*

Order No:  
566-900

Engine type:  
16V25SG

Engine No:  
3894

Description	Work performed		
	Date	Signature	Remarks
1 Safety valves pressure tested and preserved.			
2 Centrifugal filter cleaned. Paper insert replaced.			
3 Main bearing No...1+1+1 <sup>x</sup> ...dismantled for inspection.	941110	<i>Hug</i>	See separate report.
4 Big end bearing No...2+2+1 <sup>xx</sup> ...dismantled for inspection.	941110		See separate report.
5 Thrust bearing dismantled for inspection.			
6			
7			
8			
9 <sup>x</sup> # 1, # 2, # 3			
10			
11 <sup>xx</sup> # 3, # 4, # 5, # 6, # 8			
12			
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25			
26			

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Date:

941111

Department:

Signature:

*Bengt Huggert*

Delivery test completed:

*evk*