

NO COMMENT (WITH NOTE)
Note:
Please issue GAD and Foundation drawing

Commercial offer

Attn.

Seraj Gostaran Rejal Co.

Quotation

Subject: ABT 360 KT/Y PP PLANT Project
Gas Booster compressor
Job no.: SE-01-00573
Airpack reference: 23249-COM rev.1

Zierikzee
Date: March 5th, 2025

Dear Sir / Madam,

With reference to your above mentioned inquiry, we have the pleasure to send you our quotation for the following:

Item	Scope of supply	Price Unit	EURO Total
A.	Equipment no.: PK-6801 One (1) complete packaged skid with: One (1) non lubricated, water cooled, double acting, balanced opposed, horizontal piston gas compressor, Temporary inlet strainer, Pulsation dampers, Intercooler, Direct drive by E-motor, Instrumentation, PLC based control panel (installed remote), Local instrument junction boxes, Interconnecting piping within skid, SS316L instrument tubing, Instrument cabling according IEC 60332, Galvanized cable trays, Heavy duty base frame, Removable four point lifting frame with lifting lugs 100% MPI, First fill of lubricants and consumables. Technical specifications as per item 1 and 2.		

Item Scope of supply

B. Technical features included in base offer

Mechanical design:

- Four point lifting frame with lifting lugs 100% MT tested

Removable lifting frame



Instruments and control:

- PLC based control panel with HMI
- API 520/521 relief valves
- 1/4 " SS316L tubing with Swagelok SS316L double ferrule couplings
- Galvanized cable trays
- Flame retardant instrument cabling IEC 60332
- Nickel plated brass EExd cable glands

LCP with HMI



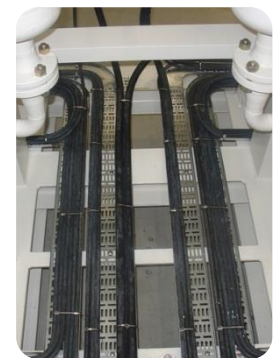
Eexd cable glands



SS316L tubing



Cabling & cable trays



Certificates:

- 3.1 material certificates for:
 - ✓ Pressure retaining parts,
 - ✓ Lifting lugs.

Testing:

- Witnessed FAT (factory acceptance test)
 - ✓ Functional test

Item	Scope of supply	Price Unit	EURO Total
C.	<p>Extra items coming from technical clarifications:</p> <p>Skid anchor bolts, Type-C compressor distance piece, Nickel plated brass cable glands, PDT across compressor suction strainer, Pulsation study acc. API 618 design approach 1, Instrumentation certified Ex'i', Sunshade for local junction boxes, Personnel protection guard for hot surfaces, SIL-2 suitable PLC in simplex configuration (power supply redundant).</p>		Included in base price
D.	<p>Minimum recommended spare parts:</p>		
	<p>One (1) set commissioning/start-up One (1) set for 2 year operation</p>		included included
	<p>Detailed description as per item 3.1 and 3.2.</p>		
	<p>Prices mentioned are only applicable ordered together with the package.</p>		
	<p>Offered spare parts for 2 year operation are sufficient to carry out maintenance on offered compressor during the initial 2-year period. This will be in line with the package IOM manual and maintenance chart.</p>		
E.	<p>Costs for delivery FCA Airpack warehouse* including seaworthy packing</p>		included
	<p>*: ICC publication INCOTERMS 2020 For any seaworthy transportation open flatrack cargo is not allowed. The quoted prices are excluding any local tax, import duties and other charges levied by the government or other authorized entity of the country of equipment destination. Any applicable charges should be borne by the purchaser.</p>		
F.	<p>Documents</p>		
	<p>The above prices are based on delivery of Airpack's standard documentation as mentioned in the Supplier Data Register. Limited extra requirements can be included against extra costs. Only one set of final "as built" documents will be submitted by courier. Documents subject to approval during project stage will be submitted by email only. Index and layout for all documents / reports and P&ID legend will be as per Airpack standard.</p>		

Item Scope of supply

G. Scope of work:

Project management & Engineering for offered package

Manufacturing of offered package

Commissioning and start-up against daily rates

On request Airpack will provide technical training for one (1) day against reduced charge if training is performed at our workshop and combined with FAT. Travel, accommodation and personal cost to be borne by the customer.

