|  |
| --- |
| **طرح نگهداشت و افزایش تولید 27 مخزن** |
| **DATA SHEETS FOR MAIN HVAC EQUIPMENT OF EXTENSION OF EXISTING ELECT. BUILDING****نگهداشت و افزایش تولید میدان نفتی بینک** |
|  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |
| D01 | JAN. 2025 | IFA | K.Ahmadi | M.Fakharian | S.Faramarzpour |  |
| D00 | DEC. 2023 | IFC | K.Ahmadi | M.Fakharian | S.Faramarzpour |  |
| **Rev.** | **Date** | **Purpose of Issue/Status** | **Prepared by:** | **Checked by:** | **Approved by:** | **CLIENT Approval** |
| **Class: 1** | **CLIENT Doc. Number:** **F0Z-708868** |
| **Status:** | **IDC: Inter-Discipline Check****IFC: Issued For Comment** **IFA: Issued For Approval** **AFD: Approved For Design** **AFC: Approved For Construction** **AFP: Approved For Purchase****AFQ:** Approved For Quotation **IFI: Issued For Information****AB-R: As-Built for CLIENT Review** **AB-A: As-Built –Approved** |

**REVISION RECORD SHEET**

|  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **PAGE** | **D00** | **D01** | **D02** | **D03** | **D04** |  | **PAGE** | **D00** | **D01** | **D02** | **D03** | **D04** |
| 1 | X | X |  |  |  | 58 |  |  |  |  |  |
| 2 |  | X |  |  |  | 59 |  |  |  |  |  |
| 3 |  | X |  |  |  | 60 |  |  |  |  |  |
| 4 |  | X |  |  |  | 61 |  |  |  |  |  |
| 5 |  | X |  |  |  | 62 |  |  |  |  |  |
| 6 |  | X |  |  |  | 63 |  |  |  |  |  |
| 7 |  | X |  |  |  | 64 |  |  |  |  |  |
| 8 |  | X |  |  |  | 65 |  |  |  |  |  |
| 9 |  | X |  |  |  | 66 |  |  |  |  |  |
| 10 |  | X |  |  |  | 67 |  |  |  |  |  |
| 11 |  | X |  |  |  | 68 |  |  |  |  |  |
| 12 |  |  |  |  |  | 69 |  |  |  |  |  |
| 13 |  |  |  |  |  | 70 |  |  |  |  |  |
| 14 |  |  |  |  |  | 71 |  |  |  |  |  |
| 15 |  |  |  |  |  | 72 |  |  |  |  |  |
| 16 |  |  |  |  |  | 73 |  |  |  |  |  |
| 17 |  |  |  |  |  | 74 |  |  |  |  |  |
| 18 |  |  |  |  |  | 75 |  |  |  |  |  |
| 19 |  |  |  |  |  | 76 |  |  |  |  |  |
| 20 |  |  |  |  |  | 77 |  |  |  |  |  |
| 21 |  |  |  |  |  | 78 |  |  |  |  |  |
| 22 |  |  |  |  |  | 79 |  |  |  |  |  |
| 23 |  |  |  |  |  | 80 |  |  |  |  |  |
| 24 |  |  |  |  |  | 81 |  |  |  |  |  |
| 25 |  |  |  |  |  | 82 |  |  |  |  |  |
| 26 |  |  |  |  |  | 83 |  |  |  |  |  |
| 27 |  |  |  |  |  | 84 |  |  |  |  |  |
| 28 |  |  |  |  |  | 85 |  |  |  |  |  |
| 29 |  |  |  |  |  | 86 |  |  |  |  |  |
| 30 |  |  |  |  |  | 87 |  |  |  |  |  |
| 31 |  |  |  |  |  | 88 |  |  |  |  |  |
| 32 |  |  |  |  |  | 89 |  |  |  |  |  |
| 33 |  |  |  |  |  | 90 |  |  |  |  |  |
| 34 |  |  |  |  |  | 91 |  |  |  |  |  |
| 35 |  |  |  |  |  | 92 |  |  |  |  |  |
| 36 |  |  |  |  |  | 93 |  |  |  |  |  |
| 37 |  |  |  |  |  | 94 |  |  |  |  |  |
| 38 |  |  |  |  |  | 95 |  |  |  |  |  |
| 39 |  |  |  |  |  | 96 |  |  |  |  |  |
| 40 |  |  |  |  |  | 97 |  |  |  |  |  |
| 41 |  |  |  |  |  | 98 |  |  |  |  |  |
| 42 |  |  |  |  |  | 99 |  |  |  |  |  |
| 43 |  |  |  |  |  | 100 |  |  |  |  |  |
| 44 |  |  |  |  |  | 101 |  |  |  |  |  |
| 45 |  |  |  |  |  | 102 |  |  |  |  |  |
| 46 |  |  |  |  |  | 103 |  |  |  |  |  |
| 47 |  |  |  |  |  | 104 |  |  |  |  |  |
| 48 |  |  |  |  |  | 105 |  |  |  |  |  |
| 49 |  |  |  |  |  | 106 |  |  |  |  |  |
| 50 |  |  |  |  |  | 107 |  |  |  |  |  |
| 51 |  |  |  |  |  | 108 |  |  |  |  |  |
| 52 |  |  |  |  |  | 109 |  |  |  |  |  |
| 53 |  |  |  |  |  | 110 |  |  |  |  |  |
| 54 |  |  |  |  |  | 111 |  |  |  |  |  |
| 55 |  |  |  |  |  | 112 |  |  |  |  |  |
| 56 |  |  |  |  |  | 113 |  |  |  |  |  |
| 57 |  |  |  |  |  | 114 |  |  |  |  |  |

**CONTENTS**

[1.0 INTRODUCTION 4](#_Toc186623823)

[2.0 Scope 4](#_Toc186623824)

[3.0 NORMATIVE REFERENCES 5](#_Toc186623825)

[3.1 Local Codes and Standards 5](#_Toc186623826)

[3.2 International Codes and Standards 5](#_Toc186623827)

[3.3 ENVIRONMENTAL DATA 6](#_Toc186623828)

[4.0 DATA SHEET FOR AIR CONDITIONING UNIT (SPLIT UNIT) 7](#_Toc186623829)

[5.0 DATA SHEET FOR FAN FILTER UNIT 10](#_Toc186623830)

[6.0 DATA SHEET FOR EXHAUST FAN 11](#_Toc186623831)

D01

1. **INTRODUCTION**

Binak oilfield in Bushehr province is a part of the southern oilfields of Iran, is located 20 km northwest of Genaveh city.

With the aim of increasing production of oil from Binak oilfield, an EPC/EPD Project has been defined by NIOC/NISOC and awarded to Petro Iran Development Company (PEDCO).Also PEDCO (as General Contractor) has assigned the EPC-packages of the Project to "Hirgan Energy - Design and Inspection" JV.

D01

**GENERAL DEFINITION**

The following terms shall be used in this document.

|  |  |
| --- | --- |
| CLIENT:  | National Iranian South Oilfields Company (NISOC)  |
| PROJECT: | Binak Oilfield Development – General Facilities |
| GENERAL CONTRACTOR (GC):  | Petro Iran Development Company (PEDCO) |
| EPC CONTRACTOR: | Joint Venture of :Hirgan Energy – Design & Inspection(D&I) Companies |
| VENDOR: | The firm or person who will fabricate the equipment or material. |
| EXECUTOR:  | Executor is the party which carries out all or part of construction and/or commissioning for the project. |
| THIRD PARTY INSPECTOR (TPI): | The firm appointed by EPD/EPC CONTRACTOR (GC) and approved by CLIENT (in writing) for the inspection of goods. |
| SHALL: | Is used where a provision is mandatory. |
| SHOULD: | Is used where a provision is advisory only. |
| WILL:  | Is normally used in connection with the action by CLIENT rather than by an EPC/EPD CONTRACTOR, supplier or VENDOR |
| MAY:  | Is used where a provision is completely discretionary. |

1. **Scope**

The scope of this document is to prepare minimum requirement in order to provide “Data Sheets for Main HVAC Equipment “and is issued for Detail Design Phase of project.

1. **NORMATIVE REFERENCES**

## Local Codes and Standards

D01

* IPS Iranian petroleum standards
* INBC Iranian National Building Code

## International Codes and Standards

* ASTM American Society for Testing Materials Relevant Parts
* API 610 Centrifugal Pumps for General Refinery Service, 10th Edition
* ISO 15156 Petroleum and Natural Gas Industries. Materials for use in H2S Containing Environments in Oil and Gas

Production

* AMCA Air Movement and Control Association
* ANSI American National Standards Institute.
* ASHRAE American Society of Heating, Refrigeration and Air-conditioning Engineer
* ASTM American Society for Testing and Material
* BOCA Building Officials and Code Administrators international
* BS British Standards
* CIBSE Chartered Institute of Building Services Engineers.
* NFPA National fire protection association
* SBCCI Southern Building Code Congress International
* SMACNA Sheet Metal and Air Conditioning Contractors’ National Association
* AWWA [American Water Works Association](http://www.awwa.org/)
* ASME [The American Society of Mechanical Engineers](https://www.asme.org/)

Note: The latest issued or revised edition of all above mentioned codes and standards shall be considered as reference.

## ENVIRONMENTAL DATA

D01

* Latitude 29° 73’ N
* Longitude 50° 35’ E
* Elevation 10 m
* Summer dry bulb temperature : 41° C
* Summer wet bulb temperature : 30.5° C
* Summer daily range temperature : 15.0° C
* Winter dry bulb temperature : 6° C
* Winter relative humidity : 78%

Refer to "Process Basis of Design; Doc. No BK-GNRAL-PEDCO-000-PR-DB-0001.

1. **DATA SHEET FOR AIR CONDITIONING UNIT (SPLIT UNIT)**

D01

|  |  |
| --- | --- |
| **UNIT IDENTITY** | **REF. CODE FOR EQUIPMENT** |
| **TYPE** | **BLDG. NAME** | **TAG NO.** |
| Wall Mounted Type Split Unit | Elect. Building | 202-SUI/SUO-GCSEB-01 |
| **Descriptions** | **Technical Requirement** | **Manufacturer Proposal** |
| Service Area | Capacitor Bank |  |
| Quantity | 2 Set(2 Indoor & 2 Outdoor) |  |
| Operation Condition | 1 Duty / 1 Standby |  |
| Design Condition | Summer | DB. Temp. (°C) | 41.0 |  |
| WB. Temp. (°C) | 30.5 |  |
| Winter | DB. Temp. (°C) | 6.0 |  |
| Elevation (M) | 10.0 |  |
| Ambient Temperature For Condenser Air Inlet (°C) | 50.0 |  |
| Total Actual Cooling Capacity@ Ambient Temp./ Each (Kw- Btu/Hr) | 8.49 - 28980 |  |
| Heating Capacity / Each (Kw- Btu/Hr) | 0.66 - 2258 |  |
| Heat Pump | Yes |  |
| Supply Air Flow (Cmh) | (\*) |  |
| Indoor Air Temp. (°C) | Summer | 30 |  |
| Winter | 10 |  |
| Power Consumption (Kw) | (\*) |  |
| Electric Power | 230/1/50 |  |
| Size (Cm) Indoor - Outdoor | (\*) |  |
| Weight (Kg) Indoor - Outdoor | (\*) |  |
| Filter | Washable or Replacement Filter |  |
| Refrigerant Type | R410A or R134A |  |
| Fan Motor IP | Indoor Unit | IP-44 |  |
| Outdoor Unit | IP-44 |  |
| Fan Motor Shall Be Explosion Proof | No |  |
| Maximum Allowable Noise Level dB. | Indoor Unit | 45 |  |
| Outdoor Unit | 65 |  |
| Area Classification | Non-Hazardous |  |
| Model | (\*) |  |
| Dimensions & Weight (Mm – Kg) | (\*) |  |
| Remark s: | With Thermostat & All Standard Accessory-T3 |  |

Note: Cooling capacity shall be rated for site outdoor temperature and indoor set point.

