

Annexure:- A

Terms and conditions for supply, installation and commissioning of Aviation Compressor Performance Testing Machine:

Purpose:- Developing facility for testing of Aviation Compressor to Drg. No. AK 150 C-01 CB. (As per the drawing Air Compressor set up for testing compressor to Drg. No. AK150 C CX (AK 150C CTY).

1. Technical requirements:-

A. As per the drawing and specification of Aviation compressor following parameters are to be checked through the Aviation Compressor Performance Testing Machine and as such test rig is to be developed to meet these requirements.

- i) Oil discharge from the Compressor should not exceed 10 gm during 15⁺¹ minutes of operation.
- ii) Filling of five litres cylinder upto 15MPa (150 kgf/cm²) during the operation not exceeding 26.5 minutes and up to 16 MPa (160 kgf/cm²) without checking the time for filling.
- iii) Checking the air-tightness of pipelines of Compressor at 14 to 15 MPa (140 to 150 kgf/cm²)
- IV) Temperature of cylinder head – 110 deg C max
- v) Oil circulation: 700 cc/min.

B. The test Rig shall be as per the drawing of Air Compressor set up for testing compressor to Drg. No. AK150 C CX (AK 150C CTY).

1. Units designated in the above drawing i.e 4,5,8 & 10 should be mounted in special box or in metal chamber which provide safety of the attending personal.

2. Scales of pressure gauges 2 and 3 should be protected with organic glass.

3. Airline and fittings should be designed for working pressure of 200 kg / cm² & air line should be inclined towards cylinder.

4. Air loss through valve 7 at a pressure at least 165 Kg/cm² is not allowed.

5. Proper safety valve shall be provided at relevant locations with due identification.

6. Speed range of compressor 1000 rpm to 3000 rpm. Shall be variable to set as per the requirement and to be indicated clearly on panel.

7. All the gauges shall be calibrated, calibration certificate to be submitted.

8. Safely features to be taken care by the firm.

9. Timer to be provided.

C. The following essential technical documents in English shall be supplied:

- i) Manufacturer's standard:-Operator's instruction manual - 3 Sets
- ii) Spare parts Manual - 3 Sets.
- iii) PLC control Manual – 3 Sets.

- iv) PLC Diagnostic Manual in English indicating step by step remedial measures to solve the machine problem.
- v) Complete maintenance manual for mechanical and electrical maintenance of the equipment and its accessories - 3 Sets
- vi) Supplier firm shall provide the related drawings, electrical/electronic circuit diagrams, spare parts catalogue etc in 3 Sets at the time of delivery and 3 soft copies in CD format.
- vii) Complete PLC backup shall be given in CD/DVD.
- viii) Troubleshooting Charts.

2. Firms should be original manufacturer of the machine and having experience in making/designing/ manufacturing similar type of machine will be only considered for this work. Firms sub-contracting the work to manufacture to other firm will not be considered. Firms should attach adequate proof in support of their experience in supplying similar type of machines. Also firm has to submit a brief description about the block diagram/offered configuration of the test equipment to assess their competency.

3. Firm has to supply critical/essential mechanical & electrical spares along with the Machine. Firm has to quote the price of the machine including price of spares. Separate list of spares should be attached in attachment with details and price.

4. If required One No. of Aviation Compressor will be issued to firm against suitable Bank Guarantee for inspection purpose on returnable basis. Firm has to return the Aviation Compressor with the Performance Testing Machine.

5. Firm may visit MPF for proper understanding of the requirements

For testing of the Aviation Compressor.

6. Despatch Inspection:

After the equipment is complete in all respect, the supplier shall give a call to the purchaser for pre-despatch inspection well in time. Pre despatch inspection will be carried out by Sr.GM/MPF or his authorised representatives. All the service required to run the machine will be arranged by the supplier at his cost. Only after successful pre-despatch inspection at manufacturer's premises, machine will be cleared by the inspectors for despatch. Any delay caused during pre-despatch inspection due to faulty design/workmanship or lack of service will be to the supplier account.

Pre-despatch Inspection clearance will be issued after the machine is cleared in inspection.

7. Erection and Commissioning:

Erection, Commissioning, Shifting and positioning will be done by the firm with his own power, tools and material including lifting & positioning of machine. Unloading of consignment of equipment and accessories near the site of installation will be under MPF scope and the firm will assemble and commission the machine after positioning the same at the installation site. Necessary services like electricity, water, compressed air connection shall be provided by purchaser free of cost.

8. Training:

Tenderer should provide training of persons contacted with the operation, programming and maintenance of the equipment at MPF. The training shall include – Operation of working, maintenance of mechanical, hydraulic and electrical/electronic part function of the equipment including the assembly, fitting of various components and troubleshooting free of charge at MPF, Ambernath.

9. Guarantee/Warranty:

The supplier shall guarantee satisfactory performance of the equipment for a period of 12 months from the date of successful commissioning of equipment and try out at site and shall undertake to rectify any defect including replacement of spare parts resulting from faulty design, poor workmanship, bad material etc, during the guarantee period free of charges. They also shall undertake to provide regular after sales service including supply of spares as and when required for minimum 10 years.

10. Spares and after sale services:

Firm shall include cost of accessories/spares required for at least two years of trouble free operation in their offer & supply the same with the machine.

11. Final Inspection and Acceptance:

The machine after erection, successful commissioning & proving of the machine by the supplier will be finally accepted after 30 days trouble free continuous practical trial. Joint Inspection report will be the basis for final acceptance.

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