For more information regarding our product range, please visit our webpage at <http://www.airpack.nl>.

Should you require any other additional information, please do not hesitate to contact us.

Yours faithfully,
AIRPACK NEDERLAND B.V.

R. Dorreman
Sales Manager

C.c. J.P. Warnar
President

Bank details

Bank : ABN AMRO
Account no. : 52.29.886.36
IBAN : NL45ABNA0522988636
BIC CODE : ABNANL2A
VAT : NL009414058B01

TECHNICAL SPECIFICATION

Item Qty Description

The equipment will be installed outdoors, and shall be suitable for the climate conditions in an area with the following data:

Ambient temperature (min/max) 1 / 55 °C
 Relative humidity (min/max) 5 / 100 %

1.1 1 Gas compressor (1x100%, one operating)

Model RBH-750
 Type non lubricated, balanced opposed
 Acting double
 Gas Composition* (case 1/case 2) 77 70,2 % Propylene
 23 26,2 % Propane
 3,3 % Ethylene
 0,3 % Ethane
 Suction pressure 2,8 / 3,0 bar(g)
 Suction temperature (min/max) 0 / 60 °C
 Capacity (case 1/case 2) 1200 / 1100 kg/h
 Discharge pressure 21 bar(g)
 Discharge temperature (min/max) 84,5 / 96,8 °C
 Power absorbed ~ 58,3 kW
 Number of stages two
 Cooling of cylinders water cooled
 Piston speed 2,47 m/s
 Capacity control 0 to 100 % via by-pass line with control valve (by others)
 Safety valve inlet, 1st, 2nd stage
 Sound pressure level 85 dB(A) at 1 meter distance
 Volumetric efficiency 0,88
 Type of valves disc
 Pulsation dampers at in- and outlet cylinders acc. to ASME VIII, div. 1
 Lubrication pressurised via pump
 Piston/rider ring material PTFE
 Drive direct via coupling

** The assumption is made that no liquids will enter the compressor and suction scrubber is provided by customer.*

1.2 1 Oil cooler

Model RBH-750-O
 Type shell/tube
 Cooling water cooled
 Oil filter and high pressure bypass included

TECHNICAL SPECIFICATION

Item	Qty	Description	
1.3	1	Intercooler	
		Model	RBH-750-I
		Type	shell/tube
		Cooling	water cooled
1.4	1	Electric motor	
		Speed	500 rpm
		Nominal power	75 kW
		Enclosure	IP-55
		Insulation / temperature rise	Class F / Class B
		Power supply	400 V, 50 Hz, 3 ph
		Power factor	0,85
		Efficiency	IE2
		Area classification	Ex II 3G IIC T3, Ex'ec'

1.5 1 Control system

The **UCP** will be of free standing type (IP-42) and will be located in customers control room (safe area). The UCP is **PLC** based and will be supplied with the necessary amount of start, stop, ESD, accept/reset push buttons, display, hour meter and following indication lamps:

- power on
- ESD
- common alarm
- common trip

PLC's are provided with hardwired connections for below signals.
 Serial link connection on request.
 Standard configuration: single, 19200 baud, parity: ODD
 DCS is master, PLC is slave.

The UCP will be provided with text display with membrane keypad.

Following selector switches are included:
 manual-off-auto switch

The following signals will be transmitted from **UCP** to customer control centre/ESD:

- common package alarm
- common package trip
- compressor running
- compressor operational
- dryer running
- dryer operational
- remote ESD
- remote package start/stop

A junction box is included with local/remote selection switch, start, stop, ESD buttons, maintenance switch and following indication lamps:

- power on
- ESD
- common package trip
- common package alarm

TECHNICAL SPECIFICATION

Item	Qty	Description
3.1	1	Spare parts for commissioning and start-up Lot of valve parts Oil filter element
3.2	1	Spare parts for two (2) years operation Lot of piston rings and rider rings Lot of valve parts Gasket sets for compressor Oil filter elements

