Base Load Power Hub (BLPH)

TDS - Instrument Air Package A-63000

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Revision / Change Log

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ITEM: K-63001 A/B	ROTARY SCREW COMPRESSOR DATASHEET

Notes | Rev.

APPLICABLE TO: ○ PROPOSAL ● PURCHASE ○ AS BUILT

FOR: CROSSWIND | UNIT: PLANT AIR SYSTEM

SITE: BLPH - Hollandse Kust Noord (HKN) | QUANTITY REQUIRED: 2x100%

SERVICE: Instrument Air | MODEL: | SIZE AND TYPE: STA / Dry Screw (Oil free) Compressor

MANUFACTURER: | SERIAL NO.:

DESIGN, MANUFACTURE, INSPECTION AND TESTING SHALL CONFORM TO SPECIFICATION:

INFORMATION TO BE COMPLETED: ○ BY PURCHASER ☐ BY MANUFACTURER ● BY PURCHASER OR MFR.

Altitude: 23.31m ● ≤ Sea Level ○ Other length.med ● Ambient Temp. temp Min: -8.4C Nor. 10.5 Max. +25 Design:

Installation: ○ Indoor ● Outdoor Duty: ● Continuous ○ Standby ○ Intermittent

OPERATING CONDITIONS

			Normal	Design
○ Service: Instrument Air				
P2 ● Composition: Note P2	○ Inlet Capacity	(Sm3/hr)	*	
● Inlet Temperature (Min/Max.): -8.4 / 25 (°C)	○ Discharge Capacity	(Sm3/hr)	by MFR	
○ Molecular Weight: (g/mol)	○ Inlet Pressure (Min/Max.):	(bara)	atm	
○ Inlet Density: (Kg/m3)	○ Outlet Pressure	(bara)	by MFR	
○ Inlet Viscosity: (cP)	○ Diff. Pressure	(bara)	*	
○ Inlet Cp/Cv:	○ Brake Power	(KW)	*	
○ Turndown capacity:	☐ Efficiency (%):		*	
○ Corrosion / Erosion by:	☐ Dew Point Temperature	(°C)	-40	
	☐ Outlet Temp. (Norm./Max.):	(°C)	ambient/*	

CONSTRUCTION

Connections -	Size	Rating	Facing
☐ Suction	BY MFR	BY MFR	BY MFR
☐ Discharge	BY MFR	BY MFR	BY MFR
☐ Vent	BY MFR	BY MFR	BY MFR
☐ Drain	BY MFR	BY MFR	BY MFR

Driver: ● Electric Motor ○ Steam Turbine

☐ Bearing Type: *

☐ Bearing Lube: * ☐ Ring Oil ☐ Pressure ☐ Grease

☐ Compressor Absorbed power *

☐ Power consumption at relief valve set pressure *

☐ Motor Rating - KW *

Coupled Shaft Rot.(viewed from cplg end): * ☐ CW ☐ CCW

☐ Frame Oil Filters - Mfr/Model: *

☐ Rated Speed: * (rpm) Max. Speed: (rpm)

☐ Shaft Seal: * Mfr: *

☐ Design Temp.: * (°C) Upper: Lower:

☐ Seal/Buffer Fluid: Qty (m) *

☐ Design Pressure: * (barg) Upper: Lower:

☐ Seal Fluid Temp. (in/Out): *

☐ Hydrotest Pressure: * (barg)

☐ Seal Fluid Internal Leakage: Qty *

☐ Rotor Design: ☐ Unsymmetrical ○ Symmetrical

☐ Coupling - Mfr/Model/Type: * / * / Flexible Spacer Type

☐ No. Screws: Male:____ Female:____

☐ Size: ☐ Spacer Length: ■ Service factor : > 1.5

☐ Rotor Diameter: * Rotor L/D Ratio:

☐ Rated Power: KW at rpm

☐ Rotor Clearance: *

Driver Half Mounted by: ○ Compr. Mfr ○ Driver Mfr.

☐ Shaft Diameter: *

☐ Timing Gears - *

☐ Shaft End: ☐ Tapered ☐ Cylindrical

☐ Size: Type:

☐ Speed ratio: Service Factor:

G4

ACCESSORIES PER COMPRESSOR

● Non Sparking Coupling guard

● Inlet air filter with local differential pressure indicator and Suction & discharge silencer (If applicable)

● Unloading and depressureization valves

● Pulsation dampeners

P3 ● Capacity control device

● Intercooler and After Cooler (Air cooled)

● Wet Air receiver (If required)

● Discharge check valve and manual isolation valve

● Wet air separator with Automatic condensate drain with block and bypass valves

● Expansion Joint @ inlet and Outlet

● Common Baseplate for Compressor and Driver

● Pressure Relief Valve

MATERIALS

☐ Casing: * ☐ Impeller Hub: *

☐ Rotor: * ☐ Shaft: *

☐ Shaft Sleeve: * ☐ Inlet Damper *

☐ Thrust Bearing: * ☐ Radial Bearing: *

☐ Base: * ☐ Timing Gear: *

☐ Elastomer: * ☐ Bearing Housing:*

TESTING / OVERALL DIMENSIONS

	Req'd	Witnessed	By*
Hydrostatic		●	
Mechanical Run		●	
Shop Performance		●	
Noise		●	
Disassembly		●	
PMI	●		
NDE		●	
Auxiliary consoles and panel FAT		●	
Full Functional		●	
Other:	○		

Dry Weights: (Kg) Comp: * (Kg) Driver: * (Kg)

Lube: * (Kg) TOTAL: * (Kg)

TOTAL Operating Weight: * (Kg)

Dimensions (L x W x H): 6500x2500x2500 (mm/mm/mm)

Remarks: *- Supplier to Advise

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D-63001 A/B & D-63002 A/B — INSTRUMENT AIR DRYER DATA SHEET

APPLICABLE TO: ○ PROPOSAL ● PURCHASE ○ AS BUILT — Rev.

FOR: CROSSWIND — UNIT: PLANT AIR SYSTEM

SITE: BLPH - Hollandse Kust Noord (HKN) — TYPE: Heatless / Desiccant

SERVICE: Instrument Air

MANUFACTURER: * — SERIAL NO.: * — Number Required: 2 x100% (Duty / Standby)

NOTE: INFORMATION TO BE COMPLETED BY: ○ PURCHASER ☐ MANUFACTURER ◉ PURCHASER OR MANUFACTURER

OPERATING DATA

	Normal	Design	
● Flow			(Sm³/hr)
Inlet:	BY MFR	BY MFR	
Outlet:	350,0	350,0	
○ Moisture Content :		%	
○ Inlet Pressure	BY MFR		(bara)
○ Density	*		(kg/m³)
○ Operating Temperature	*		(°C)
● Required Dewpoint :	-40	(°C) @ 10	(bara)
○ ΔP			
☐ Operating	*	◉ Max Allowed BY MFR	(bar)

ACCESSORIES PER DRYER

- ● Diff. Press. Transmitter (per filter)
- ● Indicator Lights
- ● Pressure Gauges
- ● Electric Timer
- ● Relief Valves
- ● Diff. Press. Indicator
- ● Vent / Depressurization Silencer
- ● Isolation and manual change over valves
- ● Flow Indicator /transmitter
- ● Dew point Analyser
- ● Temperature Indicator/ transmitter
- ○ Control Transformer
- ● Blow off Valves
- ● Moisture Switch
- ● Other

FILTERS

- ● Prefilter / Coalescer : No. Required : 2
  - ☐ Manufacturer / Model : Type : Coalescing Cartridge
  - ☐ DP Clean * Max Allowed BY MFR (bar)
  - ■ Micron Removal: 99.9% / 3 micron (max) Design Code : ASME Sec VIII Div.1
  - ☐ Material of Construction -
    - Housing : SS
    - Filter Element : BY MFR
  - ○ Continuous Drainer required
- ● After filter(s) : ○ No. Required : 2
  - ☐ Manufacturer / Model : *
  - ☐ DP Clean * Max Allowed TBC (bar)
  - ■ Micron Removal : 99.9% / 3 micron (max) Type : Particulate cartridge type duplex
  - ☐ Material of Construction - Design Code : ASME Sec VIII Div.1
    - Housing : SS
    - Filter Element : BY MFR

Electrical Area Classification :

- ○ Class : unclassified ○ Group : ○ Div. :
- ○ Zone: ○ Temp Class:
- ○ Gas Group:

☐ SAFETY VALVES
- Number Provided : *
- Manufacturer / Model No. : *
- Material : *
- Set Pressure : * (barG)

☐ PRESSURE INDICATORS
- Number Provided : *
- Manufacturer : *
- Model No. : *
- Range : * (barG)

☐ TEMPERATURE INDICATORS
- Number Provided : *
- Manufacturer : *
- Model No. : *
- Range : * (°C)

CONTROL PANEL INDICATORS

- ● High Inlet Filter ΔP (Alarm)
- ● High Outlet Filter ΔP (Alarm)
- ● High Temperature Alarm
- ● Tower Operating Status (Each Tower)
- ● Normal Operation / Fault (Alarm)
- ● Power On
- ● Moisture (Alarm - High)

CONTROL PANEL FEATURES

- ● Alarm Acknowledge / Silence
- ● Lamp Test
- ● Contacts for Common Trouble Alarm

NOTES

Remarks: * - Supplier to Advise

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D-63001 A/B & D-63002 A/B — INSTRUMENT AIR DRYER DATA SHEET

VESSEL DETAILS

Service : Instrument Air | Manufacturer : | Number Required | Serial Number

VESSEL DESIGN (Refer 1905-RKF-SP-M-00007)

Capacity	*	(m³)	Weight: *	(Kg)
Diameter	*	(mm)	Design Code	ASME Sec VIII Div 1
Height	*	(mm)	Local Registration - ARH/DGM Code Stamp	
Thickness	*	(mm)		
Minimal Corrosion Allowance	*	(µm)		
Corrosion Allowance	*	(µm)		
Design Temperature	90	(°C)		
Design Pressure	12	(barG)		
Hydrotest Pressure	*	(barG)		

PACKAGE CONNECTIONS

		No	Size	Rating / Facing / Type
1	Inlet	*	*	*
2	Outlet of Wet Air			
3	Outlet of dryer			
4	Desiccant Fill	*	*	*
5	Drop Out	*	*	*
6	Vent / Silencer			
7	Relief Valve	*	*	*
8	Drain			

MATERIALS OF CONSTRUCTION

Notes		DESCRIPTION	ASTM NUMBER
	Shell	SS	*
M3	Heads	SS	*
G4	Nozzles	SS	*
	Shell Supports	SS	*

MISCELLANEOUS

Shop Coating	Inspection
Sandblast	Spot Radiography (per Code)
Finish Painting	Hydrotest
Insulation -	Other
Type :	
ASME design w/ Stamp	Skid Weight: * (kg)

Remarks:1. * - Supplier to Advise

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ITEM: V-63001 — INSTRUMENT AIR RECEIVER

APPLICABLE TO: ○ PROPOSAL ● PURCHASE ○ AS BUILT — Rev.

