# 2 台套 SOLAR T70 燃气轮机机组信息

2sets of SOLAR T70 gas turbine unit information(2004,Used )

XXX 公司从油田购买了 2 套索拉 T70 燃气轮机发电机组，用于给两个新建厂区供电。 油田电站项目 2004 年交工，2005 年投用至 2012 年累计运行约 10000h。2013 年以后，由 于油田区域电网稳定，不需进行燃气轮机发电并网，两套燃气轮机闲置。该公司采购 2 台机

组后，1 台燃机在工厂运行了 13000 小时，累计该燃机运行 23000 小时，另 1 台到场后闲

置，运行时间 10000 小时。

Background

XXX Company purchased two Solar T70 gas turbine generator sets from the oil field for the power supply of two new plant.

The oilfield power station project was handed over in 2004, put into use in 2005 and operated for a total of about 10,000 hours in 2012. After 2013, due to the stability of the regional power grid of the oil field, there was no need to connect gas turbines to the grid, and the two sets of gas turbines were idle. After the company purchased two units, one gas turbine ran 13,000 hours in the factory, and the total operation time of this gas turbine was 23,000 hours, and the other one was idle after arrival factory, and the operation time was 10,000 hours.

1. 现场调研内容

1. On-site survey content 燃机发电机组厂区配置有完整的辅助系统，含燃料气处理系统、压缩空气系统、高低压

电系统、控制系统等。燃气轮机发电机组、二氧化碳灭火柜布置在厂房内，空气过滤器布置 于厂房外引气，机组排气设计有排气烟囱，直接放空，机罩及发电机排风引致厂房外，燃料 气处理撬布置在厂房外，处理撬至机组间管路设计有电伴热及保温，机组控制设备布置在另 建的主控楼内。

The plant area of the gas turbine generator set is equipped with a complete auxiliary system, including fuel gas processing system, compressed air system, high

and low voltage electrical system, control system, etc. The gas turbine generator

set and carbon dioxide fire extinguishing cabinet are arranged in the plant, the air filter is arranged outside the plant to entrap the air, the exhaust of the unit is designed to have an exhaust chimney and direct vent, the hood and the generator exhaust cause the exhaust outside the plant, the fuel gas treatment skid is arranged outside the plant, the pipeline between the treatment skid and the unit is designed to have electric heat tracing and insulation, and the control equipment of the unit is arranged in a separate main control building.

1.1 机组为撬装结构，燃气轮机、发电机、齿轮箱、启动系统、滑油系统（除冷却器外）、 燃料系统（除撬外安装燃料气过滤器），所有设备安装在撬上，并封闭在机罩内，机组采用 简单循环运行方式，底座有底部支撑，长 10.414 米，宽 2.794 米。

* 1. The turbine unit is a skid-mounted structure. The gas turbine, generator, gearbox, starting system, lubricating oil system (except cooler), fuel system (fuel gas filter installed outside the skid), all equipment are installed on the skid and enclosed in the hood. The unit adopts a simple circulation operation mode. The base has a bottom support and is 10.414 meters long and 2.794 meters wide.

1.2 润滑油系统：燃机核心机、发电机、齿轮箱采用同一套矿物油润滑油系统，滑油冷 却器采用风冷，润滑油系统全部设备由索拉公司配套供应。

* 1. Lubricating oil system: The core engine, generator and gearbox of the gas turbine use the same mineral oil lubricating oil system. The lubricating oil cooler is air-cooled. All equipment of the lubricating oil system is supplied by Solar.

1.3 燃料气系统：燃料气处理撬为油田委托设计院设计，自行采购设备，组装而成，为 燃气轮机用天然气进行过滤、加热，厂区内设有燃料气处理区。

* 1. Fuel gas system: The fuel gas processing skid is designed by the oil field commissioned design institute, and the equipment is purchased and assembled by itself. It is used to filter and heat the natural gas used by the gas turbine. A fuel gas processing area is set up in the factory.

