



BRAITHWAITE & CO LIMITED

(A Government of India Undertaking under Ministry of Railway)
HEAD OFF. & REGD. OFF. : 5, HIDE ROAD, KOLKATA – 700043,
TEL (033) 2439-7415/4114/6613/7413, FAX : 91 (033)2439-5607 / 2439-7632
E-mail: purchase@braithwaiteindia.com, Website: www.braithwaiteindia.co,
CIN: U74210WB1976GOI030798

Tender Enquiry No: BCL/PUR/SP- 29/COMP- O&M /AW/18

Date: 03.01.2018
Due Date: 09.01.2018

Sealed Offers are invited in Two bid system for operation & maintenance of 05 nos. BTDJM Kirloskar make Air Compressors at Angus Works as per tender conditions.

The jobs are to be carried out at Angus Works of BCL. Bidders are requested to visit site and inspect the facilities, concerned machines & technical details etc. and understand the job to be performed before submitting offer. Bidders shall contact DGM (Maint.) – Angus Works for this purpose. No claim shall be entertained afterwards.

| | | |
|---|--|--------------------------------|
| 1 | Closing of Tender Box | 14:30 Hrs on 09.01.2018 |
| 2 | Opening of the tender alongwith Part-I Bid | 15:00 hrs on 09.01.2018 |

The offer should comprise of two parts as under:

Part-I : Techno-commercial bid & E.M.D

Part-II : Price bid

Both Part – I & Part – II bids of the quotation shall be inserted separately in two (2) envelopes, being sealed and super-scribed with our Tender No. and Part No. These two envelopes shall be put into a 3rd envelope which should also be sealed & super-scribed with **Tender No. Date, Due Date & Box No.**

Sealed Tender, addressed to **General Manager (Co-ordination), Braithwaite & Co. Ltd. 5, Hide Road, Kolkata-700 043** may be dropped in our **Tender Box No. 2** (in case of hand delivery) or may be sent by Registered post but must reach us positively within **09.01.2018** (due date) up to 14.30 hrs. No offer shall be accepted after closing of the Tender Box.

The techno commercial bid (Part-I) shall be opened **on 09.01.2018 at 15.00 hrs.** Bidders may depute their authorized representative to be present during opening of the tender. The price bid(s) (Part-II) shall be opened for techno - commercially acceptable bidders only for which opening date and time will be intimated in due course.

Tender will be considered cancelled if the documents required for Part-I (Techno-commercial Bid) & Part-II (Price part) bids are not placed in respective / proper envelopes.

Tender documents can also be downloaded from our website www.braithwaiteindia.com and offer can be submitted meeting tender requirements.

For Braithwaite & Co. Ltd.

1 Eligibility Criteria for website bidders : Bidders who intend to submit offer against website display of this tender and are also not registered with BCL, should submit the following documents along with their techno commercial bids:

Experience documents related to execution of similar type of job i.e Operation & Maintenance of Air Compressors in different industrial houses successfully during last 7 years ending on **31.12.2017**. Such experience should cover execution of **1 (one) order** of value not less than **Rs.10.04 Lacs** or **2(two) orders** having each value not less than **Rs 6.27 Lacs** or **3 (three) orders** having each value not less than **Rs. 5.02 Lacs**. Copies of orders along with completion documents are to be submitted. Audited / C.A. certified Balance Sheet and Profit & Loss accounts for last 3 years ending on 31.03.2017. Bidders should have Annual Average **Turnover of Rs. 3.76 lacs** during last three years ending on 31.03.2017 and should have earned net profit in any of the above last three years. Copy of PAN, Trade License, GST registration certificates, PF / ESI etc and Income Tax return for last 3 years to be submitted also.

Before order placement (in case of necessity) they have to get themselves registered with BCL by complying with vendor registration formalities.

2. DESCRIPTION OF JOB

Annual Maintenance Contract (AMC) for preventive maintenance and break – down maintenance for Industrial Pneumatic System consisting with Pneumatic pipe line & accessories, Compressors of Angus Works.

