

**Kerala state drugs and pharmaceuticals ltd.**

a government of kerala enterprise

factory & Office
kalavoor – 688 522
alappuzha, Indiaphone : 258181
: 258183
: 258752
: 258782email : ksdpltd@gmail.com
Website : www.ksdpltd.comfax : 0477-258162
: 0477-258262Supplier's Copy**USER REQUIREMENT SPECIFICATION**

Name of the Company	:	
Contact Person	:	
Address	:	
Contact Details	:	
Department	:	<i>BFS (LVP)</i>
Equipment and Code No.	:	<i>Oil Free Reciprocating Air Compressor -45 cfm (For BFS machine)</i>
Scope	:	<i>Supply, Installation and commission of reciprocating oil free air compressor of 7 to 10 bar air presser of 45 cfm including all aids accessories and interconnecting piping valve etc. M/s. KSDPL-Kerala for LVP packing section at ground floor.</i>
Ref. No.	:	
Date	:	
Enclosures	:	
Qty.	:	1 No.

**CONSULTANT : M/S. KNACK TECHNOCRATS**

42, AVINASH, 7 BUNGALOWS, J.P. ROAD, ANDHERI (W), MUMBAI – 400 053

TEL. NO. : 022-2636 1629 / 2631 4010, Email : infoknack@gmail.com



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OIL FREE RECIPROCATING AIR COMPRESSOR
(@ 10 BAR PRESSURE FOR BFS MACHINE)

ANNEXURE - I : BASIC DETAILS OF THE MACHINE

DESCRIPTION		
(To be specified by the supplier, if any variation)		
Machine	:	Non lubricated Reciprocating Air compressor - 45 cfm at 10 bar pressure
Model	:	GMP
Capacity	:	45 cfm, standard model suitable to as per requirement of BFS machine mentioned below
Max. Working Pressure	:	10 bar
Normal Working Pressure	:	10 bar
No. of Stages	:	2 Stages
Air Receiver Capacity	:	420 liters *
Air quality & consumption required as per BFS machine	:	Air pressure : minimum 7 bar and maximum 10 bar, Oil free Consumption : 300 NL/min Particle size : Class 1 according to ISO 8573-1 (2010) Remainder oil rate : Class 2 according to ISO-8573-1 (2010) Water in : Class 4 according to ISO-8573-1 (2010)
Air Dryer	:	
Model	:	GMP
Capacity	:	60 cfm @ 10 bar * (For Compressors at Normal Working Pressure)
Air Pressure range	:	7 to 14 bar



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DESCRIPTION		
(To be specified by the supplier, if any variation)		
Pre Filter	:	
Model	:	GMP
Micron rating	:	1 micron
Capacity	:	53 cfm @ 10 bar
Maximum Pressure	:	14 bar
Air Pressure range	:	7 to 14 bar
Fine Filter	:	
Model	:	GMP
Micron rating	:	0.01 micron
Capacity	:	53 cfm @ 10 bar
Maximum Pressure	:	14 bar
Air Pressure range	:	7 to 14 bar
Carbon Filter (CFE)	:	
Model	:	GMP
Micron rating	:	Less than 0.003 mg/m ³ (less than 0.003 ppm)
Capacity	:	53 cfm @ 10 bar
Normal Working Pressure	:	10 bar

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DESCRIPTION		
(To be specified by the supplier, if any variation)		
MOC	:	
Block and Cylinders	:	Aluminum alloy
Reed Valves	:	SS 304
Pistons	:	PTFE coated piston with PTFE piston rings*
Inter Cooler and After Cooler pipes and other all interconnecting pipes	:	Aluminum / SS 304
MS parts if any	:	Should be powder coated or epoxy painted.
The equipment should be smooth finished without any sharp edges and crevices.		

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ANNEXURE - III : PROCESS CONTROL FEATURES

DESCRIPTION
(To be specified by the supplier, if any variation)
The equipment to consist of: ➤ Controls And Safety • Pressure switch with un-loader • Direct on line start or Star-delta start • Safety valves and delivery unloader valve • Non-return valve • Aluminium alloy top block and cylinders • Single piece forged crank shaft and connecting rods • Stainless steel reed valve • PTFE coated piston with PTFE piston rings • Aluminium finned inter cooler & after cooler pipes • Interconnecting pipes and accessories-Aluminum

*** To be specified by the supplier**



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ANNEXURE - IV : OPERATIONAL FEATURES

DESCRIPTION
(To be specified by the supplier, if any variation)
The main equipment to consist of: ➤ Receiver Tank Mount: • Horizontal receiver tank with drain cock • Sockets with plugs on each dish • Safety valve ➤ Drive System • Belt Drive system • Aluminium top block and cylinders • Single piece forged crank shaft and connecting rods • Stainless steel reed valves • PTFE coated piston with PTFE piston rings • Air filters • Pressure switch with unloader

*** To be specified by the supplier**



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ANNEXURE - V : ELECTRICAL DETAILS

DESCRIPTION (To be specified by the supplier, if any variation)		
Standard Operating Frequency	:	50 Hz
Standard Operating Voltage	:	230/415V
RPM	:	*
Motor Details	:	15 to 17 HP
Gear Box Details	:	*
VFD Details	:	*
Major Cabling details		
Cable size required for input of machine as per connected load	:	*
Starter details	:	Star/Delta (If required –should be provided)
Earthing requirement	:	To be provided with machine by vendor
An Isolator Circuit breaker	:	To be supplied with machine at power supply in point of appropriate capacity by vendor. *
Cables and connection from machine panel, or switch or starter should be in scope of vendors, client will arrange only incoming cable at one point to this machine's panel. *		

*** To be specified by the supplier**



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ANNEXURE - VI : SAFETY FEATURES