1.4 进气系统：进气系统采用自清式空气过滤器，系统包括空气过滤器、进气管道、消 音器等。空气过滤器由索拉公司供应，包括过滤单元、反吹装置、控制系统、与机罩相连的 弯头、进气消音器、支撑架、维修平台及扶梯，由索拉配套。

* 1. Air intake system: The air intake system uses a self-cleaning air filter, and

the system includes an air filter, an air intake duct, a silencer, etc. The air filter is supplied by Solar, including a filter unit, a backflush device, a control system, an elbow connected to the hood, an air intake silencer, a support frame, a maintenance platform and an escalator, which are provided by Solar.

1.5 其他：排气系统、机箱冷却空气系统、压缩空气系统、清洗系统、机罩、消防系统 机组控制系统、燃料气进气散件阀门，均由索拉成套供货，目前处于静置状态。

* 1. Others: Exhaust system, crate cooling air system, compressed air system, cleaning system, hood, fire protection system unit control system, fuel gas intake valve, all are supplied as a complete set by Solar and are currently in a static state.



2. 机组动向

业主将两套燃气轮机机组从油田搬迁至两个工业园区，主要负责为工厂提供电。两台机 组到工厂后，只有一个园区启用了其中一台，这台机组在工厂运行了 13000 小时左右，后 来由于电网稳定，工厂关闭了该台燃机。现业主计划将两台燃机出售。

1. Unit movement

The owner relocated two sets of gas turbine units from the oil field to two industrial park, mainly responsible for providing electricity to the factory. After the two units arrived at different factory, only one of the units was used, and this unit operated in the factory for about 13,000 hours, and then the factory shut down the gas turbine because of the stability of the grid. The owner plans to sell the two turbines.

3.燃气轮机运行状况：

1 号燃气轮机，在 2004 年交工后，调试阶段，1 号燃气轮机返厂大修，进行过整机更

换。更换后的 1 号燃机在油田运行近 10000h，在工厂运行 13000hr,机组大修期为 32000 小时，未到大修时间，至今未进行过机组大修。

2 号燃气轮机，在 2004 年交工后，在油田机运行近 10000h，搬迁至工厂后未到大修 时间，至今未进行过机组大修。

目前可以查到的机组运行维护记录：最晚为 2008 年 9 月 2 套机组进行 8000h 保养计 划。

1. Gas turbine running conditions:
2. No. 1 gas turbine, after completion in 2004, during the commissioning phase, No. 1 gas turbine was returned to the factory for overhaul and the whole core turbine was replaced. After replacement, the No. 1 gas turbine has been running for nearly 10,000 hours in the oil field and 13000hr in the new plant. The turbine overhaul period is 32,000 hours, which has not reached the overhaul time, and no unit overhaul has been carried out so far.

No. 2 gas turbine, after completion in 2004, has been running for nearly 10,000 hours in the oil field, but has not been overhauled since it was moved to the factory. So far, the unit has not been overhauled.

At present, the unit operation and maintenance records that can be found: The latest is to carry out 8000h maintenance plan for 2 sets of units in September 2008.