The Pneumatic pipe line & accessories are to be maintained :- This consisting the whole Pneumatic pipe lines leading to Foundry shop, Assembly shop, Machine shop, Heat treatment shop etc. which are to be maintained for good working necessary repairing, modification & testing whatsoever required.

Details of Compressors to be maintained :-

| Sl.No. | Make of Compressor | Plant No. | Capacity | Location |
|--------|--------------------|-----------|----------|---------------------|
| 1 | KIRLOSKAR - BTDJM | 1 | 540 CFM | High Bay |
| 2 | KIRLOSKAR - BTDJM | 2 | 540 CFM | Fabrication Bay |
| 3 | KIRLOSKAR - BTDJM | 3 | 540 CFM | Preparation Section |
| 4 | KIRLOSKAR - BTDJM | 4 | 540 CFM | Preparation Section |
| 5 | KIRLOSKAR - BTDJM | 5 | 540 CFM | Preparation Section |

Payment of each compressor will be made on the basis of % of availability of each compressor. Please see para for payment terms given in the tender document

3. Preventive Maintenance Schedule

The Contractors have to follow the Preventive maintenance schedule from Daily check to Annual Survey repair as per the table shown below where 'C' denotes Control, 'M' denotes Maintenance & Cleanliness and 'R' denotes Replacement. For such work contractor have to maintain a separate logbook for job done & consumption of spare. The Preventive maintenance have to be carried out (Except Daily Check) in presence of maintenance personal **Preventive Maintenance Schedule for BTDJM Compressor :**

| Control, Maintenance, Cleanliness & Replacement | Daily Control | Weekly Control | 3 months | 6 months | 9 months | 12 months |
|--|---|-------------------|----------|----------|----------|-----------|
| Air Filter Element | C | M | M | R | M | R |
| Air Leakage | C | C | C | C | C | C |
| Control, Maintenance & Cleanliness and Replacement. | Daily Control | Weekly Control | 3 months | 6 months | 9 months | 12 months |
| Air Hoses & connections | C | M | M | M | M | M |
| Discharge Valve (2/2 way solenoid valve) | | | | | | C |
| (2/2 way solenoid valve membrane) | | | | | | |
| Collector Drainage valve (manual) | C | C | C | C | C | C |
| Air Tank Drainage valve (manual) | C | C | C | C | C | C |
| Oil Leakage | C | C | C | C | C | C |
| Oil Lever Control | C | C | C | C | C | C |
| Oil Change | | | R | R | R | R |
| Suction Pressure Valve | Maintenance for every 500 hours working | | | | | |
| Suction Pressure Valve Spring and Plate | Maintenance for every 500 hours working | | | | | |
| Safety Valve | | | C | C | C | M |
| Safety Valve Rubber | | | | | | |
| Manometer | C | M | M | M | M | M |
| Non-return Valve | | | M | M | M | M |
| Pressure Switch | C | C | C | C | C | C |
| V-belt tensioning | C | C | C | C | C | C |
| V-belt Guard | C | C | C | C | C | C |
| All Electrical Cables & Connections | C | C | C | C | C | C |
| All Electrical Materials | C | C | C | C | C | C |
| Function Tests of all Devices | C | C | C | C | C | C |
| Compressor Noise | C | C | C | C | C | C |
| Compressor Vibration | C | C | C | C | C | C |
| Air Tank | C | M | M | M | M | M |
| All Bolts, Nuts (connection components) | C | M | M | M | M | M |
| Pipes & Coolers (Surface) | C | M | M | M | M | M |
| Crankcase Ventilation | C | M | M | M | M | M |
| Rubber Wedge | C | C | C | C | C | C |
| General Cleanliness | C | M | M | M | M | M |

GENERAL SCOPE OF WORK :

- 1 The contractor have to provide proper competent personnel for electrical, mechanical & plumbing jobs along with operation of compressors as per schedule for all working days. Tentative manpower for operation & Maintenance of Air compressors to be as follows :

| Sl.No. | Trade | Qty (Nos.) |
|--------|----------------------------|-------------|
| 1 | Operators(Skilled) | 04 |
| 2 | Electrician(High skilled) | 01 |
| 3 | Fitter(High skilled) | 01 |
| 4 | Supervisor (High skilled) | 01 |

- 2 Compressors are to be operated from 3 different points as and when required basis. Tentative Time schedule will be given below:

| Compressor Sl No | Time: From To | Point |
|------------------|---|---------------------|
| 01 | 8.00 AM – 4.30 PM | High-bay |
| 02 | 7.00 AM to 7.00 PM | Fabrication Bay |
| 03,04 & 05 | 6.00 AM – 2.00 PM & 1.00 PM – 9.00 PM (A & B Shift)/ 'C' Shift as when required only | Preparation Section |

BCL reserves the right to alter the above time schedule depending upon requirements.

However, for production requirement, contractor may be asked to run the compressors beyond the above schedule if required. For additional use of compressor on Sundays, Holidays/ Working days, payment shall be made on pro-rata basis only for operational cost of compressor. As the order rate is for Operation & Maintenance of Compressors, rate for operation of compressors alone shall be provided during placement of order for additional use. In case of additional use of compressor, proper justification has to be made by head of user department in writing.

- a In case of any major breakdown the contractor shall be bound to work beyond normal working hours till rectification of the machine. Though normal working period is from 6.00 a.m. to 9.00 p.m. any breakdown if continues after 9.00 p.m. to 6 a.m. of the next day the same to be treated as continuous breakdown and this non working hours (9.00 p.m. to 6 p.m. = 9 hours) will come under breakdown hours during calculation of availability.
- b The Contractor has to keep sufficient spares in his stock spares as per the spare list so as to reduce breakdown time as well as loss of production for want of compressed air.
- 3 Time for thorough maintenance of the compressors on preventive / routine basis would be allowed by BCL with prior consultation and written permission as would be given by BCL for such work.
- 4 A separate Log Book for attendance of personnel and day to day jobs are to be maintained by the party, which will be checked & signed from time to time by BCL authority.
- 5 The compressors have to be maintained and operated from incoming Main Power Line near the compressor right from main switch, panel wires, starter, main driving motor, coolant pump motor etc. in the electrical side and filter, L.P. cylinder, inter cooler, inter stage pressure gauge L.P, H.P + NRV valve, air receiver fill valve, delivery valve, un loader pipe, un loader, coolant suction pipe and delivery pipe from pump through compressor, entire lubrication system, oil & air gland, cross head, connecting rod, piston rings, crank shaft, bid and bearing etc. party will repair the motor, starter, switch, panels etc.

- 6 All lubricating oils, grease etc. will be supplied by BCL free of cost. However, in any exigency, where, in case of non availability of lube oils, the party may be asked to provide them in existing market rate (LPP of BCL) on reimbursable basis. Immediately after such emergency supply through stores, the party may raise bills on actual cost basis (LPP) on the support of challan and cash memo, This will help to maintain availability of compressors.
7. Kerosene oil, cleaning cloth, emery paper, cotton waste and paint brush to clean and paint the equipments will be party's responsibility. However, paint would be provided by BCL free of cost.
- 8 Space, power, water welding lines electrodes, Oxygen & LPG gas cylinders and machining facility (only machine operator) would be provided by BCL free of cost. Also M.S. sections, if required, to maintain the equipment in a steady condition, would be provided by BCL free of cost.
9. All tools & tackles required to maintain the plant, shall have to be provided by the party.
10. Supplying of water of acceptable quality for cooling tower / overhead storage tank would be under BCL's responsibility. BCL will also carry out the overhead storage tank but the maintenance of cooling tower is under contractor's responsibility.
- 11 All Compressors and pressure vessels under AMC must be tested once in every year through a competent person as per industrial safety guideline and the obtained certificate has to given to BCL maintenance for keeping records.

SCOPE OF WORK FOR OPERATION :-

- 1 Contractor has to provide adequate manpower to operate the compressors as & when required.
- 2 Usually these compressors are required to operate in General Shift & B shift. During exigency operation of Compressors are required in Sunday / Holiday for which prior intimation will be given to the contractor & contractor have to arrange operator among available operators.
3. It will be the responsibility of the contractor to keep at least 5 compressors ready for running in all working days. Normally, depending upon load, 4 or less numbers compressors will run.
4. The compressors should be run in a staggered manner so that no compressor runs for more than 16 hours at a stretch.
5. You have to maintain a Log Book for operation keeping record for running hours of all the compressors.

