Turbina a vapore Dresser Rand – Nadrowski tipo B5S-6+G – SN 21124

Description		Guaranteed point values
Inlet steam:		
Flowrate	(kg / h)	14,700
Pressure	(bar a)	39
Enthalpy	(kJ/kg)	3210
Temperature	(°C)	397
Bleed steam :		
Flowrate	(kg / h)	1,450
Pressure	(bar a)	3,24
Enthalpy	(kJ/kg)	2828
Temperature	(°C)	182
Exhaust steam:		
Flowrate	(kg / h)	13,250
Pressure	(bar a)	0,12
Enthalpy	(kJ/kg)	2463
Temperature	(°C)	49,4
Wetness	(%)	5.6
Guaranteed power at generator terminals		**2.600 kW.**

Generatore Indar

SYNCHRONOUS GENERATOR 3 PHASES				TEST REPORT	
CLIENT:	DRESSER-RAND NADROWSKI - ITALIA			Order - No.	C.5004410
Type:	BZK-630-S/4	Service:	S-1	Serial Number:	4010000042
Voltage (V):	3300	Insulation-class:	F	Type of Constr.:	IM-1001
Current (A):	625,5	Thermal-class used:	F	Type of Protec.:	IP-44R
Power (KVA):	3575	Water Temp Max (°C)	---	Type of Cooling:	IC-31
Cos Phi:	0.80	Ambient Temp. (°C):	40 °C	Machine Weight (Tn):	10.5
Frequency (Hz):	50	Heater	2 X 600 W - 230 V		
Speed (rpm):	1500	OIL	VERKOL ASTURUS 3	LUBRICATION	
Sense Of Rotation:	DCHA.	Bearing D.E.	156 gr.	Every 1900 hours	
Exc.-Voltage (V):	45	Bearing N.D.E.	130 gr.	Every 2460 hours	
Exc.-Current (A):	5.4	Water flow:			
Regulator:	BASLER DECS-100				

Riduttore di giri Lufkin

LUFKIN INDUSTRIES, INC. — **POWER TRANSMISSION DIVISION**

GENERAL-PURPOSE GEAR UNITS
LUFKIN STANDARD
PARALLEL SHAFT
DATA SHEET
SI UNITS

Job No	352639
Item No	
Purchase Order No	4500636747
Specification No	
Revision No	A
Date	10/16/07
Page	___ of 4
By	MAIERO J

Applicable To: ○ Proposal ○ Purchase ⊗ As Built

For	DRESSER RAND
Site	
Unit	
Service	
No. Required	1
Manufacturer	LUFKIN
Model No	N1619C
Serial No	30-6652
Driver Type	Steam Turbine
Driven Equipment	Centrifugal Compressor

○ Information To Be Completed By Purchaser ☐ Information To Be Completed By Manufacturer

○ RATING REQUIREMENTS

Driven Equip. Power	Normal		Max
Driver Power	Rated		Max
Gear Rated Power		3050	KW
Torque @ Max Cont. Speed			kg-M
Max Torque		kg-M @	RPM
Rated Speed, RPM			
Input	8444	○ Specified	⊗ Nominal
Output	1500	○ Specified	⊗ Nominal
Allow. Var. In Gear Ratio (+) (-)			%
Max Continuous Speed			RPM
Trip Speed			RPM
Gear Service Factor		1.81	(Min)
Pinion / Gear Hardness		58 RC / 58 RC	
Shaft Assembly Designation			
HS Shaft Rotation Fac'g Cpl'g		○ CW	◒ CCW
LS Shaft Rot Fac'g Cpl'g		○ CW	◒ CCW
HS Shaft End	○ Cylindrical	○ Taper	○ 1-Key ◒ 2-Keys
○ SPLINED	○ Hydraulic Taper		○ Integral Flange
LS Shaft End	◒ Cylindrical	○ Taper	○ 1-Key ○ 2-Keys
○ SPLINED	○ Hydraulic Taper		○ Integral Flange

External Loads:

Other Operating Conditions:

○ INSTALLATION DATA

○ Indoor	○ Heated	○ Under Roof
○ Outdoor	○ Unheated	○ Partial Sides
○ Grade	○ Mezzanine	○
○ Winterization Req'd		○ Tropicalization Req'd

Electrical Area: Class ___ Grp ___ Div ___

Max Allow SPL: ___ dBA @ ___ M

Elevation: ___ M Barometer: ___ kPa abs

Range Of Ambient Temperatures:

	Dry Bulb	Wet Bulb
Normal	°C	°C
Maximum	°C	°C
Minimum	°C	°C

Unusual Conditions: ○ Dust ○ Fumes ○

Notes:

☒ BASIC GEAR DATA

Mechanical Rating	5539	KW	8444/ 1500	RPM
Full Load Power Loss			39.2	KW
Mechanical Efficiency			98.7	%
Pitch Line Velocity			54.2	M/sec
Tooth Pitting Index, "K":				
Actual	3.13	Allowable	N/A	
Tangential Load, "Wt"			56240.4	N
Bending Stress Number, "St":	Pinion		Gear	
Actual	262.8		233.4	
Allowable	N/A		N/A	
Material Index Number			N/A	
Anticipated Sound Press Level			82 dBA @ 1	M
Journal Static Weight Loads:				
Pinion	31.5 kg	Gear	403.5 kg	
WR² Referred To LS Shaft			43.2	kg M²
Breakaway Torque			249.58	N-M @ LS Shaft

☒ CONSTRUCTION FEATURES

TYPE OF GEAR

☒ Reducer	☐ Increaser
☒ Single Stage	☐ Double Stage
☐ Single Helical	☒ Double Helical
☐ Epicyclic	☐

TEETH

Number Of Teeth	Pinion	27	Gear	152
Gear Ratio	5.6296	Center Dist	406.4	mm
Pitch Dia, mm	Pinion	122.601	Gear	690.199
Finish 0.7 (RA)		Agma Geometry Factor "J":		
Pinion	0.491	Gear	0.553	
Helix Angle		28.2482		Degrees
Normal Pressure Angle		20		Degrees
Net Face Width, "FW"	172.72 mm	Pin. L/D	1.90	
Normal Diametral Pitch "PND"	6.35	Backlash	0.305/0.559	mm
Tooth Plating	☐ Recommended	☒ Not Recommended		

MANUFACTURING METHODS	Pinion	Gear
Teeth Generating Process	HOBBED	HOBBED
Teeth Finishing Process	PRECISION GRD	PRECISION GRD
Teeth Hardening Method	CASE (GAS CARBURIZED)	
Gear To Shaft	☐ Integral	☒ Shrunk-On
Rim Attachment	INTEGRAL W/HUB	

Additional Remarks: