



LILLE FRIGG PROJECT

CONDENSATE EXPORT PUMPS

CP 501 A/B

DATASHEETS

Ref. No.: DS-FF-21-26-8000

Date effective : 04.05.92

Revision No. : 05F

Date revised : 7.5.93

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JOB NO. _____ ITEM NO. _____
 PURCH. ORDER NO. _____ DATE _____
 INQUIRY NO. _____ BY _____
 REVISION _____ DATE 12/12-91

**CENTRIFUGAL PUMP DATA SHEET
SI UNITS**

1 APPLICABLE TO: PROPOSAL PURCHASE AS BUILT
 2 FOR _____ UNIT _____
 3 SITE _____ NO. REQUIRED 2
 4 SERVICE Condensate Export PUMP SIZE, TYPE & NO. STAGES 3x10 DA-9/9
 5 MANUFACTURER Ingersoll Rand MODEL DA SERIAL NO. 2105049/1/12
 6 NOTE: INDICATES INFORMATION COMPLETED BY PURCHASER BY MANUFACTURER BY MANUFACTURER OR PURCHASER

GENERAL

8 PUMPS TO OPERATE IN (PARALLEL) _____ NO. MOTOR DRIVEN _____ NO. TURBINE DRIVEN _____
 9 (SERIES) WITH _____ PUMP ITEM NO. _____ PUMP ITEM NO. _____
 10 GEAR ITEM NO. 1 _____ MOTOR ITEM NO. _____ TURBINE ITEM NO. _____
 11 GEAR PROVIDED BY _____ MOTOR PROVIDED BY IR TURBINE PROVIDED BY _____
 12 GEAR MOUNTED BY _____ MOTOR MOUNTED BY IR TURBINE MOUNTED BY _____
 13 GEAR DATA SHEET NO.'S _____ DRIVER DATA SHEETS NO.'S _____ TURBINE DATA SHEET NO.'S _____

OPERATING CONDITIONS

16 CAPACITY, NORMAL _____ (GPM) RATED 93.3 m³/m
 17 OTHER 2240 m³/day
 18 SUCTION PRESSURE MAX/RATED 1 (kPa) (BARG)
 19 DISCHARGE PRESSURE 50 (kPa) (BARG)
 20 DIFFERENTIAL PRESSURE 49 (kPa) (BAR)
 21 DIFFERENTIAL HEAD 608 ** m NPSH AVAILABLE _____ m
 22 HYDRAULIC POWER _____ kW
 23 SERVICE: CONTINUOUS INTERMITTENT (STARTS/DAY _____)

SITE AND UTILITY DATA (CONT'D)

COOLING WATER:
 MIN RETURN _____ kPa BARG MAX ALLOW ΔP _____ (kPa) (BARG)
 WATER SOURCE 80% Fresh water + 20% TEG
 INSTRUMENT AIR: MAX/MIN PRESS 1 (kPa) (BARG)

LIQUID

TYPE OR NAME OF LIQUID Hydro Carbon Condensate
 PUMPING TEMPERATURE
 NORMAL 12 °C MAX 52 °C MIN -10 °C
 SPECIFIC GRAVITY 0.756 @ MAX TEMP (Normal)
 SPECIFIC HEAT Unknown C_p (kJ/kg °C)
 VISCOSITY 4 (cP) @ 12 °C
 MAX. VISCOSITY @ MIN. TEMP. Unknown (cP)
 CORROSIVE/EROSIVE AGENT CO₂ + Water
 CHLORIDE CONCENTRATION (PPM) 1-5 mg salt/l
 H₂S CONCENTRATION (PPM) _____
 LIQUIDS: (3.5.2.11) TOXIC FLAMMABLE OTHER

SITE AND UTILITY DATA

26 LOCATION:
 27 INDOOR HEATED UNDER ROOF
 28 OUTDOOR UNHEATED PARTIAL SIDES
 29 GRADE MEZZANINE _____
 30 ELECTRIC AREA CLASSIFICATION CL _____ GR _____ DIV _____
 31 WINTERIZATION REQD. TROPICALIZATION REQD.

32 SITE DATA:
 33 ELEVATION Approx 5 Level m BAROMETER _____ (kPa abs) (BAR)
 34 RANGE OF AMBIENT TEMPS: MIN/MAX -10 / 25 °C
 35 RELATIVE HUMIDITY: % MAX/MIN 99 / 35

36 UNUSUAL CONDITIONS: DUST FUMES
 37 OTHER _____

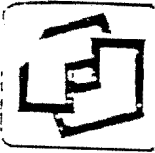
38 UTILITY CONDITIONS:
 39 STEAM: DRIVERS HEATING
 40 MIN _____ (kPa) (BARG) _____ °C _____ (kPa) (BARG) _____ °C
 41 MAX _____ (kPa) (BARG) _____ °C _____ (kPa) (BARG) _____ °C
 42 ELECTRICITY: DRIVERS HEATING CONTROL SHUTDOWN
 43 VOLTAGE _____
 44 HERTZ _____
 45 PHASE _____

46 COOLING WATER:
 47 TEMP. INLET 15 °C MAX RETURN _____ °C
 48 PRESS NORM 7 (kPa) (BARG) DESIGN 12 Max (kPa) (BARG)

PERFORMANCE

RPM 2984
 PROPOSAL CURVE NO. 3x10 DA-2B-4
 IMPELLER DIA RATED I BA MAX 260 MIN 214 mm
 RATED POWER 165 kW EFFICIENCY 71 %
 MINIMUM CONTINUOUS FLOW:
 THERMAL _____ m³/h STABLE 27 m³/h
 MAX HEAD RATED IMPELLER 738 m
 MAX POWER RATED IMPELLER 175 kW
 NPSH REQUIRED AT RATED CAP. 2.6 (m H₂O)
 SUCTION SPECIFIC SPEED 11000
 MAX SOUND PRESSURE LEVEL _____ dBA
 REMARKS: NPSHR @ E.O.C. = 4.6 m

* Approx suction Press. ≈ 3 Barg ** Assume ΔH = 47 Barg = 608 m *** Assume NPSHA ≥ 6m Form. No. 0163 - 50.000 - 91 - Litografar 7346



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DS FF 21 26 8000

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CENTRIFUGAL PUMP DATA SHEET
SI UNITS

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JOB NO. _____ ITEM NO. _____
REVISION _____ DATE _____
BY _____

CONSTRUCTION

MAIN CONNECTIONS:

	SIZE	ANSI RATING	FACING	POSITION
SUCTION	6"	600#	RF	SIDE
DISCHARGE	3"	900#	RF	SIDE
BAL. DRUM	-	-	-	-

OTHER CONNECTIONS

SERVICE	NO.	SIZE	TYPE
DRAIN	3	1.75"	NPT
VENT	1	1.75"	NPT
PRESSURE GAUGE	-	-	-
TEMP GAUGE	-	-	-
WARM-UP	-	-	-

CASING MOUNTING:

- CENTERLINE NEAR CENTERLINE
 FOOT SEPARATE MOUNTING PLATE
 VERTICAL SUMP
 IN-LINE

CASING SPLIT:

- AXIAL RADIAL

CASING TYPE:

- SINGLE VOLUTE DOUBLE VOLUTE
 BARREL DIFFUSER
 STAGGERED VOLUTES VERTICAL DOUBLE CASING

IMPELLER MOUNTED:

- BETWEEN BEARINGS OVERHUNG
 IMPELLERS INDIVIDUALLY SECURED (2.5.4)

CASE PRESSURE RATING:

- SUCTION PRESS. REGIONS OF MULTISTAGE OR DOUBLE CASING PUMP DESIGNED FOR MAXIMUM ALLOWABLE WORK PRESSURE.