SCOPE OF WORK FOR MECHANICAL MAINTENANCE JOB:-

- 1 The maintenance work will cover overhauling periodic, preventive running and break-down mechanical maintenance & installation in the system and sub- system including rotary and stationary components of service air and instrument air compressors which include all associated components of the compressed air system and its sub-system of all the units. The outline of AMC involves the following works. But the list appended below is not an exhaustive one & this will include all other works related to the system and sub- system including modification of the system / sub- system / lines / equipments, it is obvious that any other works which is not mentioned in the list below but within the purview of the system & sub- system of the compressor is to be attended within this LS contract. Some of the following jobs are to be carried out on daily/weekly/Monthly/By - monthly basis and the other jobs are to be carried out on need basis and the controlling officer or his representative /s irrespective of number of break –down / overhauling servicing etc. of the compressors and the associated system / sub – system.
- 2 Cleaning & replacement of suction air filter and pipe, primary & secondary oil filter, tensioning and adjustment of belts. Change of compressor oil after specific time period or running hours.

3. Checking / replacement of gland packing and scrapper ring, dismantling and checking of all suction and delivery valves, NRV and unloading system.
4. Cleaning of water jacket and cylinder for sludge and scale formation, replacement for lube oil after cleaning of crank case.
5. Cleaning of inter cooler and after cooler tube bunch and shell, leakage test of cooler tubes & rectification.
6. Inspection / replacement of the components of piston assembly (i.e. piston rod, bearing ring, piston sealing ring piston halves)
7. Dismantling and Re - assembly of total compressor like cylinder head, crank case, bearing, piston assembly, inter cooler and after cooler, all valves, NRV, suction pipe, water cooler pipes etc. for inspection / replacement as and when required, leveling of crank case and cylinder, cleaning of all cylinder internals, waterpath, replacement of all gaskets of joints, checking of all main and big end bearing for wearing and clearances with crank shaft comparing with designed value, displacement of all suction and delivery valves and their cleaning / replacement / assembly with new spring plate checking / replacement of valve plate un-loader system.
8. Checking of all oil pump and replacement of driving pin, dismantling of lubrication system and reassembly with new gaskets after thorough cleaning.
9. Servicing of all valves (oil, water, air).
10. Repairing / replacement of all plug valves, checking / servicing of safety valves of receiver tanks, checking / servicing of air drain trap system, checking of oil pressure of all running compressors, checking of all abnormal sound from the compressor and the associated system and sub- system.
11. Maintenance and servicing / replacement of air line traps / drains including instruments and service air line headers after air driers lines up to distribution terminal points and attending any leakages in main air headers & pipelines in any area.
12. Maintenance of air lines & cooling towers including daily checking & rectification of any leakages. All files, planks of cooling towers should be cleaned once in a month. The party should keep a record of the maintenance work done.
13. All maintenance work including daily checking should be recorded in a Logbook.
14. Any other job if found necessary for smooth functioning of compressor are to be carried out.

SCOPE OF WORK FOR PNEUMATIC PIPELINES AND ACCESSORIES:-

1. All pneumatic pipe lines are to be checked and repair thoroughly on daily basis to restrict / eliminate faults these pipe lines.
2. Removal / restoration of old/ defective pipe lines with accessories, installation of new pipelines with accessories , modification & testing as and when necessary.

SCOPE OF WORK FOR ELECTRICAL MAINTENANCE JOB :-

1. Preventive and breakdown maintenance of 3 phase 415V 93 KW compressors Motors along with associated control panel, Drier panel and LPB stations under:
Regular cleaning of motors and associated control panels / LPB stations greasing of bearing tightness checking of terminals, electrical connections etc., cable disconnections/reconnection, shifting of unhealthy motor from work place to the spot as per direction of Engineers In- charges, small repairing of motor, repair / replacement of defective components replacement of damaged bearings, insulation of motors assisting BCL engineers in checking / replacement of damaged bearings insulation of motors assisting BCL Engineers in Checking / inspection etc.