FOR: CROSSWIND — UNIT: PLANT AIR SYSTEM

SITE: BLPH - Hollandse Kust Noord (HKN) — TYPE: VERTICAL VESSEL

SERVICE: Instrument Air

MANUFACTURER: * — SERIAL NO.: * — Number Required: 1x100%

NOTE: INFORMATION TO BE COMPLETED BY: ○ PURCHASER ☐ MANUFACTURER ◉ PURCHASER OR MANUFACTURER

OPERATING DATA

	Normal	Design	
● Flow			(Sm³/hr)
Inlet:	350,0		
Outlet:			
○ Moisture Content :			%
○ Operating Pressure	10		(bara)
○ Density	*		(kg/m³)
○ Operating Temperature	50		(°C)
Required Dewpoint :		(°C) @	(bara)
○ ΔP			
◯ Operating	*	● Max Allowed TBC	(bar)

VESSEL DESIGN

☐ Capacity	22,9	(m³)	☐ Weight: *	(Kg)
☐ Diameter	BY MFR	(mm)	■ Design Code	ASME Sec VIII Div 1
☐ Height	BY MFR	(mm)	■ Local Registration	
☐ Thickness	BY MFR	(mm)		
○ Minimal Corrosion Allowance	*			(µm)
☐ Corrosion Allowance	1.5			(mm)
◯ Design Temperature	90			(°C)
◯ Design Pressure	12			(barG)
◯ Hydrotest Pressure	by code			(barG)

PACKAGE CONNECTIONS

		No	Size	Rating / Facing / Type
1	Inlet	BY MFR	BY MFR	150/RF/WN
2	Outlet	BY MFR	BY MFR	150/RF/WN
3	Instrument LT	BY MFR	BY MFR	TBC/RF/WN
4	Instrument PT	BY MFR	BY MFR	TBC/RF/WN
5	Manhole	1	24"	150/RF/WN
6	Vent / Silencer	BY MFR	BY MFR	150/RF/WN
7	Relief Valve	BY MFR	BY MFR	150/RF/WN
8	Drain	BY MFR	BY MFR	150/RF/WN

MATERIALS OF CONSTRUCTION

	DESCRIPTION	ASTM NUMBER
◯ Shell	LTCS	*
◯ Heads	LTCS	*
◯ Nozzles	LTCS	*
◯ Shell Supports	LTCS	*
◯		

ACCESSORIES

- Diff. Press. Transmitter — ● Level trasmitter
- Indicator Lights
- ● Pressure Gauges — ● Temperature Indicator (tbc)
- Electric Timer — Control Transformer
- ● Relief Valves — Blow off Valves
- ● PSV insulation valves LO — Moisture Switch
- ● Vent / Drain valves — Other
- ● Isolation and manual change over valves

Electrical Area Classification :

○ Class : UNCLASSIFIED ○ Group : ○ Div. :

○ Zone: ○ Temp Class:

○ Gas Group:

☐ SAFETY VALVES
Number Provided : *
Manufacturer / Model No. : *
Material : *
Set Pressure : * (barG)

☐ PRESSURE INDICATORS
Number Provided : *
Manufacturer : *
Model No. : *
Range : * (barG)

☐
TEMPERATURE INDICATORS
Number Provided : *
Manufacturer : *
Model No. : *
Range : * (°C)

MISCELLANEOUS

- ○ Shop Coating — ● Inspection
- ○ Sandblast — ● Spot Radiography (per Code)
- ● Finish Painting — ● Hydrotest
- ○ Insulation - — ● Other
- Type :
- ● ASME design w/ Stamp — ☐ Vessel Weigh * (kg)