ROTATION: (VIEWED FROM COUPLING END)

- CW CCW

REMARKS: _____

SHAFT:

SHAFT DIAMETER AT SLEEVE 60 mm
 SHAFT DIAMETER AT COUPLING 52 mm
 SHAFT DIAMETER BETWEEN BRGS. 61 mm
 SPAN BETWEEN BEARINGS 1753 mm
 SPAN BETWEEN BEARING & IMPELLER 564 mm

REMARKS: _____

COUPLINGS:

MAKE DRIVER-PUMP
 MODEL METARTICAM
 CPLG. RATING (KW / 1000RPM) TSXS 110
 110

COUPLINGS: (CONTINUED)

- LUBRICATION NONE
 LIMITED END FLOAT REQUIRED
 SPACER LENGTH 210 mm
 SERVICE FACTOR 1.5
 DYNAMIC BALANCED AGMA BALANCE CLASS 1
 DRIVER HALF COUPLING MOUNTED BY
 PUMP MFR. DRIVER MFR. PURCHASER
 COUPLING PER API 671

REMARKS: _____

MATERIAL

- TABLE H-1 CLASS S-G
 BARREL/CASE CARBON STEEL IMPELLER 11-13 CR. STEEL
 CASE/IMPELLER WEAR RINGS 11-13 CR. STEEL
 SHAFT AISI 4140 SLEEVE 316SS
 DIFFUSERS _____
 COUPLING HUBS C. STEEL
 COUPLING SPACER C. STEEL
 COUPLING CLAMP/BOLTS SS. STEEL
 API BASEPLATE NUMBER / MATERIAL DRIVE RIM / S.S.
 VERTICAL LEVELING SCREWS (3.3.1.15) 12
 HORIZONTAL POSITIONING SCREWS (3.3.1.14) 3
 REMARKS BUSH - CENTRE BUSH & SLEEVE = NITRONIC 50/60

BEARINGS AND LUBRICATION

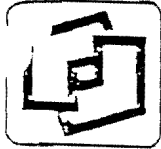
BEARING: (TYPE / NUMBER)

- RADIAL SINGLE ROW BALL /
 THRUST DOUBLE ROW BALL /
 REVIEW AND APPROVE THRUST BEARING SIZE

LUBRICATION:

- GREASE FLOOD RING OIL
 FLINGER PURGE OIL MIST PURE OIL MIST
 CONSTANT LEVEL OILER
 PRESSURE API-610 API-614
 OIL VISC. ISO GRADE _____
 OIL HEATER REQ'D ELECTRIC STEAM
 OIL PRESSURE TO BE GREATER THAN COOLANT PRESSURE

REMARKS _____



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MECHANICAL SEAL OR PACKING

SEAL DATA:

- SPECIAL SEAL DATA SHEET _____
- API MATERIAL CLASS CODE (TABLE H-4) 3TTFN
- SEAL MANUFACTURER FLEXIBOX OR EQUAL
- SIZE AND TYPE TSBP RRSM-0670-ASCY-C80K
- MANUFACTURER CODE _____

SEAL CONSTRUCTION:

- CARTRIDGE MOUNT
- HOOKED SLEEVE OR NON-CARTRIDGE NO SLEEVE
- PUMPING RING
- SLEEVE MATERIAL 316SS
- GLAND MATERIAL 316SS
- AUX. SEAL DEVICE DRY RUNNING BACK-UP SEAL
- JACKET REQUIRED

GLAND TAPS:

- FLUSH (F) DRAIN (D) BARRIER (B)
- VENT (V) COOLING (C)
- QUENCH (Q) HEATING (H)

SEAL FLUIDS REQUIREMENT
AND AVAILABLE FLUSH LIQUID:

NOTE: IF FLUSH LIQUID IS PUMPAGE LIQUID (AS IN FLUSH PIPING PLANS 11 TO 41), FOLLOWING FLUSH LIQUID DATA IS NOT REQUIRED.

- TEMPERATURE (SUPPLY) _____ °C
- TEMPERATURE MIN / MAX _____ / _____ °C
- SPECIFIC GRAVITY _____ @ _____ °C
- NAME OF FLUID _____
- SPECIFIC HEAT _____ $\text{C}_p(\text{kJ/kg } ^\circ\text{C})$
- VAPOR PRESSURE _____ $(\text{kPa abs}) @$ _____ °C
(BAR)
- TOXIC FLAMMABLE OTHER _____
- FLOW RATE MAX / MIN _____ / _____ m^3/h
- PRESSURE REQUIRED MAX / MIN _____ / _____ (kPa) (BARG)
- TEMPERATURE REQUIRED MAX / MIN _____ / _____ °C

BARRIER FLUID:

- SUPPLY TEMPERATURE MIN / MAX _____ / _____ °C
- SPECIFIC GRAVITY _____ @ _____ °C
- NAME OF FLUID _____
- VAPOR PRESSURE _____ $(\text{kPa abs}) @$ _____ °C
(BAR)
- TOXIC FLAMMABLE OTHER _____
- FLOW RATE MAX / MIN _____ / _____ m^3/h
- PRESSURE REQUIRED MAX/MIN _____ / _____ (kPa) (BARG)
- TEMPERATURE REQUIRED MAX / MIN _____ / _____ °C

QUENCH FLUID:

- NAME OF FLUID _____
- FLOW RATE _____ m^3/h

SEAL FLUSH PIPING:

- SEAL FLUSH PIPING PLAN 11/61
- TUBING CARBON STEEL
- PIPE STAINLESS STEEL

SEAL FLUSH PIPING: (CONT'D.)

- AUXILIARY FLUSH PLAN SEAL LEAKAGE PIPE
- TUBING CARBON STEEL
- PIPE STAINLESS STEEL
- PIPING ASSEMBLY:
 - THREADED UNIONS SOCKET WELDED
 - SEAL WELDED FLANGED
- TYPE TUBE FITTINGS _____
- FLOW INDICATOR (PLAN 52/53)
- PRESSURE SWITCH (PLAN 52/53)
- PRESSURE GAUGE (PLAN 52/53)
- TEMPERATURE INDICATOR (PLANS 21, 22, 23, 32, 41)
- HEAT EXCHANGER (PLANS 52/53)

PACKING DATA:

- MANUFACTURER _____
- TYPE _____
- SIZE, AND NO. RINGS _____
- PACKING INJECTION REQUIRED
- FLOW _____ m^3/h @ _____ (kPa) (BARG)
- LANTERN RING _____

COOLING WATER PIPING

- SIGHT FLOW INDICATORS
- MANIFOLD OUTLET VALVE
- GALVANIZED PIPING REQUIRED
- COPPER TUBING REQUIRED
- STAINLESS STEEL TUBING REQUIRED
- COOLING WATER REQUIREMENTS
 - SEAL JACKET / PEDESTAL / BRG HSG _____ m^3/h @ _____ (kPa) (BARG)
 - SEAL HEAT EXCHANGER _____ m^3/h @ _____ (kPa) (BARG)
 - QUENCH _____ m^3/h @ _____ (kPa) (BARG)
 - TOTAL COOLING WATER _____ m^3/h

REMARKS _____

INSTRUMENTATION

VIBRATION:

- NONCONTACTING (API 670) ACCELEROMETER
- PROVISION FOR MOUNTING ONLY
- SEE ATTACHED API-670 DATA SHEET

REMARKS: _____

TEMPERATURE AND PRESSURE:

- RADIAL BRG. METAL TEMP THRUST BRG. METAL TEMP.
- PROVISION FOR INSTRUMENTS ONLY
- SEE ATTACHED API-670 DATA SHEET
- TEMPERATURE GAUGES THERMOWELLS
- OTHER: _____
- PRESSURE GAUGE TYPE _____
- LOCATION _____



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INSTRUMENTATION (CONT'D)

TEMPERATURE AND PRESSURE (CONT'D)

PRESSURE SWITCH TYPE ZONE 2

LOCATION SEAL LEAKAGE

REMARKS _____

SPARE PARTS (TABLE 12)

START-UP

RECONITIONING

CRITICAL SERVICE

SPECIFY 2 hrs

VERTICAL PUMPS (CONT'D)

MIN. SUBMERGENCE REQUIRED _____ m

COLUMN PIPE: FLANGED THREADED

LINE SHAFT: OPEN ENCLOSED

GUIDE BUSHINGS:

BOWL _____ LINE SHAFT _____

GUIDE BUSHINGS LUBE:

WATER OIL

GREASE PUMPAGE

REMARKS _____

MOTOR DRIVE

MANUFACTURER LOHER or coutl

200 kW 2975 RPM

HORIZONTAL VERTICAL

FRAME EHSV 400 M602

SERVICE FACTOR 1.0

VOLTS/PHASE/HERTZ 5.5 KV-3-60

TYPE SOUIRRAL CAGE

ENCLOSURE TEFC-EEEX II

EXPLOSIONPROOF "T" CODE RATING T3

MINIMUM STARTING VOLTAGE _____

TEMPERATURE RISE 70°C

FULL LOAD AMPS _____

LOCKED ROTOR AMPS _____

INSULATION F CLASS 'B' RISE

STARTING METHOD FULL VOLTAGE

BEARINGS BALL

LUBE GREASE

2X THRUST RATING (3.1.4)

VERTICAL SHAFT: SOLID HOLLOW

VERTICAL THRUST CAPACITY

UP _____ N DOWN _____ N

REMARKS _____

APPLICABLE SPECIFICATIONS

API 610, CENTRIFUGAL PUMP FOR GEN. REFINERY SERV.

VENDOR HAVING UNIT RESPONSIBILITY 3TH ED.

GOVERNING SPECIFICATION (IF DIFFERENT)

REMARKS _____

VERTICAL PUMPS

	UP	DOWN
<input type="checkbox"/> PUMP THRUST		
AT MIN FLOW	_____ N	_____ N
AT DESIGN FLOW	_____ N	_____ N
AT RUNOUT	_____ N	_____ N
MAX THRUST	_____ N @	_____ m ² /m

SEPARATE MOUNTING PLATE

DRIVE COMPONENT ALIGNMENT SCREWS

PIT OR SUMP DEPTH _____ m

PUMP LENGTH _____ m

SURFACE PREPARATION AND PAINT

MANUFACTURER'S STANDARD:

OTHER _____

PUMP:

PUMP SURFACE PREPARATION SSPC-SP- _____

PRIMER _____

FINISH COAT _____

BASEPLATE

BASEPLATE SURFACE PREPARATION SSPC-SP- _____

PRIMER _____

FINISH COAT _____

GROUTING REQ'D. (3.3.1.17) YES NO

GROUT SURFACE PREPARATION SSPC-SP- _____

EPOXY PRIMER _____

REMARKS _____

SHIPMENT: (4.4.1)

DOMESTIC EXPORT EXPORT BOXING RECD.

OUTDOOR STORAGE MORE THAN 6 MONTHS

SPARE ROTOR ASSEMBLY PACKAGED FOR :

HORIZONTAL STORAGE VERTICAL STORAGE

TYPE OF SHIPPING PREPARATION IL SD

REMARKS: SUITABLE FOR 6 MONTHS STORAGE

WEIGHTS kg

MOTOR DRIVEN:

WEIGHT OF PUMP (kg) 1535

WEIGHT OF BASEPLATE (kg) 1300

WEIGHT OF MOTOR (kg) 1950



3-PHASE INDUCTION MOTOR

MANUFACTURER: LOHEL

Ref. doc. no.:

Date effective: 04.05.92

TYPE/SIZE:

DS FF 2126 8000

Revision No. : 05F

SERVICE: CONDENSATE PUMP CP 501 A/B

Date revised: 1.7.5.93

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- NOTES: 1. PURCHASER OR DRIVEN EQUIPMENT MANUFACTURER DATA TO BE COMPLETED BY PACKAGE MANUFACTURER
2. MOTOR MANUFACTURER DATA TO BE FILLED IN

GENERAL DATA

PURCHASER OR DRIVEN EQUIPMENT MANUFACTURER DATA

1. RATED VOLTAGE 5500 V 50 Hz
2. RATED SPEED 2985 RPM
3. DUTY TYPE CONTINUOUS
4. CONTINUOUS RATING 200 kW
5. INTERMITTENT RATING N/A kW