2. To attend break- down job of control panels of compressors.
3. Any other electrical job not indicated above but necessary for smooth functioning of compressor plant, such as power supply connection / disconnection, modification work which are not major in nature, shall be under the scope of this contract.
4. The contractor shall arrange all the necessary tools & tackles to carry out the schedule maintenance job (Viz. Multi-Meter & Tong Tester, Meggar etc.).
5. Common consumables like cleaning agent, cotton waste, old cloth, grease etc. are in the scope of the contractor.
6. Thorough cleaning and heat varnishing and painting of each motor once in a year.
7. Contractor has also carry out rewinding of motors of the compressors (as & when required basis) as per details given below:

| Sl. No. | Motor Type | Tentative quantity | Make |
|---------|----------------------------|--------------------|---|
| 01 | 93 KW,1475 RPM,FRAME C250M | 5 | Crompton Greaves – 4 nos. & ABB make -1 no. |

Contractor has to give item wise **rates for stator winding, rotor winding, replacement of bearings, replacement of shaft, repairing of shaft and repairing of end covers.** Damaged copper shall be retained by the contractor.

Maintenance spares which are within the scope of contractor:

| Spares list for Pneumatic Line | | | |
|---|--|------------|-----------------------------------|
| A. Fast Moving parts | | | |
| Sl.No. | Description | Annual Qty | Indicative Quantity to be stocked |
| 1 | High Tensile nut & bolt (Suitable in size) | 800 nos | |
| 2 | Hex nipple : ½" x ½" | 350 nos | |
| B. All slow and medium moving spares for Pneumatic line will be supplied by BCL | | | |

List of Spares for Kirloskar Make (540 cmf) BTDJM model Compressor

Mechanical

| Name of the Unit | Sl. No. | Description | Part Number | Qty. |
|------------------------|---------|--|-------------|---------|
| L.P. Cylinder Assembly | 1 | Suction Valve Assembly | 2480060050 | 6 Nos |
| | 2 | Delivery Valve Assembly | 2480070050 | 6 Nos |
| | 3 | Packing (Cylinder to Valve Assly) | 2460011850 | 60 Nos |
| | 4 | Sealing Ring ID 101.0 (Valve Cover to Valve Holder) | 2460071450 | 120 Nos |
| | 5 | "O" Ring (Suc) | 9991269550 | 100 Nos |
| | 6 | Valve Plate (suc & Del) | 2460060350 | 24 Nos |
| | 7 | Cushion Plate (suc & Del) | 2460060450 | 24 Nos |
| | 8 | Valve Spring (Suc) | 2460067450 | 180 Nos |
| | 9 | Valve Spring (Del) | 2460067250 | 180 Nos |
| | 10 | Lift washer 0 20 X 0 12 X0.5 thk (Suc & Del) | 2460061250 | 36 Nos |
| | 11 | Split Pin 0 3 X 22 (Suc & Del) | 9993026050 | 50 Nos |
| | 12 | Circlip (Suc) | 2460061150 | 50 Nos. |
| | 13 | HUB | 2460090350 | 10 Nos |
| | 14 | BUSH | 2460090450 | 30 Nos |
| | 15 | Valve Holder (Suc.) | 2460300550 | 12 Nos |
| | 16 | Valve Holder (Del.) | 2460300650 | 12 Nos |
| H.P. Cylinder Assembly | 1 | Suction Valve Assembly | 2480065050 | 4 Nos |
| | 2 | Delivery Valve Assembly | 2480075050 | 4 Nos |
| | 3 | Packing (Cylinder to Valve Assly) | 2460021850 | 60 Nos |
| | 4 | Sealing Ring ID 101.0 (Valve Cover to Valve Holder) | 2460071350 | 60 Nos |
| | 5 | Valve Plate (suc & Del) | 2460065350 | 16 Nos |
| | 6 | Cushion Plate (suc & Del) | 2460065450 | 32 Nos |
| | 7 | Valve Spring (Suc) | 2460065550 | 36 Nos |
| | 8 | Valve Spring (Del) | 2460067350 | 36 Nos |
| | 9 | Valve Holder (Suc.) | 2460300850 | 8 Nos |
| | 10 | Valve Holder (Del.) | 2460300950 | 8 Nos |
| Gear Pump | 1 | Oil Seal (For Gear Pump End Cover) | 2410110550 | 2 Nos |
| | 2 | "O" Ring (For End Cover) | 9991212800 | 2 Nos |
| | 3 | Needle Bearing | 2410115250 | 5 Nos |
| Oil Filter Assembly | 1 | Filter Element Complet | 0910071250 | 2 Nos |
| | 2 | Sealing joint container | 0910071500 | 2 Nos |
| Air Filter | 1 | Filter Element Assembly | 2460150451 | 20 Nos |