DESIGN CONSIDERATIONS

1.	Description	Reference number	Rev	Pages
-				
2.	We received the above mentioned specifications. We follow the specifications in the essence of its words, with the comments as mentioned below. Specifications not mentioned above are not received or considered by us. Therefore, cross-references made to specifications or drawings not mentioned above are not considered. Data as mentioned in our 'offer' is applicable as well as our engineering standards as written in our EPM.			
3.	New specifications other than the above mentioned submitted after handover from sales team to project team can be considered against extra costs or Airpack initiative.			
4.	Final deviation list and all clarifications exchanged shall become a part of the MR.			
5.	If applicable; delivery time shall only start from the moment the scope has been agreed between Customer and Airpack.			
6.	All discharge air pipe connections are welded by T-pieces, bends, couplings and flanges for necessary dismounting of items, such as safety valves, check valves, hand valves, etc. Pipe supports as per MFR STD. For gaskets we use flat, non-asbestos type.			
7.	All interconnecting piping, flanges and couplings will be of carbon steel (ASTM A-106 grade B or API-5L-Grade B for piping, A-105 for flanges and couplings). All valves are wafer type. Trunnion mounted valves are not included unless specifically mentioned in our additional items section.			
8.	All instrument tubing will be made of stainless steel tubing 1/4", with compression double ferrule type couplings. All take off points of instruments will be 1/2" NPT for pressure instruments and 3/4" NPT for temperature instruments. Control air tubing will be 1/4".			
9.	Offered equipment is suitable for Ex II 3G IIC T3 acc. to IEC-60079-15.			
10.	Instruments will be of manufacturer's standard provided with 100 mm diameter indication. Transmitters are applied with exception of the dewpoint- and/or oxygen instrument, which is an analyser.			
11.	Transmitters will be supplied with SS316 housing, suitable for offshore applications. Readings are available on the control panel. Instrumentation connection is according to MFR STD (process connection = screwed NPT, electrical connection = metric).			
12.	Instrument hook-up as per MFR STD. Block and bleeds are not included.			
13.	Cable routing will be via galvanized cable trays with cover. Shrouds will not be used.			
14.	Panel manufacturer as per Airpack approved vendor list.			
15.	In the case only one suitable vendor is mentioned on a category of the project/customer AVL Airpack is obliged by international ISO rules to include a total of three (3) vendors. These will be selected from Airpack preferred vendor list.			
16.	With accepting of this offer by form of a Purchase Order, customer obliges itself to make Airpack acquainted with any local laws and regulations.			
17.	Overall sound pressure level of electrical motor driven package at 1 meter distance of package: 85 dB(A). Sound measurement as per Airpack EPM.			
18.	Interconnecting DIN flanges within the confines of the skid can be applied, however customer's connections will be according ANSI B16-5.			

DESIGN CONSIDERATIONS

19. Interconnecting piping, tubing, cabling, between separately delivered packages / skids etc. is not included in scope of supply.
20. Anchor bolts are not included in supply.
21. Design/calculations regarding foundation and anchor bolts is not included in our scope.
22. Skid design is according manufacturer's standard. Welding according to AWS D1.1.
23. Offered equipment will be painted according manufacturer's standard, i.e. two (2) layers of a two pack, high solids modified epoxy coating and one (1) layer of a two pack high solid, aliphatic polyurethane topcoat. Paint will be applied by roller / brush.
24. Welding and weld preparation will be executed according our third party approved procedures / qualifications belonging to the design code (if applicable).
25. All piping sizes are butt welded. Base layer and filling pass GTAW.
26. Applied PLC(s) is/are of Siemens or equal make and are suitable to operate in the severe weather conditions as mentioned in the 'Technical Specifications'. Any ESD relay is suitable SIL 2. Any other SIL requirements, fail safe or redundancy are not considered in this offer. Electrical equipment will be according to manufacturer's standard. Potential free contacts for signal interfacing will be provided.
27. In our policy of continuously improving our product, we preserve the right to re-engineer our installation within the confines of the skid at any stadium of the offer stage. After receipt of the purchase order, we will always ask permission of the customer to re-engineer our installation. The physical function of the re-engineered part within the installation will be maintained.
28. All equipment shall be installed under shelter. Direct sunshine on equipment is not allowed. Weather protection and sunroof to be provided by others.
29. Valve position panels or any other valve positioner indicators are not included in our scope of supply unless specifically mentioned in additional items.
30. The unit is not suitable to operate in ambient temperatures below 1 °C. We have not included anti condensation devices.
31. In case of conflicts about documents vendor shall report and solve them by agreement with buyer. Generally, the following ruling order applies:

First priority	Approved documents such as drawings and datasheets.
Second priority	Technical description and datasheets.
Third priority	Requisition and its other attachments.
Fourth priority	International standards and specifications.
32. Approved documents are binding.
33. Testing and inspection will be done in accordance with our Quality Test & Inspection Plan and Test & Inspection Procedure. These documents will be subject for approval after order.
34. ASME vessel material:
< 24" vessel diameter = ASTM A-106 grade B or API-5L grade B
> 24" vessel diameter = ASTM A-516 grade 70
35. The following witnessed tests will be carried out:
 - Functional test
36. For NDT/NDE we have included only:
 - 100% MT for lifting lugs

DESIGN CONSIDERATIONS

37. The following material certificates to EN 10204 will be available:
 - 3.1 for pressure retaining parts and lifting lugs
 - 2.2 for base frame
38. We use the following programs:
 - Microsoft Office
 - Microsoft Project
 - Autodesk AutoCAD
 - Autodesk Inventor Professional
 - E-plan
39. For our delivery schedule, two factory visit days are considered for expediting. Additional visit days will be charged against our daily rates and have an influence on our delivery time.
40. Kick off meeting at Airpack premises or virtually (MS Teams or equivalent) is included in base price. Attending meetings at customer office (e.g. KOM, HAZOP, design review etc.) can be included against daily rates.
41. Requirements for supervision are against daily rates (for example: installation, start-up, commissioning, integration with existing equipment, etc.).
42. For changes in local legislation, regulations and/or other country specifics directly affecting the further progression of the project Airpack cannot be held responsible. If such occasion shall arise, both parties shall seek a resolution and establish a mutually agreed plan of action.
43. In case customer P&ID is to be followed this will be specifically agreed upon and mentioned in our offer. The same P&ID will be used to determine the final scope. Additional requirements outside this scope can be added against cost and delivery impact.
44. Gas detection and gas suppression system are not included.
45. Piston and rider rings are of Teflon (PTFE).
46. In order to avoid vibrations through the complete skid, Stainless Steel armoured flexible hoses are mounted from the compressor discharge to the solid skid piping.
47. Electric motor starters are not included in our scope of supply. Electric motor test certificate on request.
48. Cooler and pulsation bottle design as per MFR STD.

SUPPLIER DATA REGISTER

Document No.	Description
01	Vendor Document Schedule
02	Legend P&ID
03	P&ID
04	General Arrangement Drawing
05	Wiring Diagram (including Terminal Diagram)
06	I/O List
07	Panel Layout Drawing
08	Inspection & Test Plan (ITP)
09	Utility Consumption and Lubrication List
10	Main Motor Data Sheets
11	Equipment Data Sheets
12	Instrument and Valve Data Sheets
13	FAT Procedure
14	NDE Procedure
15	Package Nameplate Drawing
16	Hydrotest procedure
17	Painting Procedure
18	Index of Data Book
19	Index of Instruction and Operating Manual
20	Control Philosophy
21	Preservation, Packing & Shipping Procedure
22	Modbus list (if applicable)
	FOR INFORMATION ONLY
23	PQR / WPS
24	WPQ

Inspections and test according to Airpack standard quality plan are included. Additional approvals other than the purchaser, e.g. the end user, will be charged against costs.

Information and details are available based on Airpack document layout.

Native files are not available.

CONDITIONS OF SALE

This offer is subject to Airpack order protocol. Airpack order protocol will be available on request after receipt of technical approval for our offer.

1. **TERMS AND CONDITIONS**

Airpack terms and conditions can be found in the following link: [Sales Conditions](#)

2. **DEFINITION OF PRICES**

The given prices are stated in Euro firm and to be understood for EXW Zierikzee* and subject to Atradius approval. Costs of Lloyd's inspector for ASME certified vessels are included, all other third party inspections against costs.

