Equipment name:refrigerated air dryer

Technical solution

Seller's Unit Name: Hangzhou Shanli Purify Equipment Corporation

Seller's address: No. 8 Liangzhan Road, Renhe Town, Yuhang District, Hangzhou.

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1、General rule

1.1 This bidding document is applicable to the refrigerated dryer equipment and accessories of SDLF - (0.5-12) project, and it proposes technical requirements for the functional design, structure, performance, manufacturing, installation, and testing of the above-mentioned parts.

1.2 The bidder guarantees to provide high-quality products and corresponding services with complete functions that comply with this bidding document and relevant industrial standards. Meet the requirements of mandatory national standards related to safety, environmental protection, etc.

1.3. Implement the requirements and standards listed in the specification document. If there is a contradiction with the standards listed in the specification book, the higher standard shall prevail.

1.4. This bidding document can be used as an attachment to the purchase contract and has the same legal effect as the main text of the contract.

2、Process flow of compressed air purification system

2.1、According to the technical requirements and supply scope of the bidding documents, our company recommends the following purification system process flow:

Suggestions for front and rear filters: front T, rear A

Oil mist filter normal air-cooled

refrigerated air dryer Micro oil mist filter

2.2、The system design of this project adopts_____sets of refrigerated dryers.

2.3、The air quality processed by this device can reach:

Dew point of exhaust gas: 2-10 ℃

Residual oil content: 0.01PPm

Filtering accuracy: 0.01μm

3、Regulations and norms

3.1、The design, manufacturing, installation, and acceptance of refrigerated dryers are based on current Chinese national standards and comply with the requirements of the following relevant standards, specifications, and regulations (but not limited to), while fully considering the impact of local environmental and usage conditions.

GB 150.1~150.4-2011 Pressure vessel

GB/T 151-2014 heat exchanger

GB 10893-2012

Specification and Testing for Compressed Air Dryers

GB/T 10893.1-2012 Compressed air dryer

Part One: Specifications and Testing

GB 5226.1-2008/IEC 60204-1: 2005

Mechanical and electrical safety

Mechanical and electrical equipment

Part 1: General Technical Conditions

GB/T 191-2008

Packaging, storage and transportation graphic symbols

JB/T 4711-2003

Coating and transportation packaging of pressure vessels

HG/T 20592-2009

Steel pipe flange type and parameters

Q/HSL 001-2001 SDLF series refrigerated compressed air dryer

The above standards and specifications are the new valid versions before equipment delivery.

4、Equipment performance parameters

4.1、Oil mist filter

No.	Project	Technical indicators
1	model	
2	Air handling capacity	
3	working pressure	
4	working temperature	
5	Adapt to work system	
6	Filtering accuracy	
7	Oil content in exhaust gas	
8	Initial pressure loss	
9	Cartridge life	
10	height (H)	
11	weight	
12	Air connection	

	diameter	

4.2、refrigerated air dryer

model		
Scope of use	Compressed air processing capacity	
	ambient temperature	
	Inlet temperature	
	Intake pressure	
Standard operating conditions	Compressed air processing capacity	
	ambient temperature	
	Inlet temperature	
	Inlet pressure	
technical parameter	Pressure dew point	
	Initial pressure loss	
	Fan power	
	Fan air volume	
	Adapt to Work System	
	Power Supply	
	Compressor power	
	Air connection diameter	
	refrigerant	
	weight	
	Length x Width x Height	

4.3、Micro oil mist filter

No.	Project	Technical indicators
1	model	
2	Air handling capacity	
3	working pressure	

4	working temperature	
5	Adapt to Work System	
6	Filtering accuracy	
7	Oil content in exhaust gas	
8	Initial pressure loss	
9	Cartridge life	
10	height (H)	
11	weight	
12	Air connection diameter	

5、Equipment structure and performance features

5.1、Main features of the equipment

5.1.1 The refrigerated dryer and its ancillary equipment can operate safely, reliably, and smoothly for a long time under specified environmental conditions, and meet various performance and operating conditions requirements.

5.1.2 The manufacturing and processing of the equipment shall comply with relevant national standards, industry standards, and enterprise standards.

5.1.3. The refrigerated dryer is a high-quality equipment that is efficient, energy-saving, safe, reliable, easy to operate and maintain, and has a beautiful appearance.

5.1.4. The compressed air from the air compressor, after being processed by this device, can achieve the following air quality indicators: a dew point of 2-10 ℃ under pressure.

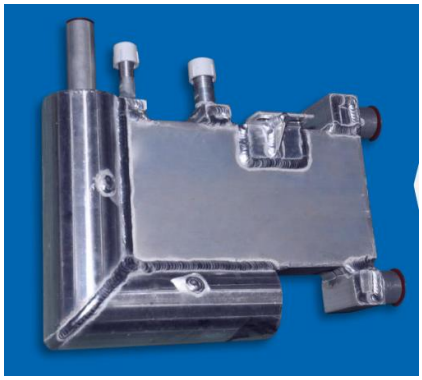
5.1.5. The refrigeration compressor operates smoothly and with low noise, with a noise level not exceeding 75dB at a distance of 1.0 meter from the equipment center.

