1 PERFORMANCE DATA (Calculated values)

RATINGS

Output:	5238	kVA	Direction of rotation		
Duty:	S1		(Facing drive end):	CCW	
Voltage:	6600	V	Weight:	20000	kg
Current:	458	A	Inertia:	1140	kgm^2
Power factor:	0,80		Protection by enclosure:	IP44	
Frequency:	60	Hz	Cooling method:	IC8A1W7	
Speed:	720	rpm	Mounting arrangement:	IM1101	
Overspeed:	864	rpm			

STANDARDS

Applicable standard:	IEC
Marine classification:	DNV Offshore
Hazardous area classification:	None
Temperature rise stator / rotor:	F/F
Insulation class:	F

ENVIRONMENTAL CONDITIONS (max. values)

Ambient temperature:	55	°C	Altitude:	1000	masl
Coolant temperature:	37	°C			

ASSUMED DATA

Driving equipment:	Not Specified	
Approx. mech. power:	4325	KW

EFFICIENCY in %, not guaranteed values

load:		110 %	100 %	75 %	50 %	25 %
Efficiency @ power factor	0,80	96,94	96,90	96,59	95,71	92,67
Efficiency @ power factor	1,00	97,82	97,77	97,49	96,75	94,24

REACTANCES in %

XD (U):	143,9	XD' (S):	23,4	XQ'' (S):	16,1	X0 (U):	9,0
XQ (U):	77,9	XD'' (S):	14,2	X2 (S):	15,1	XP (S):	19,3
X1 (U):	11,3	(S) = Saturated value, (U) = Unsaturated value					

TIME CONSTANTS (SEC.) AT 75 °C

TD0':	2,832	TD':	0,507	TQ0'':	0,1457	TA:	0,103
TD0'':	0,02871	TD'':	0,01815	TQ'':	0,0331		

RESISTANCES AT 20 °C

Stator winding:	0,0293	Ω	Field winding:	0,5092	Ω
Excitation winding:	7,9	Ω			

SHORT CIRCUIT

Short circuit ratio:	0,79	
Sustained short circuit current:	1,8	p.u. (rated excitation)
	> 3.0	p.u. (voltage regulator)
Sudden short circuit current:	3250	A (symmetric RMS)
	8250	A (peak value)

VOLTAGE VARIATION

Maximum allowed amount of starting load:

Maximum voltage drop	Power factor	Load	
15 %	0.1	3150	kVA
15 %	0.4	3400	kVA
15 %	0.8	5450	kVA
20 %	0.1	4400	kVA
20 %	0.4	4800	kVA

Voltage drop at sudden increase of rated load:	14	%
Voltage rise at sudden drop of rated load:	19	%

REACTIVE LOADING

Steady state reactive loading at rated excitation:	4250	KVAR	(lagging)
Steady state reactive loading at zero excitation:	2850	KVAR	(leading)

TORQUE

Rated load torque (Calculated of rated output in kVA): 69500 Nm

The peak values of sudden short circuit air gap torques:

2-phase short circuit:	880	%	3-phase short circuit:	640	%

BEARINGS

D-end: Sleeve, flood lubricated, locked N.D-end: Sleeve, flood lubricated, free

Inclination

Fore-Aft static:	5	Degrees	Fore-Aft dynamic:	7,5	degrees
Athwards static:	15	Degrees	Athwards dynamic:	22,5	degrees
D-end bearing oil flow:	14,0	liter / min	N.D-end bearing oil flow:	4,5	liter / min
Oil viscosity:	ISO VG 68				

HEAT EXCHANGER

Mounting:	Top		Coolant inlet direction:	Left	
Coolant flow:	19	m^3/hour	Heat dissipation in air:	7	kW
Coolant temperature rise:	7	K	Heat dissipation in coolant:	127	kW

TERMINAL CONNECTIONS (Defined facing drive end)

Direction of main connection:	Right down
Direction of zero connection:	Left down

EXCITATION

	Exciter field			
No load:	3,5	A	34,9	V
Rated load:	7,3	A	73,5	V

OTHER

Stored energy constant (rotational energy divided by rated effect):	0,62	s
Earth capacitance (1-phase):	0,11	µF