| Name of the Unit | Sl. No. | Description | Part Number | Qty. |
|---------------------------------|---------|--|--------------|-----------|
| "V" Belt | 1 | "V" Belt SPC 4000 | 999.46440.00 | 30 Nos |
| Drive Assly. For Gear Pump | 1 | One Way Clutch Assly. | 2460110750 | 1 No |
| | 2 | Oil Seal (25 - 75 - 125) | | 10 Nos |
| Connecting Rod | 1 | Connecting Rod Bushings | 950030300 | 5 Nos |
| | 2 | Big End Bearing Assly (Pair) | 2460032450 | 5 Nos |
| Copper Pipe | 1 | For Inside crank Case | | 3 Nos |
| | 2 | For lubricating line | | 10 Mtrs. |
| Ferule | 1 | Fro Copper Tube (lubricating line) | | 24 Nos |
| | 2 | Fro Copper Tube (Inside crank Case) | | 12 Nos |
| Crank Shaft | 1 | Crank Shaft S.G. Iron | 952460051250 | 1 No |
| Bearing | 1 | Bearing Upper Half | 2460032350 | 2 Nos |
| | 2 | Bearing Lower Half | 2460032250 | 2 Nos |
| Pressure Gauge | 1 | Machine = (0 - 6 kg/cm ²) Gluck Make | | 1 No |
| | 2 | Machine = (0 - 25 kg/cm ²) Gluck Make | | 2 Nos |
| | 3 | Tank = (0 - 16 kg/cm ²) Gluck Make | | 1 No |
| Pressure Switch | 1 | Pressure Switch IPS 100 | 9995206943 | 2 Nos |
| Solenoid Valve | 1 | Solenoid Valve | 2460204350 | 1 No |
| Gate Valve | 1 | 25 mm | | 5 Nos |
| | 2 | 18mm | | 6 Nos |
| | 3 | 15 mm | | 6 Nos |
| | 4 | 12 mm | | 6 Nos |
| | 5 | 2" | | 6 Nos |
| Lubricant | 1 | Servo System-32 (I.O.C. Ltd.) | | 2000 Ltrs |
| | 2 | Servopress-68 (I.O.C. Ltd.) | | 200 Ltrs |
| Grease | 2 | I.O.C. Servo Plex LC 3 or equivalent Li Complex | | 10 kg |
| Ball Bearing | 1 | 6306 Z | | 6 Nos |
| | 2 | 6307 Z | | 6 Nos |
| Bolt,Nut,Washer & Spring Washer | 1 | 14mm x 50mm | | 50 Set |
| | 2 | 12mm x 50mm | | 50 Set |
| | 3 | 12mm x 35mm | | 50 Set |
| | 4 | 12mm x 25mm | | 50 Set |
| | 5 | 10mm x 30mm | | 50 Set |
| | 6 | 8mm x 45mm | | 50 Set |
| | 7 | 5mm x 35mm | | 50 Set |