5.1.6. Strictly prevent refrigerant leakage, diffusion, and environmental pollution in refrigerated dryers.

5.1.7. The refrigerated dryer is equipped with an automatic discharge valve for draining water.

5.1.8. The equipment control part is controlled by a microcontroller, equipped with refrigerant high and low pressure protection, and a temperature LCD meter that can display the outlet temperature of the evaporator to understand the operation of the equipment.

5.2 Structural features



1. The heat exchanger adopts a three in one aluminum plate fin heat exchanger, which has high heat transfer efficiency, small volume, compact structure, and aluminum material can prevent secondary pollution of compressed air.

2. Adopting a finned condenser, selecting

high-quality copper high-efficiency heat transfer tubes, and covering with aluminum fins, the heat transfer coefficient is high, the volume is small, and the structure is compact.

3. Adopting an electronic automatic drainage valve with a simple and unique structure, high efficiency, and long service life, it eliminates the blockage phenomenon of floating ball drainage valves, saves manpower and material resources, and effectively solves the problem of water accumulation in compressed air pipeline systems. Most similar products still use floating ball drain valves.

4. The refrigerant used is environmentally friendly, using R410a and R134a, which are environmentally friendly and pollution-free.

5.3、Features of Components

1. The compressor adopts a fully enclosed refrigeration compressor with excellent performance (filled in according to the configuration list), high energy efficiency, strong resistance to liquid hammer, low noise and vibration, long service life, and the entire refrigeration system can adapt to working conditions with certain load changes.

2. Constant pressure throttle valve

Cancel the commonly used capillary or expansion valve with bypass and replace it with a constant pressure throttle valve as the throttling system, which has a simple structure, easy adjustment, and can maintain low pressure even under long-term low load operation under normal working conditions.

5.4、Features of Control System

1、The product has the following protective functions:

Temperature display, alarm code display, cumulative working time, compressor control, fan control, external alarm start stop function

温度显示
告警代码显示
累计工作时间
压缩机控制
风机控制
外部告警
启停功能

5.5、Features of the whole machine

The equipment adopts a closed frame structure without a foundation installation method. The panel adopts electrostatic spraying, with a beautiful appearance and easy adjustment and maintenance. The whole machine has a beautiful and elegant design, compact structure, simple operation, stable performance, safety and durability, low energy consumption, easy maintenance, and can operate continuously for a long time without polluting the environment.

6、List of main components of the equipment

No.	name	Brand manufacturer	qty	Brand origin
1				
2				
3				
4				
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22				

7、Supervision (inspection) and performance acceptance test

No.	Process name	Main content of the process	remarks
1	Maintain pressure	High pressure nitrogen maintains pressure in the refrigeration system	
2		Compressed air maintains pressure in the air system	
3	Equipment pipeline leak detection	Leak detection with soapy water	

4	Whole machine no-load test	Is the experimental equipment operating normally	

8、Packaging, transportation, and storage

8.1、Equipment cleaning and protection

8.1.1 Equipment Cleaning: Before leaving the factory, all internal debris and substances such as oxide scale, rust, oil stains, paint marks, etc. on the inner and outer surfaces of the equipment have been removed.

8.1.2 The bidder has carried out rust removal and cleaning treatment on the equipment provided, and applied rust proof primer and topcoat for anti-corrosion treatment.

8.1.3 The bidder has selected a coating application method to prevent corrosion of the equipment during transportation, storage, and operation.

8.1.4 The primer and topcoat of pipelines and equipment within the scope of supply of the bidder shall be designed by the bidder.

8.2、Equipment transportation and storage measures

8.2.1. The internal water has been drained and fully dried before packaging the equipment; All exposed components are equipped with protective devices to prevent damage, rust, and external foreign objects from entering during transportation and storage.

8.2.2 The bidder has taken protective measures for the connectors and connection ends respectively.

8.2.3 The equipment packaging shall comply with the provisions of GB/T13384 standard and take measures to prevent rain, moisture, rust, and shock.

8.2.4 The equipment nameplate is made of corrosion-resistant metal materials and includes the following information: equipment name,

equipment model, manufacturer name, manufacturing date, product number, etc.

8.2.5 Equipment transportation shall be carried out in accordance with relevant national standards.

9、Scope of Supply

9.1、Supply Description

9.1.1 The bidder guarantees that the equipment provided is brand new, advanced, mature, complete, safe and reliable, and that the technical and economic performance of the equipment meets the requirements specified by the purchaser.

9.1.2 The bidder shall provide a detailed supply list, which shall sequentially indicate the equipment name, model, quantity, place of origin, manufacturer, and other contents.