NOTES

Remarks: * - Supplier to Advise

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Row	NOTES (If applicable)	Rev.
1	**Process Notes:**	
2	P1. For Utilities & General Site conditions, refer Doc No. K559-2254-PM-PLN-003	
3	P2. Air saturated with water at minimum suction pressure (0.98 bara) and maximum ambient temp (25 ° C).	
4	P3. Capacity control for the compressor shall be based on air demand and automatic. Suitable compressor controls to be provided by vendor. Operating logic	
5	shall be as follows:	
6	- Duty compressor runs either loaded or unloaded condition depending on demand as detected by pressure transmitter on air receiver.	
7	- If instrument air pressure does not fall, duty compressor stops after a predetermined time.	
8	- If instrument air pressure falls, duty compressor starts again.	
9	- When duty compressor is in operation, if the pressure falls below certain level due to abnormal condition or high consumption, standby Compressor to be started.	
10	- Once the pressure is restored, standby compressor stops, and the duty compressor runs loaded or unloaded condition same as normal operation.	
11	- Loading and unloading based on receiver pressure and the setting should be adjustable.	
12	P4. Dry bulb temperature of 55 °C shall be used for air cooler sizing.	
13	P5. Compressor discharge shall be protected with a blocked discharge full flow relief valve (provided on wet air separator) set at its design pressure. Compressor	
14	discharge equipment and piping system up to the package battery limit shall be designed for compressor surge pressure.	
15	P6. Dryer shall operate under the following service conditions:	
16	i) Inlet conditions: Saturated air at 10°C above specified ambient conditions.	
17	ii) Discharge conditions: Less than 10°C above the ambient temperature with an outlet pressure dew point of equal to or less than -10°C.	
18	P7. 20% overdesign margin already included	
19	P8. Design condition of instrument air is 11 barg.	
20	P9.Guaranteed under any Ambient Condition defined in: K559-2254-PM-PLN-003	
21	**Mechanical Notes:**	
22	M1. Acoustic enclosure and enclosure ventilation system if enclosure is required to meet the noise requirements.	
23	M2. Air coolers shall be designed in accordance with Specification for air coolers Doc No;	
24	M3. Coating type shall be selected as per Coating Specification refer Doc No.	
25	M4. Switching between cartridges shall be by pneumatic/electronic valves and shall include applicable instrumentation.	
26	M5. Supplier to advise the regeneration flow rate.	
27	M6. The wet air piping upstream of the Air Dryers Package shall be made of 304LSS.	
28	M7. All piping connections between the item included in scope of supplied shall be provieded by MFR according to piping class 01SS see 123A90-DDL-PP-SP-70000	
29	**Electrical Notes**	
30	E1. Motors rated up to and including 150kW shall be considered as LV Motor.	
31	E2.	
32	E3.	
33	E4.	
34		
35		
36	**Instrumentation Notes**	
37	I1.	
38	I2.	
39	I3.	
40	I4.	
41		
42	**General Notes**	
43	G1. The complete package shall be subjected to a functional test, covering the full range of flow, pressure and temperature.	
44	G2. All flanged openings shall be provided with metal, wooden, or plastic closures. Threaded connections shall be provided with steel caps or plugs.	
45	G3. Preservation of package shall be suitable for a minimum of Twelve (12) months outdoor storage after reaching site.	
46	G4. Supplier shall refer Project ITP (Inspection and Test Plan) attached along with material requisition for detailed inspection and testing requirements.	
47		
48		
49	**PERFORMANCE GUARANTEE**	
50	**PROCESS PERFORMANCE GUARANTEES**	
51	G5. Supplier to provide the following Performance Guarantees of the package.	
52	a) Skid RAM (Reliability, Availability and Maintainability) annual rate > 99%.	
53	b.) Dew point of -40 deg Celsius under the pressure condition of 10 bara.	
54	c.) Final compressed air quality shall be	
	Particle classes: at least Class 2 of Section 5.2 of ISO 8573-1, 2010.	
	Oil classes: at least Class 1 of Section 5.4 of ISO 8573-1, 2010.	
55	d.) Package Outlet capacity of 313 sm3/hr with supply pressure of 9 barg and temperature of 30-50 °C (Max)	
56	e.) BKW required at compressor input shaft (Rated point).	
57	f.) Service life Desiccant.	
58		
59	**Legends:**	
60	TBC - To be Confirmed	
61	STA - Supplier To Advise	
62	TBA - To be Advised	
63	N/A - Not Applicable	