Electrical

| Name of the Unit | Sl. No. | Description | Part Number | Qty. |
|-------------------------------|---------|---|-------------|--------|
| Aluminum Lug | 1 | Bottol Type 185 mm ² , Dowalls Make | | 9 Nos |
| | 2 | Bottol Type 150 mm ² , Dowalls Make | | 6 Nos |
| | 3 | Flate Type 185 mm ² ,10 dia hole, Dowalls Make | | 9 Nos |
| | 4 | Flate Type 150 mm ² ,10 dia hole, Dowalls Make | | 6 Nos |
| | 5 | Flate Type 120 mm ² ,10 dia hole, Dowalls Make | | 12 Nos |
| | 6 | Flate Type 95 mm ² ,10 dia hole, Dowalls Make | | 12 Nos |
| Copper Lug (Heavy duty) | 1 | Ring Type 16 mm ² , 8 dia hole, Dowalls Make | | 6 Nos |
| | 2 | Ring Type 25 mm ² , 8 dia hole, Dowalls Make | | 6 Nos |
| | 3 | Ring Type 95 mm ² ,10 dia hole, Dowalls Make | | 6 Nos |
| Motor Terminal | 1 | For Cromtrom Gives Motor (above mentioned) | | 2 Nos |
| Combination Fuse Switch Unit | 3 | Moving Contact Unit for 200 A | | 2 set |
| | 4 | Fixed Contact Unit for 200 A | | 2 set |
| Fuse | 1 | HRC Fuse (T F - 200 A) EE Make | | 15 Nos |
| Contact Tips | 1 | AC3 :110 A , 415 V, (Kit No. - 6-358) BCH Make | | 2 Nos |
| | 2 | AC3 :70 A , 415 V, (Kit No. - 6-335) BCH Make | | 1 No |
| | 3 | ML-6 (AC3:110 A , 415 V), L & T Make | | 2 Nos |
| | 4 | ML-4 (AC3:70 A , 415 V), L & T Make | | 1 No |
| Contactor | 1 | AC3 :110 A , 415 V, BCH Make | | 2 Nos |
| | 2 | AC3 :70 A , 415 V, BCH Make | | 1 No |
| | 3 | ML-6 (AC3:110 A , 415 V), L & T Make | | 2 Nos |
| | 4 | ML-4 (AC3:70 A , 415 V), L & T Make | | 1 Nos |
| Selector Switch | 1 | Type- C10P326C (10 A / 440 V 1th : 16 A) RecomMake | | 2 Nos |
| Indicating Lamp | 1 | LED Type , 220 V ,(Base Dia - 25 mm) | | 6 Nos |
| Voltmeter | 1 | 0-500 V AC,1.5, 50-60 Hz, AE make | | 5 Nos. |
| Ampere Meter | 1 | 0-300A,, AC,1.5, 50-60 Hz, 30/5A, AE make | | 3 Nos. |
| Timer | | ET 100, (9-30 Sec), L&T make | | 2 Nos. |
| | | Pneumatic Timer 0-30 Sec,415V,AC coil BCH make | | 1 No. |
| Over Load Relay | 1 | 66 A to 110 A , L & T Make | | 1No |
| Solenoid Coil | 1 | 220 V, 50 Hz, 6 VA, Electro Pneumatic Make | | 2 Nos |
| Corrosion Inhibiting Compound | 1 | GTZ - 8785 , Dowall's Make | | 1No |

GENERAL TERMS & CONDITIONS:

- 1) **Earnest Money Deposit (EMD)** : ₹ 10,000/- (Rupees ten thousand only)
- a. No offer shall be accepted without EMD except exemptions mentioned in the tender.
 - b. Earnest Money Deposit of ₹ 10,000/- is required to be submitted in the form of Demand Draft / Pay Order drawn in favour of "**Braithwaite & Co. Limited**", payable **at Kolkata**, or in the form of Bank Guarantee as per format to be provided on demand. In case of Bank Guarantee, the validity period should initially be 120 days from the date of opening of tender. The units registered with DGS&D, SSI units registered with NSIC, MSME Units and PSU units for the tendered job / item(s) may be exempted from submission of EMD. Necessary documentary evidence in support of availing above exemption shall have to be submitted along with the techno-commercial bid.
 - c. EMD is liable to be forfeited if the bidder withdraws or amends impairs or derogates from the tender in any respect within the period of validity of this tender.
 - d. EMD shall be returned to unsuccessful bidder after finalization of the tender without any interest. For successful bidder, the same will be retained by BCL till completion of the job or till submission of Security Deposit or if so decided by the successful bidder, may be adjusted against Security Deposit for the said job.