4.燃气轮机参数信息

1. Gas turbine parameter information: 型号：SOLAR TAURUS 70

版本：10301/10301AXI

燃机功率： 7520KW

燃机转速：15158 RPM@60Hz 15143RPM@50Hz

燃料类型： 天然气 发电机额定发电功率：7200kw，供货厂家为 IDEAL 电压：10500V

频率：50 Hz

尺寸 L\*W\*H(m)：10.4\*2.8\*3.3 出厂时间：2004 运行时间：23214hr/10000hr

1. Product specifications and technical parameters: Model: SOLAR T70

Version:10301/10301AXI

Gas turbine power: 7520KW

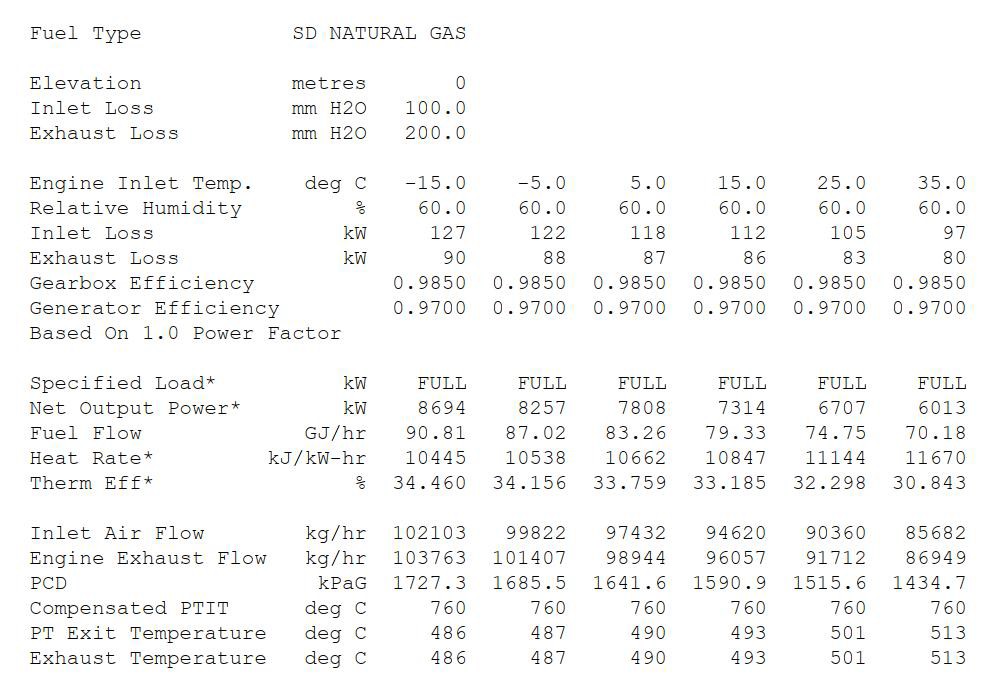
Gas turbine speed: 15158 RPM@60Hz 15143RPM@50Hz Generator: rated power 7200kw, IDEAL.

Fuel type: Natural gas Voltage: 10500V Frequency: 50 Hz

Dimensions L\*W\*H(m): 11.1\*2.5\*3.3 Manufacture Year: 2004

Running time: 23214hr/10000hr

5.供货范围： 主机：发动机、齿轮箱、发电机，机座、机罩



燃料调节系统：关断阀、调节阀、计量等 润滑冷却系统：润滑油泵，滑油冷却器，油雾分离器 机组交直流系统：AC/DC 以及启动变频器 燃机进气系统：进气过滤罩，进气消音器、风道 机罩通风系统：进排气风机，风阀，消音器，风道

机组 CO2 灭火系统：探测器，报警器，控制系统，管路，CO2 瓶柜 机组启动装置：启动电机 机组控制系统：机组控制柜，控制系统软硬件

1. Scope of supply:

Main engine: engines, gearbox, generators, engine base, container Fuel regulation system: shut-off valve, regulating valve, meters, etc.

Lubricating and cooling system: lubricating oil pump, lubricating oil cooler, oil mist separator

Unit AC/DC system: AC/DC and starting inverter

Turbine air intake system: air intake filter cover, air intake silencer, air duct Container ventilation system: air intake and exhaust fan, air valve, silencer, air duct

CO2 fire extinguishing system: detector, alarm, control system, pipeline, CO2 bottle cabinet

Starting device: starting motor

Control system: unit control cabinet, control system software and hardware

6.销售价格

1. Price

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| SN | DESCRIPTION | SPECIFICATION | QTY | UNIT | AMOUNT  (USD) | REMARK |
| 1 | Solar T70 Turbine Generating | 7300kW,  50Hz,10.5kV,NG | 1 | set | 3 000,000.00 | 23214hr run. Stock location: China |
| 2 | Solar T70 Turbine Generating | 7300kW,  50Hz,10.5kV,NG | 1 | set | 3 720,000.00 | 10000hr run. Stock location: China |
|  | | | | |  | |

Payment:

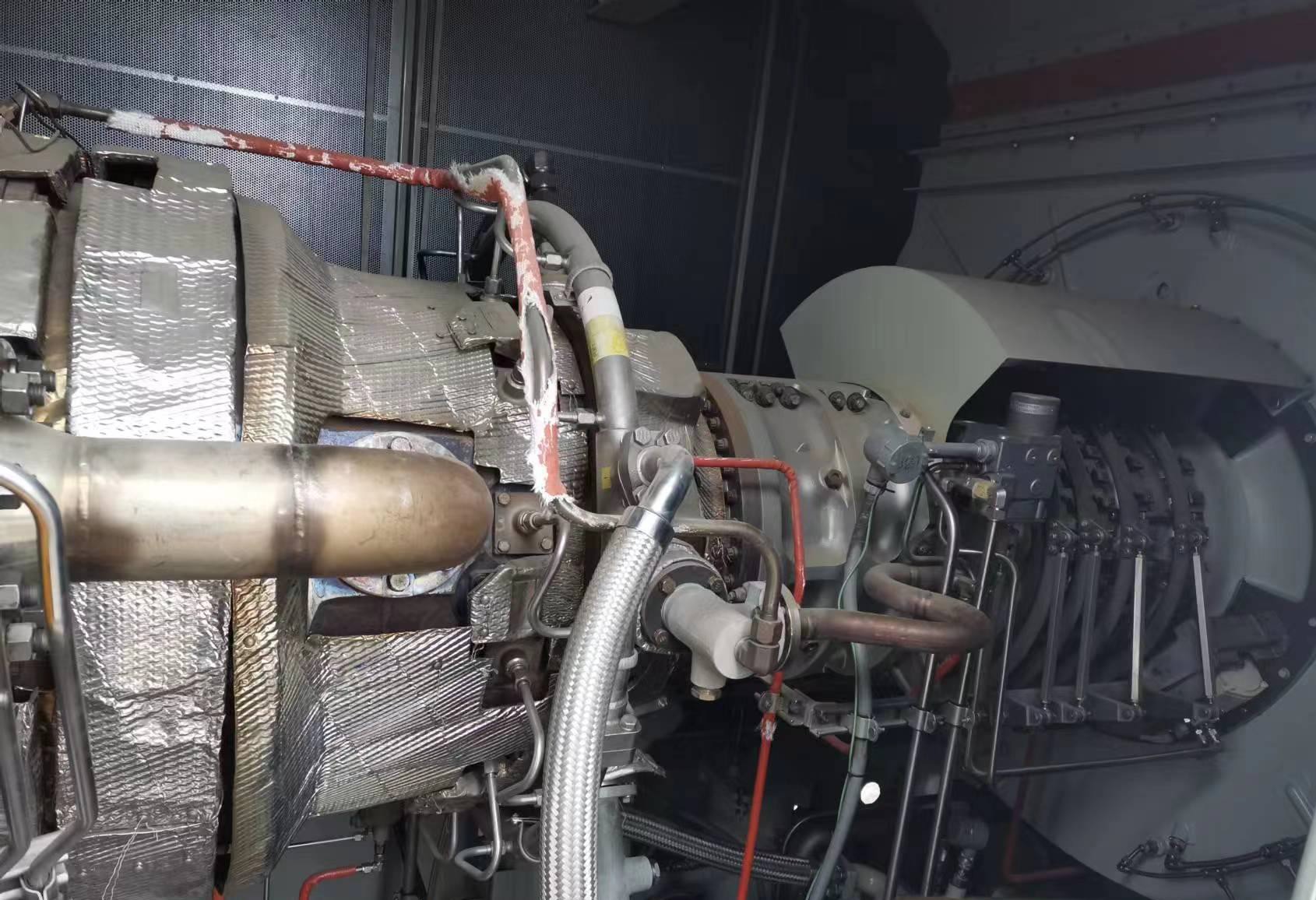
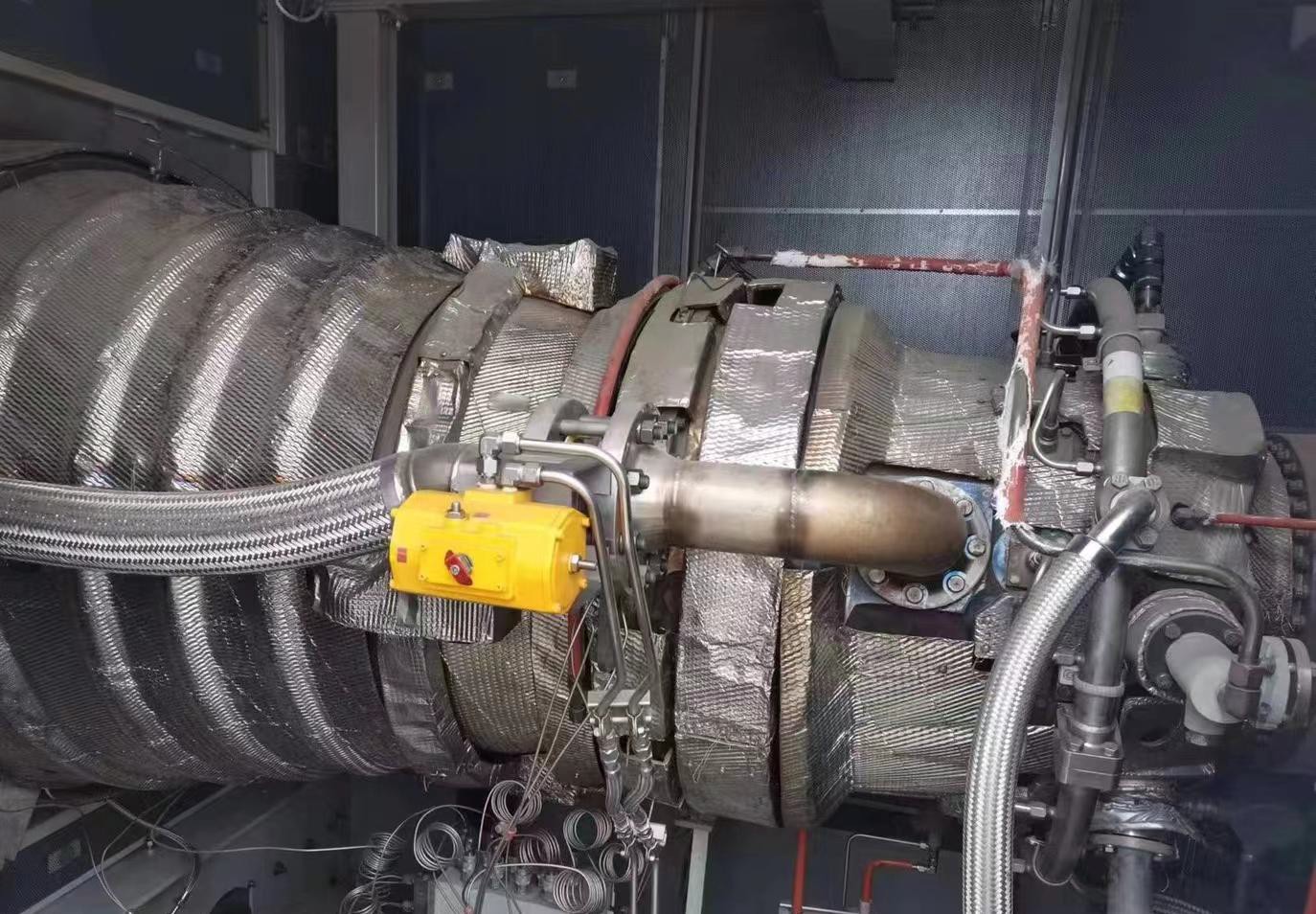
5% Deposit to reserve both units and schedule an in-person inspection, If the customer does not purchase after inspection, the deposit is refundable less 2% for administrative expenses. If purchased after inspection, this 5% is part of the official 30% advance payment.

70% Payment before delivery. Delivery:

4 weeks deliver after confirmation & received deposit. Disassembled and stored.

7.机组照片：

1. Turbine photos:



.,..===--

.. -·

1

,\_

=

·===

·. ....

.Iii

**!llol41**

nf \::Olll:rOI panel m gas nlTmn-.,-- --.

KoHTpO!Il.m.lli 3KpaH

.: .

..··

:**II**

.:**1**

Iii ..



•.- **"W**

:::::::::::::: ..

* + I