5. **GUARANTEE**

We guarantee the individual components and the overall assembly only when operated at the design conditions as will be determined at the start of the project. Any part to be defective through faulty materials or workmanship will be replaced or repaired for a period of eighteen (18) months from start-up or twenty-four (24) months from delivery, whichever is shorter.

Airpack guarantee applies only when commissioning & start-up has been executed by Airpack supervision team and by use of OEM spare parts provided by Airpack.

6. **VALIDITY**

This offer is valid for a period of three (3) months from offer date. Validity expires end of June 2025.

CONDITIONS OF SALE

7. **DOCUMENT APPROVAL PROCEDURE**

Airpack will consider 10 calendar days document turnaround time. Customer to provide all comments on the first document submission in digital format to ensure readability. Hand-written comments will not be considered. Our response to comments (e.g. justifications, clarifications) will be issued in a Comment Review Sheet (CRS) which will be issued via normal document procedures. CRS document needs to be provided in native file. When all comments on the CRS have been closed, we re-issue the document with a higher revision. This means, a CRS should have a short turnaround time (max. 2 days). This will enable us to maintain the project schedule. After first revision, (major) comments/changes will only be accepted against extra cost and/or extension of delivery time. To maintain quoted delivery time, maximum three (3) revisions for full approval of documents are considered. Any additional revisions will be against extra cost and/or extension of delivery time.

8. **ENGINEERING FREEZING POINTS**

The Key Interface Data, relative to each discipline shall be frozen between Airpack and CLIENT at the dates agreed upon in the KOM at the latest. This does not mean that all drawings shall be in code 3 (full approval) at this time, but that interfaces will not change, either from SUPPLIER nor from CLIENT side.

The purpose of Key Interface Data freezing is to warrant continuation of engineering and production. As such, it is beneficiary to both the supplier as well as the customer. Any comments impacting the Key Interface Data described below, given after the date of freezing can only be followed upon alteration of the contract price and/or delivery date.

- General Arrangement Drawing
 - General layout arrangement of main components
 - Package dimensions
 - Tie in point locations
- P&ID
 - Tie in point MOC, diameter and rating
 - Amount and type of instruments and valves
 - Individual component process details (capacity, (design-) pressure/temperature, dew-point, purity, particle sizes)
 - Design (ASME / PED / ASME STAMP) for individual components
- Wiring diagram
 - Electrical interconnections between Airpack and CLIENT
 - ESD circuit connections
 - PLC configuration
- Instrument and valve datasheets
 - Instrument connections
 - Instrument ranges
 - Instrument hook-up details
 - Valve types and sizes
- Panel layout drawing
- Painting procedure
 - Painting schedule (Color, DFT, make and type of paint)
 - Testing

CONDITIONS OF SALE

- ITP
 - Witness, hold and review points
 - Acceptance criteria
 - Number of tests
 - Amount of test (100%, spot, etc.)

9. **EX WORKS DELIVERY TIME**

Nine to ten (9-10) months after receipt of mutual signed order. Based on the document turnaround time of 10 calendar days and receipt of fully approved key engineering documents based on a maximum of three (3) revisions. In case of conflicts: all contracts will be ruled by Dutch law.

COVID-19 Disclaimer: Due to fluctuating and uncertain lead times and availability of raw materials, semi-finished products and motors, Airpack Nederland B.V. reserves the right to increase production lead times. Lead times will only be increased when attributed to before mentioned issues, and not to Airpack Nederland B.V.'s standard production schedule. Airpack Nederland B.V. will always strive to minimize increase of lead time due to before mentioned.

10. **CONFIDENTIALITY**

All drawings, specifications and technical information provided by the company to the customer are the company's copyright.

The mentioned documents and technical information are confidential and remain the property of the company at all times and the customer shall not (without the previous written consent of the company) copy and such drawing, specifications or technical information, nor show, disclose or give to any third party or communicate the content thereof to any third party or use them in any way otherwise when for the purpose of adjudicating the offer to this contract or for the operation of the goods supplied.

11. **SEAWORTHY PACKING**

Seaworthy packing generally complies with our drawing TDMW - 103 as per below and consists of a removable packing frame of steel covered with underlayment with wooden support of 2 x 3 inch beams. Each critical item will be protected by a separate plastic cover. Switchbox will be filled with desiccant to avoid oxidation.