38. CROSS SECTION OF FIELD CABLE _____ mm²
39. OUTER SHEATH DIAMETER OF FIELD CABLE _____ mm²
40. CROSS SECTION OF HEATER CABLE _____ mm²
41. OUTER SHEATH DIAMETER OF HEATING CABLE _____ mm²
42. MAIN POWER CABLE GLAND ENTRY _____ mm 450
43. SPACE HEATER CABLE GLAND ENTRY _____ mm 450
44. D.P. SWITCH CABLE GLAND ENTRY _____ mm 450
45. TEMPERATURE SWITCH CABLE GLAND ENTRY _____ mm 450
46. AIR FLOW SWITCH CABLE GLAND ENTRY _____ mm 450
47. BLOWER FAN CABLE GLAND ENTRY _____ mm 450
48. _____

CONSTRUCTION

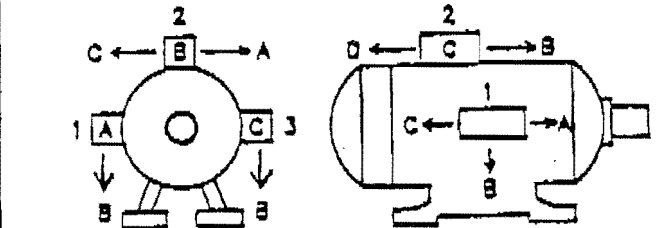
6. STANDARDS AND CODES PTB
7. DEGREE OF PROTECTION IP56
8. INSULATION CLASS F ARMAT. N/A FIELD N/A
9. TEMPERATURE RISE B °C
10. COOLING METHOD IC. OLFST
11. Ex PROTECTION Ex e
12. TEMPERATURE CLASS T3
13. GAS GROUP II
14. PAINT COLOUR SPECIAL OFFSHORE

LOCATION

15. HAZARDOUS AREA CLASSIFICATION ZONE 2
16. AMBIENT TEMPERATURE MAX 22 MIN -10 °C

DRIVEN EQUIPMENT MECHANICAL DATA

17. DRIVEN EQUIPMENT TYPE COND. PUMP
18. MAX POWER ABS. BY DRIVEN EQUIPMENT 155 kW
19. STARTING TORQUE REQUIRED 502 N.M
20. NERTIA OF DRIVEN EQUIPMENT AT RATED SPEED, $W.D^2$ _____ kgm²
21. MOUNTING ARRANGEMENT Hor. Foot
22. DIRECTION OF ROTATION SEEN FROM DRIVING ENCL W
23. COUPLING _____
24. THRUST DIRECTION OF DRIVEN EQUIPMENT _____
25. TRANSIT THRUST _____
26. PERMANENT THRUST _____
27. TYPE OF BEARING USED ON DRIVEN EQUIPMENT BALL
28. DUTY CYCLE CONTINUOUS
29. SPECIAL FEATURE _____



JUNCTION BOXES POSITION AND CABLES ENTRIES

HEATING

30. SPACE HEATER REQUIRED _____ YES/NO
31. SPACE HEATER VOLTAGE 220 V 50 Hz
32. SPACE HEATER ENCLOSURE _____

CABLE AND TERMINAL BOXES

33. TERMINAL BOXES PROTECTION & Ex CERTIF P 56/Ex e
34. CABLE GLAND TYPE _____
35. INCOMING CABLE TYPE _____ mm²
36. CROSS SECTION OF POWER CABLE _____ mm²
37. OUTER SHEATH DIAMETER OF POWER CABLE _____ mm²

EARTHING

49. EARTHING TERMINAL INTERNAL EXTERNAL
50. EARTHING TERMINAL CROSS SECTION _____ mm²
51. MAIN TERMINAL BOX EARTHING _____ mm INSIDE
52. AUX TERMINAL BOX EARTHING _____ mm INSIDE