(\*)To Be Specified By Vendor

|  |  |
| --- | --- |
| **UNIT IDENTITY** | **REF. CODE FOR EQUIPMENT** |
| **TYPE** | **BLDG. NAME** | **TAG NO.** |
| Cassette Type Split Unit | Elect. Building | 202-SUI/SUO-GCSEB-02 |
| **Descriptions** | **Technical Requirement** | **Manufacturer Proposal** |
| Service Area | High Voltage Room |  |
| Quantity | 4 Set(4 Indoor & 4 Outdoor) |  |
| Operation Condition | 2 Duty / 2 Standby |  |
| Design Condition | Summer | DB. Temp. (°C) | 41.0 |  |
| WB. Temp. (°C) | 30.5 |  |
| Winter | DB. Temp. (°C) | 6.0 |  |
| Elevation (M) | 10.0 |  |
| Ambient Temperature For Condenser Air Inlet (°C) | 50.0 |  |
| Total Actual Cooling Capacity@ Ambient Temp./ Each (Kw- Btu/Hr) | 9.06 - 30955 |  |
| Heating Capacity / Each (Kw- Btu/Hr) | 0.50 - 1736 |  |
| Heat Pump | Yes |  |
| Supply Air Flow (Cmh) | (\*) |  |
| Indoor Air Temp. (°C) | Summer | 30 |  |
| Winter | 10 |  |
| Power Consumption (Kw) | (\*) |  |
| Electric Power | 400/3/50 |  |
| Size (Cm) Indoor - Outdoor | (\*) |  |
| Weight (Kg) Indoor - Outdoor | (\*) |  |
| Filter | Washable or Replacement Filter |  |
| Refrigerant Type | R410A or R134A |  |
| Fan Motor IP | Indoor Unit | IP-44 |  |
| Outdoor Unit | IP-44 |  |
| Fan Motor Shall Be Explosion Proof | No |  |
| Maximum Allowable Noise Level dB. | Indoor Unit | 45 |  |
| Outdoor Unit | 65 |  |
| Area Classification | Non-Hazardous |  |
| Model | (\*) |  |
| Dimensions & Weight (Mm – Kg) | (\*) |  |
| Remark s: | With Thermostat & All Standard Accessory-T3 |  |

Note: Cooling capacity shall be rated for site outdoor temperature and indoor set point.

D01

(\*)To Be Specified By Vendor

|  |  |
| --- | --- |
| **UNIT IDENTITY** | **REF. CODE FOR EQUIPMENT** |
| **TYPE** | **BLDG. NAME** | **TAG NO.** |
| Cassette Type Split Unit | Elect. Building | 202-SUI/SUO-GCSEB-03 |
| **Descriptions** | **Technical Requirement** | **Manufacturer Proposal** |
| Service Area | Low Voltage Room |  |
| Quantity | 4 Set(4 Indoor & 4 Outdoor) |  |
| Operation Condition | 2 Duty / 2 Standby |  |
| Design Condition | Summer | DB. Temp. (°C) | 41.0 |  |
| WB. Temp. (°C) | 30.5 |  |
| Winter | DB. Temp. (°C) | 6.0 |  |
| Elevation (M) | 10.0 |  |
| Ambient Temperature For Condenser Air Inlet (°C) | 50.0 |  |
| Total Actual Cooling Capacity@ Ambient Temp./ Each (Kw- Btu/Hr) | 15.30 - 52256 |  |
| Heating Capacity / Each (Kw- Btu/Hr) | 0.47 - 1601 |  |
| Heat Pump | Yes |  |
| Supply Air Flow (Cmh) | (\*) |  |
| Indoor Air Temp. (°C) | Summer | 30 |  |
| Winter | 10 |  |
| Power Consumption (Kw) | (\*) |  |
| Electric Power | 400/3/50 |  |
| Size (Cm) Indoor - Outdoor | (\*) |  |
| Weight (Kg) Indoor - Outdoor | (\*) |  |
| Filter | Washable or Replacement Filter |  |
| Refrigerant Type | R410A or R134A |  |
| Fan Motor IP | Indoor Unit | IP-44 |  |
| Outdoor Unit | IP-44 |  |
| Fan Motor Shall Be Explosion Proof | No |  |
| Maximum Allowable Noise Level dB. | Indoor Unit | 45 |  |
| Outdoor Unit | 65 |  |
| Area Classification | Non-Hazardous |  |
| Model | (\*) |  |
| Dimensions & Weight (Mm – Kg) | (\*) |  |
| Remark s: | With Thermostat & All Standard Accessory-T3 |  |

Note: Cooling capacity shall be rated for site outdoor temperature and indoor set point.