DESCRIPTION
(To be specified by the supplier, if any variation)
Safety of machine operation is of utmost importance. To ensure safety, all upper guards to be fitted with interlock switches.
The machine to be provided with motor overload safety relay.
In the event of machine malfunction or stoppage of utilities, the unit must contain all necessary protection devices to ensure that machine and product remain in safe condition.
Machine settings should not get disturbed due to power failure. Machine should not restart without human intervention.
Machine should indicate fault through audio / visual signal with details on Control panel/PLC (Failure mode detection)
An easily accessible emergency stop to be provided on main control panel door. *
Lubricant should not come in product contact.
Wherever possible, warning symbols should be provided.
Electrical wiring must be concealed*

* To be specified by the supplier



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ANNEXURE - VII : UTILITY REQUIREMENT

DESCRIPTION		
(To be specified by the supplier, if any variation)		
Air	:	*
Water	:	*
Chilled Water/Cooling water	:	*
Any other	:	*

*** To be specified by the supplier, if applicable**



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ANNEXURE - VIII : CLEANING TECHNIQUE

DESCRIPTION		
(To be specified by the supplier, if any variation)		
Mode of machine cleaning	:	Manual
Use of Lubricants	:	*
All contact parts should be easily dismantled and cleanable.		

* To be specified by the supplier

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ANNEXURE - IX : PHYSICAL DETAILS

DESCRIPTION		
(To be specified by the supplier, if any variation)		
Dimension (In mm)	:	*
Net Weight (In Kgs.)	:	*
Type of Packing	:	*
Case Dimension (In mm)	:	*
Gross Weight (In Kgs.)	:	*
Foundation details	:	*

*** To be specified by the supplier**



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ANNEXURE - X : LIST OF ANCILLARY / ACCESSORIES / OPTIONAL ITEMS

DESCRIPTION

(To be specified by the supplier, if any variation)

Vendors should provide the following with estimate

- Recommended Spares list
- *List of Bought out components if any.*
- *Any other ancillary or accessories required*
- *Optional items –if any*
- *Any other items which is required but not mentioned should be informed.*

All items that is required for successful commission and working of machine should be included in scope of supply. *

*** To be specified by the supplier**



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ANNEXURE - XI : TRAINING REQUIREMENT

Training to all concern of KSDPL, Kerala for Installation, Operation, Maintenance and Cleaning of Oil Free Reciprocating Air Compressor should be provided by vendor and training record will be documented.



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ANNEXURE - XII : DOCUMENTATION

List of all Documents to be supplied along with equipment [AS APPLICABLE]

Sr. No.	Document to be supplied	Qty	Remarks
1	Design and operational qualification	2 sets	
2	SAT/FAT procedures	2 sets	
3	Operation manual	2 sets	
4	Maintenance manual	2 sets	
5	Spare parts manual	2 sets	
6	All engineering drawings	2 sets	
7	List of instruments	2 sets	
8	Calibration certificates	2 sets	
9	Warranty / Guarantee	2 sets	
10	List of all components with referencing	2 sets	
11	P& I process flow diagrams	2 sets	
12	Civil foundation drawings	2 sets	
13	Pre installation requirements	2 sets	
14	Installation requirements	2 sets	
15	Installation manual	2 sets	
16	Technical literature, data sheets and equipment catalogues	2 sets	
17	DQ, IQ, PQ documents.	2 sets	
18	Calibration Report of all sensors, controllers, PLC, transmitters, indicators etc.	2 sets	
19	Test Certificates of all material of construction	2 sets	
20	Test Certificates of the software used in machine control / monitoring system.	2 sets	



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Delivery Period	:	AS PER TENDER
Payment Terms	:	AS PER TENDER
Packaging and Forwarding	:	AS PER TENDER
GST	:	AS PER ACTUALS
Unloading and placing of machine at particular position at site	:	By vendor or to be arranged by the vendor at site
Installation and Commissioning	:	By vendor at site
Packaging and Forwarding	:	AS PER TENDER
Submission of documents and drawings		
Response to URS and submission of quotation	:	Within 1 week
Submission of detail functional design specification and schematic drawings	:	Within a week after order finalization
Submission of FAT / SAT specification	:	2 weeks before FAT
Submission of IQ, PQ, DQ AND OQ documents	:	With equipment delivery
Drawings / diagrams	:	Within one week of receiving PO
The supplier should notify customer 2 weeks in advance of the beginning of FAT		
Catalogue, Equipment drawing, List of clients and year of establishment to be submitted alongwith technical bid		
<i>Any other terms, not mentioned above, also to be specified.</i>		

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ANNEXURE - XIV : ABBREVIATION

1.	URS	:	User Requirement Specification.
2.	KSDPL	:	Kerala State Drugs & Pharmaceuticals Ltd.
3.	DQ	:	Design Qualification
4.	IQ	:	Installation Qualification
5.	OQ	:	Operational Qualification
6.	PQ	:	Performance Qualification
7.	SS	:	Stainless Steel
8.	RHS	:	Right Hand Side
9.	MOC	:	Material of Construction
10.	KW	:	Kilo Watt
11.	HP	:	Horse Power
12.	RPM	:	Rotation Per Minute
13.	FLP	:	Flame Proof
14.	cGMP	:	Current Goods Manufacturing Practices
15.	P& ID	:	Piping and instrumentation diagram
16.	O&M	:	Operation and Maintenance
17.	GA	:	General Arrangement
18.	SLD	:	Single Line Diagram
19.	HOD	:	Head of Department
20.	QA	:	Quality Analysis
21.	MRP	:	Maximum Retail Price
22.	NMT	:	Not more than
23.	VFD	:	Variable frequency drive

Any other details, not mentioned in Annexure I to XIII, to be specified in the quotation/specification by the vendor.



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