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Data Sheet for Electric LV Motor

1	**Tag No. :**					**Parent Tag No :**	A-63000								
2	**Service :**	INSTRUMENT AIR COMPRESSOR AND DRYER PACKAGE				**Manufacturer :**	STA								
3	**P & ID No. :**					**Model:**	STA								
4	**Site :**	BLPH - Hollandse Kust Noord (HKN)				**Model Rev No. :**	STA								
5	**Project :**	HOLLANDSE KUST NOORD WIND PARK Project				**Serial No. :**	STA								
6	**Purchase Order No. :**	TBA				**Year of Manufacture :**	STA								
8	**GENERAL DATA**					**CONSTRUCTION REQUIREMENTS**						**Project**		**Vendor**	
9	Design Code			IEC 60034 / 60079		Feeder cable	Type (See Note 14)					TBA			
10	Specification						No. of cores					TBA			
11	Type test certificate			Yes			Size				mm²	TBA			
12						Terminal box: Position (Top / LHS / RHS) Looking from DE						STA			
13	**SITE CONDITION**			**Project**	**Vendor**	Cable entry (Bottom / Horizontal)						Bottom			
14	Location (coastal / onshore / offshore)			Offshore		Anti-condensation heaters						See Note 3 & 4			
15	Equipment Location (indoors / outdoors)			Outdoors		Heater supply voltage					V a.c.	230			
16	Special Site Conditions (Cyclonic / Earthquake)			-		Heater rating					W	STA			
17	Duty Cycle			S1		Bearing Type: DE						STA			
18	System voltage		V	See note 1		Bearing Type: NDE						STA			
19	System frequency		Hz	50		Bearing lubricant type						STA			
20	System phase		Ph	See note 1		Bearing lubricant frequency					hr	> 8000			
21	Fault level	min:	MVA 1 sec	N/A		Drain device fitted					Yes / No	STA			
22		max:	MVA 1 sec	80kA (See Note 8)		**DRIVEN EQUIPMENT**						**Project**		**Vendor**	
23	Neutral earthing (Solid / Resistance / Unearthed)			Solid		Type (Pump/compressor/centrifugal/reciprocating)						STA			
24	0					Gearbox					Yes / No	STA			
25		min:	°C	-2		Thrust transmitted to motor					Yes / No	STA			
26		max:	°C	60		Value					Nm	STA			
27	Relative Humidity		%	60		Direction						STA			
28	ATEX Certificate Number			STA		Moment of inertia					kgm²	STA			
29	Equipment Protection Level (EPL)			Gc (Zone 2)		Type of coupling						STA			
30	Gas group			IIC		Pulley Type						STA			
31	Temperature classification			T1		Pulley Size						STA			
32	Hazardous area protection (Ex ...) (See Note 13)			Ex 'd' or Ex 'ec'		Run-up torque speed curve						STA			
33	Degree of Protection to IEC 60529		IP	56											
34	Mechanical Shock Protection to IEC62262		IK	08		**PERFORMANCE DATA (STA)**									
35									Full Load			75%	50% Load		Working
36	**DESIGN DATA**			**Project**	**Vendor**	Current		A							
37	Rating		kW	STA		Power Factor									
38	Full load speed	See note 11	rpm	STA		Efficiency		%							
39	Type of motor (Cage induction / synchronous / slip ring)			Induction		Speed		rpm							
40	Frame No.			STA					100% V				80% V		
41	No. of poles			STA		Run-up time		sec		hot		cold		hot	cold
42	Motor connection (Star / Delta)			STA		Run up Time allowable		sec		hot		cold		hot	cold
43	Insulation Class			F (See note 2)		Safe Stall Time		sec		hot		cold		hot	cold
44	Mounting (Horizontal / vertical / foot / ...)			STA		Time te		sec							
45	Rotation (looking at D.E) (CW / CCW)			STA		Locked Rotor Current (See note10)		x FLC							
46	Enclosure (FEFC / TEFC / ...)			TEFC		Locked Rotor Torque		Nm							
47	Cooling Type (Air / Water)			Air		Pull-up Torque		Nm							
48	Cooling Method (Ducted / free entry) to IEC 60034-6			IC4A1A1		Pull-out Torque		Nm							
49	Water Cooled:					Inertia (WR²)									
50	- Inlet temperature:		°C	N/A		a.) Motor:		kgm2							
51	- Outlet temperature:		°C	N/A		b.) Motor + Driven Equipment		kgm2							
52	- Design working pressure:		kPa(g)	N/A		Anti-cond. Heater Rating						kW			
53	- Design differential pressure:		kPa(g)	N/A											
54	Motor starting (Direct-on-line / VSD)		(See note 9)	DOL		**SPECIAL REQUIREMENTS (STA)**									
55	Switching device (Autotransformer / air /			MCCB +		Weight of motor		kg							
56	vacuum / circuit breaker / contactor)			Contactor		Mass of stator		kg							
57	Max No. of starts per hour			STA		Mass of rotor		kg							
58	No. of sequential starts			2 (See Note 5)		Vibration:									
59	Noise limitations at full load @ 1m		dB(A)	80		Rotor balancing grade (G ...)									
60	**CONDITION MONITORING**					**INSPECTION AND TESTING**									
61	Protective devices:					Inspection					Yes / No	Yes			
62	RTD			See Note 15		Factory Acceptance Test (FAT)					Yes / No / Witnessed	Witnessed			
63	- Vibration monitoring			No		Site Testing (SAT)					Yes / No / Witnessed	No			
64	- Bearing			No		Rotor balance					Yes / No / Witnessed	No			
65	- Thermocouples			No		**ADDITIONAL DATA**									
66	- Humidity detector			No		Paint Finish					Supplier Standard				
67	- Leak detector			No											
68	Local indication (Air / bearing temp.)			No											

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	Data Sheet for Electric LV Motor - Notes
11	**NOTES**
12	1.) Motors rated at less than 0.37kW shall be supplied as 230V, 1ph. Motors equal or over 0.37kW shall be supplied as 400V 50Hz, 3ph Motors.
13	2.) Stator windings shall be provided with Class "F" insulation, but the temperature rise of the machine shall be limited to that applicable to Class "B" insulation.
14	3.) Anti-condensation to be supplied for motors rated above 90kW, or where recommended by Supplier.
15	4.) Anti-condensation heaters to be rated for Zone 2 Gas Group IIC, Temperature Class T1 as a minimum.
16	5.) Motors shall be suitable for two consecutive starts from standstill plus one re-acceleration after 20 minutes operation.
17	6.) Deleted
18	7.) Motors shall be designed and assessed for operation and Hazardous area protection considering the solar gain and expected black body temperature of 90°C, unless they have been protected
19	by shelter of canopy.
20	8.) Where the stated fault current is not achievable the manufacturer / Supplier shall agree with Purchaser and provide adequate data for selection of the protection upstream.
21	9.) VSD driven motors that are for use in hazardous areas shall be been type-tested together with the selected drive model.
22	10.) Locked rotor current should be a maximum of 6 x Full load current
23	11.) Vendor to advise the motor RPM which shall be in accordance with the driven equipment requirement.
24	12.) Motors shall be designed for continuous operation at maximum ambient temperature.
25	13.) Ex 'eb' terminal box preferred, Ex 'n' terminal box is not acceptable
26	14.) Terminal box shall be suitably size to accommodate the EPC Contractor's cables.
27	15.) RTD's to be provided where Hazardous Area certification requires temperature detection device or where recommended by manufacturer.
28	16.) All equipment shall be CE marked with an ATEX category in relation to the design and construction of equipment intended for use in potentially explosive atmosphere.
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ITEM: A-63000 — **EQUIPMENT NOISE DATA SHEET**

APPLICABLE TO: ○ PROPOSAL ● PURCHASE ○ AS BUILT — Rev.