9.1.3 The bidder shall provide technical information in accordance with the requirements specified by the purchaser

9.2、Scope of Supply

9.2.1、The bidder shall provide an air purification device, which includes the following contents in a complete set:

No.	Product name	Product model	qty	remarks
1	Oil mist filter	SAGL- HT		
2	Refrigerated air dryer	SDLF- NF		
3	Micro oil mist filter	SAGL- HA		

1) The filter includes an automatic drain valve, a housing, a filter element, etc;

2) The refrigerated dryer includes electrical control devices, pipes, valves, and accessories in the complete set of equipment;

10、Technical documentation and delivery schedule

10.1 Within ten days of signing the contract, the supplier shall provide two sets of the following materials and documents.

10.1.1 General Installation Diagram of Air Purification Device

10.1.2 Equipment Electrical Schematic Diagram

10.2. Upon delivery of the equipment, the following materials (sets/machines) shall be randomly provided

10.2.1 Installation, Operation, and Maintenance User Manual

10.2.2 Product Inspection Certificate

10.2.3 Product Qualification Certificate

10.2.4 Packing List

11、Technical services and liaison

11.1、On site technical services

11.1.1、The purpose of the on-site service personnel of the bidding party is to ensure the safe and normal operation of the supplied equipment. The on-site service plan is shown in the table below.

On site Service Schedule

No.	Technical service content	Planned person days	Composition of dispatched personnel		remarks
			title	Number of people	
1	Open box inspection	1day	engineer	1	
2	Guide installation	1day	engineer	1	
3	debugging	Half a day	engineer	1	
4	performance test	Half a day	engineer	1	

11.1.2 The bidder guarantees that the on-site service personnel dispatched have the following qualifications:

11.1.2.1. Comply with laws and regulations, and abide by all rules and regulations on site;

11.1.2.2. Have a strong sense of responsibility and career ambition, and arrive on time;

11.1.2.3. Understand the design of the contracted equipment, be familiar with its structure, have on-site work experience with similar or identical units, and be able to provide correct on-site guidance;

11.1.2.4. Maintain good physical health and adapt to the working conditions on site.

11.1.3 Responsibilities of on-site service personnel of the bidding party

11.1.3.1 The tasks of the on-site service personnel of the bidding party mainly include unpacking inspection of equipment, handling of equipment quality issues, guiding installation and commissioning, participating in trial operation and performance acceptance tests.

Before installation and debugging, the technical service personnel of the bidding party should provide technical briefing to the demand side, explaining and demonstrating the procedures and methods to be carried out. If any problems occur in the process confirmed and signed by the bidding party due to incorrect guidance from the bidding party's technical service personnel, the bidding party shall bear full responsibility.

11.1.3.2 The on-site service personnel of the bidding party have the right to handle all technical and business issues that arise on site. If there is a quality problem on site, the on-site personnel of the bidding party shall try their best to handle and solve it within the time specified by the demander.

11.1.3.3 The bidder shall be fully responsible for all actions of its on-site service personnel.

11.1.3.4 The normal arrival and replacement of on-site service personnel

by the bidding party shall be notified to the demand side in advance.

11.1.4 Obligations of the Buyer

The demand side shall cooperate with the on-site service personnel of the bidding party and provide convenience in daily life, transportation, and communication.

11.2、train

11.2.1 To ensure the normal installation, commissioning, operation, maintenance, and overhaul of the contracted equipment, the bidder may provide corresponding technical training.

11.2.2 The training plan and content shall be listed by the bidder in the bidding documents.

No.	Training content	Planned person days	Composition of Training Teachers		place	remarks
			title	Number of people		
1	Refrigerated air dryer	1	engineer	1	Hangzhou	Alternatively, on-site demand is also possible

11.2.3 The specific content of the training, such as the time, number of people, and location, shall be agreed upon by the buyer and seller.

11.3、Design Liaison

According to the needs of design or engineering construction, both parties can contact each other, and the specific methods, topics, time, and location will be agreed upon separately at that time.

12、After sales service commitment (for domestic customers only)

12.1、Our company provides free installation guidance and startup debugging services.

- Provide installation guidance and startup debugging at the work site
- Inspect and record the operation status of the equipment
- Provide operation and maintenance training to operators

12.2、Our company provides free training for one person, with the following content:

- Guidelines for Compressed Air Purification Systems
- Installation and commissioning training
- Equipment maintenance and upkeep
- Spare parts stocking

12.3. The product quality warranty period is 12 months. Follow up every 3 months to ensure the safe operation of the equipment. If there is a quality problem with the equipment during the warranty period, our company will respond within 8 hours and professional personnel will arrive at the site for maintenance within 48 hours.

12.4 Ensure timely supply of spare parts and provide high-quality services. After the equipment is delivered for use, continuous communication should be maintained to understand the operation status of the equipment. Our company has 9 sales and service centers located in Beijing, Xi'an, Shenyang, Jinan, Shanghai, Chengdu, Guangzhou, Hangzhou, Nanjing, and other places to respond promptly to customer requests.