D01

(\*)To Be Specified By Vendor.

D01

1. **DATA SHEET FOR FAN FILTER UNIT**

|  |  |
| --- | --- |
| **UNIT IDENTITY** | **REF. CODE FOR EQUIPMENT** |
| **TYPE** | **BLDG. NAME** | **TAG NO.** |
| Horizontal | Elect. Building | 1202-FFU-GCSEB-01 |
| **Descriptions** | **Technical Requirement** | **Manufacturer Proposal** |
| Unit Location | Roof |  |
| Service Area | Capacitor Bank + CO2 Room |  |
| Quantity | 1 |  |
| Type | Horizontal Fan Filter Unit |  |
| Service | Supply Air |  |
| Flow Rate (L/S) | 181.3 |  |
| External Static Pressure (Pa) | 166.474 |  |
| Maximum Fan RPM | 1500 |  |
| Filter | Sand Tarp Louver | Yes ( Before Intake Damper) |  |
| V-Type Aluminum Filter | Yes (Before Fan) |  |
| Bag Filter (95% Efficiency) | Yes (After Fan) |  |
| Motorize Damper (With All Accessories ) | Intake  | Opposite Blade (\*\*) |  |
| Outlet  | No |  |
| Motor | Type | Electrical Motor |  |
| Horse Power  | (\*) |  |
| Voltage / Phase / Cycle | 230/1/50 |  |
| Protection Class | IP-45 |  |
| Fan Efficiency (%) | (\*) |  |
| Type Of Bearings  | Direct Driven Electric Motor |  |
| Maximum Sound Level (db.) | (\*) |  |
| Allowable Noise Level @ 1 Meter From Unit (db) |  65 (\*) |  |
| Approximate Overall Dimensions (Mm)  | (\*) |  |
| Approximate Operating Weight (Kg) | (\*) |  |
| Casing Material | (\*) |  |
| Propeller Material | (\*) |  |
| Fan Motor Shall Be Explosion Proof  | No |  |
| Model | (\*) |  |
| Remarks : | Equipped With Bird Mesh |  |

Note: Total Pressure Drop (External + Internal) Shall Be Specified By Vendor. Fan Motor Shall Be Selected for Maximum Power Plus 20% Spare Capacity.

(\*)To Be Specified By Vendor.

D01

(\*\*)Actuated for Shutting off by F&G System Signal.

1. **DATA SHEET FOR EXHAUST FAN**

|  |  |
| --- | --- |
| **UNIT IDENTITY** | **REF. CODE FOR EQUIPMENT** |
| **TYPE** | **BLDG. NAME** | **TAG NO.** |
| Utility Ex. Fan | Elect. Building | 1202-EF-GCSEB-01 |
| **Descriptions** | **Technical Requirement** | **Manufacturer Proposal** |
| Unit Location | Roof |  |
| Service Area | Capacitor Bank + CO2 Room |  |
| Quantity | 1 |  |
| Type | Utility Ex. Fan |  |
| Service | Exhaust |  |
| Flow Rate (L/S) | 181.3 |  |
| External Static Pressure (Pa) | 189.118 |  |
| Maximum Fan RPM | (\*) |  |
| Motor | Type | Electrical Motor |  |
| Horse Power  | (\*) |  |
| Voltage / Phase / Cycle | 230/1/50 |  |
| Protection Class | IP-45 |  |
| Fan Efficiency (%) | 1500 |  |
| Type Of Bearings  | Direct Driven Electric Motor |  |
| Maximum Sound Level (db.) | (\*) |  |
| Allowable Noise Level @ 1 Meter From Unit (db) | 65 (\*) |  |
| Approximate Overall Dimensions (Mm)  | (\*) |  |
| Approximate Operating Weight (Kg) | (\*) |  |
| Casing Material | (\*) |  |
| Propeller Material | (\*) |  |
| Fan Motor Shall Be Explosion Proof  | No |  |
| Model | (\*) |  |
| Remarks : | Equipped With Bird Mesh and Gravity Damper |  |

Note: Total Pressure Drop (External + Internal) Shall Be Specified By Vendor. Fan Motor Shall Be Selected for Maximum Power Plus 20% Spare Capacity.

(\*)To Be Specified By Vendor.

D01