FOR: CROSSWIND — UNIT: PLANT AIR SYSTEM

SITE: BLPH - Hollandse Kust Noord (HKN) — MANUFACTURER:

SERVICE: INSTRUMENT AIR COMPRESSOR AND DRYER PACKAGE — SERIAL NO.:

DESCRIPTION OF EQUIPMENT:

DESIGN, MANUFACTURE & TESTING SHALL CONFORM TO: — ● OTHER:

NOTE: INFORMATION TO BE COMPLETED BY: ● PURCHASER ☐ MANUFACTURER ☐ **PURCHASER OR MANUFACTURER**

GENERAL

LOCATION OF EQUIPMENT: ○ INDOOR ● OUTDOOR ○ UNDER ROOF ○ HEATED ● UNHEATED ○ PARTIAL SIDES

ELEVATION OF EQUIPMENT: ● GRADE ○ MEZZANINE ○ OTHER

EQUIPMENT DESCRIPTION

THE NOISE DATA PROVIDED SHALL BE A COMPOSITE OF THE FOLLOWING EQUIPMENT: (Indicate all that Apply)

	ITEM NUMBER	TYPE OF EQUIPMENT (Compressor, Motor, Valve, etc.)	DESCRIPTION OF EQUIPMENT (Power, Flow Rate, etc.)	MANUFACTURE MODEL NUMBER
● COMPRESSOR				
● DRIVER				
○ OTHER:				

SOUND PRESSURE LEVELS

Sound Pressure Level (L_p) Decibels @ 1 meter

Octave Band Centre Frequency (Hz)	A-Weighted	31,5	63	125	250	500	1000	2000	4000	8000
● Maximum Allowable	**85**									
Guaranteed Values										
☐ Standard equipment										
☐ Equipment with Noise Abatement										
☐ Optional Design										
Expected Values										
☐ Standard equipment										
☐ Equipment with Noise Abatement										
☐ Optional Design										

SOUND POWER LEVELS

Sound Power Level (L_w) Decibels @ 1 meter

Octave Band Centre Frequency (Hz)	A-Weighted	31,5	63	125	250	500	1000	2000	4000	8000
Maximum Allowable										
Guaranteed Values										
☐ Standard equipment										
☐ Equipment with Noise Abatement										
☐ Optional Design										
Expected Values										
☐ Standard equipment										
☐ Equipment with Noise Abatement										
☐ Optional Design										

Sound Level Remarks:

Has the Noise Data Presented been Corrected to Predict the Expected Maximum Noise Level at the Installation Site?

☐ Yes ☐ No — Estimate the Correction to Predict the Expected Maximum Noise Level at the Installation Site:

Add / Subtract: _____ (dBA)

Source of Data: ☐ Test Stand ☐ Field ☐ Shop Floor ☐ Computation ☐ No Data Available

Computational Basis: ☐ Test Data ☐ Field Data ☐ Shop Data ☐ Theory ☐ By Sub vendor ☐ By Consultant

Data Condition: ☐ Semi-Reverberant ☐ Reverberant ☐ Indoor ☐ Outdoor ☐ Free Field ☐ Loaded ☐ Unloaded

☐ Averaged ☐ Maximum ☐ Includes Safety Factor of _____ (dBA)

Additional Remarks: * Description of Noise Abatement:

Notes:
1. L_p - Sound pressure level dB re $2*10^{-5}$ Pa a 1m, Lp - Sound power level dB re 10-12 W
2. Supporting evidence (noise test reports, etc.) for equipment Supplier's quoted noise shall be enclosed
3. Equipment Noise limit shall be as per Project Noise Requirements as defined in datasheet & safety philosophy (Doc No. 1905-RKF-TP-X-00001)

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