1 PERFORMANCE DATA (Calculated values)

RATINGS

Output:	6984	kVA	Direction of rotation		
Duty:	S1		(Facing drive end):	CCW	
Voltage:	6600	V	Weight:	21250	kg
Current:	611	A	Inertia:	1380	kgm^2
Power factor:	0.80		Protection by enclosure:	IP44	
Frequency:	60	Hz	Cooling method:	IC8A1W7	
Speed:	720	rpm	Mounting arrangement:	IM1101	
Overspeed:	864	rpm			

STANDARDS

Applicable standard:	IEC
Marine classification:	DNV Offshore
Hazardous area classification:	None
Temperature rise stator / rotor:	F/F
Insulation class:	F

ENVIRONMENTAL CONDITIONS (max. values)

Ambient temperature:	55	°C	Altitude:	1000	masl
Coolant temperature:	37	°C			

ASSUMED DATA

Driving equipment:	Not Specified	
Approx. mech. power:	5755	KW

EFFICIENCY in %

load:		110 %	100 %	75 %	50 %	25 %
Efficiency @ power factor	0.80	97.09	97.06	96.82	96.06	93.34
Efficiency @ power factor	1.00	97.92	97.88	97.66	97.02	94.78

REACTANCES in %

XD (U):	157.5	XD' (S):	25.0	XQ'' (S):	17.0	X0 (U):	9.4
XQ (U):	85.0	XD'' (S):	14.8	X2 (S):	15.9	XP (S):	20.6
X1 (U):	11.6	(S) = Saturated value, (U) = Unsaturated value					

TIME CONSTANTS (SEC.) AT 75 °C

TD0':	2.953	TD':	0.515	TQ0'':	0.1548	TA:	0.109
TD0'':	0.03034	TD'':	0.01888	TQ'':	0.0340		

RESISTANCES AT 20 °C

Stator winding:	0.0219	Ω	Field winding:	0.6013	Ω
Excitation winding:	7.9	Ω			

SHORT CIRCUIT

Short circuit ratio:	0.72	
Sustained short circuit current:	1.7	p.u. (rated excitation)
	> 3.0	p.u. (voltage regulator)
Sudden short circuit current:	4100	A (symmetric RMS)
	10500	A (peak value)

VOLTAGE VARIATION

Maximum allowed amount of starting load:

Maximum voltage drop	Power factor	Load	
15 %	0.1	3900	kVA
15 %	0.4	4300	kVA
15 %	0.8	6900	kVA
20 %	0.1	5500	kVA
20 %	0.4	6000	kVA

Voltage drop at sudden increase of rated load:	15	%
Voltage rise at sudden drop of rated load:	20	%

REACTIVE LOADING

Steady state reactive loading at rated excitation:	5700	KVAR	(lagging)
Steady state reactive loading at zero excitation:	3400	KVAR	(leading)

TORQUE

Rated load torque (Calculated of rated output in kVA): 92600 Nm

The peak values of sudden short circuit air gap torques:

2-phase short circuit:	845	%	3-phase short circuit:	610	%

BEARINGS

D-end: Sleeve, flood lubricated, locked N.D-end: Sleeve, flood lubricated, free

Inclination

Fore-Aft static:	5	Degrees	Fore-Aft dynamic:	7.5	degrees
Athwards static:	15	Degrees	Athwards dynamic:	22.5	degrees

D-end bearing oil flow:	14.3	liter / min	N.D-end bearing oil flow:	4.7	liter / min
Oil viscosity:	ISO VG 68				

HEAT EXCHANGER

Mounting:	Top		Coolant inlet direction:	Left	
Coolant flow:	24	m^3/hour	Heat dissipation in air:	8	kW
Coolant temperature rise:	7	K	Heat dissipation in coolant:	161	kW

TERMINAL CONNECTIONS (Defined facing drive end)

Direction of main connection:	Right down
Direction of zero connection:	Left down

EXCITATION

	Exciter field			
No load:	3.7	A	37.5	V
Rated load:	8.3	A	83.7	V

OTHER

Stored energy constant (rotational energy divided by rated effect):	0.56	s
Earth capacitance (1-phase):	0.13	µF