SPECIAL REQUIREMENTS

53. D.P. SWITCH VOLTAGE N/A
54. D.P. SWITCH ENCLOSURE N/A
55. TEMPERATURE SWITCH VOLTAGE N/A
56. TEMPERATURE SWITCH ENCLOSURE N/A
57. AIR FLOW SWITCH VOLTAGE N/A
58. AIR FLOW SWITCH ENCLOSURE N/A
59. TEMPERATURE SENSORS WINDINGS RTD's
60. TEMPERATURE SENSORS BEARINGS N/A
61. BLOWER FAN VOLTAGE N/A V N/A Hz
62. NAMEPLATE _____ INTERNAL/EXTERNAL
63. TEST _____ ROUTING/COMPLETE



MANUFACTURER: LOWER Ref doc. no. _____
 TYPE/SIZE: _____ DSFF 21265000
 SERVICE: CONDENSATE PUMP CA 501 A/B

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MOTOR MANUFACTURER DATA

GENERAL DATA

70. SERIAL NUMBER 511799-800
 71. RATED POWER CONTINUOUS 200 KW, INTERMITTED _____ KW
 72. RATED SPEED 2985 RPM
 73. MAXIMUM SPEED N/A RPM
 74. MINIMUM CONTINUOUS SPEED N/A RPM
 75. TEMPERATURE RISE FOR P_N 70 K °C
 76. RATED CURRENT I_N 24 A
 77. ARM CURRENT AT 50%, 75%, 100% LOAD N/A A
 78. RATED EXCITATION CURRENT N/A A N/A VOLTAGE -V AC
 79. EFFICIENCY AT 50%, 75%, 100% LOAD 93.45/94.71/95.03%
 80. RATED VOLTAGE 5500 V AC
 81. TYPE OF START D.L.
 82. FULL VOLTAGE / RESISTANCE START _____
 83. 1 STEP _____ ohm
 84. 2 STEP _____ ohm
 85. 3 STEP } N/A ohm
 86. 4 STEP } ohm
 87. 5 STEP } ohm
 88. NUMBER OF CONSECUTIVE STARTS, COLD 3
 89. NUMBER OF CONSECUTIVE STARTS, HOT 2
 90. NUMBER OF STARTS REPEATED PR. HOUR 2
 91. ROTOR INERTIA WJ² 4.35 kgm²
 92. TORQUE AT 50%, 75%, 100% LOAD 640 NM kgm
 93. VIBRATION LEVEL _____
 94. NOISE LEVEL 75.4 db
 95. WEIGHT 2100 kg
 96. ROTOR WEIGHT 430 kg

CERTIFICATION

117. TEST INSTITUTION PTB
 118. CERTIFICATE NUMBER PTB.NR. II B/M
28.167 / PTB.NR. II B/M. 14 123 U
 REMARKS _____
 119. DEVIATIONS FROM REQUIREMENT N/A

CONSTRUCTION

97. INSULATION CLASS ARMATURE N/A FIELD N/A
 98. IMPREGNATION TYPE VPI
 99. COOLING METHOD IC 0157
 100. FRAME SIZE BNSV 400MB 02
 101. FRAME ENCLOSURE MATERIAL STEEL
 102. COOLING FAN MATERIAL BRASS
 103. EXTERNAL FAN COVER MATERIAL STEEL
 104. EXTERNAL NAMEPLATE MATERIAL V2A
 105. INTERNAL NAMEPLATE MATERIAL V2A
 106. SCREWS, BOLTS MATERIAL V2A
 107. BEARING DRIVING END 6314 C3
 108. BEARING NON - DRIVING END 6314 C3
 109. LUBRICATION SYSTEM AND DEVICES GREASE
 110. TYPE OF OIL AND GREASE KLUBER STABURAGS, NBU 12K
 111. OILING AND GREASING FREQUENCY 5600 hrs
 112. PAINTING SPECIAL OFFSHORE
 113. LIFTING LUG YES

HEATING AND ACCESSOIRES

114. SPACE HEATER POWER 0.25 W
 115. BLOWER FAN POWER N/A KW
 116. SPACE HEATER "BLOWER FAN" POWER N/A W