2) **Security Deposit**

- a. For due fulfillment of the contractual obligations, the successful bidder shall furnish Security Deposit in the form of Bank Guarantee / Demand Draft / Pay Order for a sum equal to **5 % of the contract value** within 15 days from the date of issue of the Purchase Order. The Security Deposit shall remain valid till guarantee / warranty period. **In case of submission of BG towards Security Deposit the BG shall cover the desired validity period plus 06 months claim period.**
- b. As and when an amendment is issued to the contract, the successful bidder / contractor, within 15 days of receipt of such an amendment, shall furnish to the purchaser an amendment to the Security Deposit and / or Bank Guarantee rendering the same validity for the contract as amended.
- c. In case of submission of Bank Guarantee, the same shall be verified by BCL from the concerned issuing bank. The Security Deposit shall remain valid till Warranty / Guarantee period. In case security deposit is not submitted within 15 days from the date of issue of P.O, the release of security deposit at the end of the contract will be after taking into account of the corresponding period of delay in submission of the same even though the warranty / guarantee period expires.
- d. Security Deposit may also be built up by deducting the amount proportionately from each bill of the successful bidder / contractor on their request. However, 50 % of the total amount of the Security Deposit is to be deposited by the successful bidder on receipt of Purchase Order. Balance 50 % may be recovered from running bill.
- e. The units registered with DGS&D, SSI units registered with NSIC, MSME Units and PSU units for the tendered job / item(s) may be exempted from submission of Security Deposit. Necessary documentary evidence in support of availing above exemption shall have to be submitted along with the techno-commercial bid.
- f. Security Deposit will be returned only on completion of contractor's obligations under the contract and against refund request along with copies of documents such as related P.O. (including amendments), acknowledgement for submission of S.D., job completion certificate (if any) etc.

3) Performance Guarantee

The successful bidder / contractor shall have to submit a Performance Bank Guarantee of 5 % of Order value as per format to be provided by BCL after placement of order. In respect of bidders registered with DGS & D, NSIC for the tendered jobs, SSI unit or PSU unit though qualified for/availed exemption of submission of security deposit, Performance Guarantee of 5% of order value is to be submitted by them. The Performance Guarantee shall have to be submitted before receipt of first payment. This shall remain valid up to the guarantee / warranty period of the contract. PBG shall be returned / refunded only after successful completion of warranty period of the contract.

The Security Deposit, if submitted, may be converted to Performance Guarantee. The successful bidder/contractor who once submits Security Deposit, no separate performance Bank Guarantee is required to be submitted in such case.

- 4) Offer should remain valid for 90 days from the date of opening of this tender.
- 5) **Contract Period: 12 months.**
- 6) Ordered rate(s) should remain firm up to end of the contract and also up to subsequent delivery date extension(s) for a reasonable period. However, statutory variations (as per change in Govt. Policy) in GST etc., will be paid only on production/submission of proof.
- 7) Quantity Variation: Order quantity/value/period may vary $\pm 30\%$ at the same rate, terms & conditions depending upon requirement of BCL.
- 8) Repeat Order: BCL also reserves the right to place repeat order for maximum 75 % of original order quantity/value/period at the same rate & terms of original order for which acceptance of the same from the contractor shall be taken prior to placement of such repeat order.
- 9) Liquidated Damages: In the event of failure on the part of the supplier to complete the job within the stipulated completion period. Braithwaite reserves the right to recover a sum of 0.5 % for every week or part thereof, by way of L.D. subject to a **maximum of 7.5% of the ordered value.**
- 10) Risk Purchase: In the event of failure on the part of the supplier to supply within the reasonable period of time as decided by the Purchaser. The purchaser reserves the right to procure the materials from other agency / agencies at your risk and cost as per the order on Risk Purchase basis and shall recover the extra cost thereof, if incurred on the supplier.
- 11) Arbitration: All questions, disputes or difference whatsoever shall arise between the Purchaser and the supplier upon or in relation to or in connection with the contract either may forthwith give to the other notice in writing of the existence of such question, dispute or difference and the same shall be referred to the adjudication of Sole Arbitrator who shall be the CMD / MD shall have the right and authority to appoint any Officer of the Company as arbitrator not below the rank of a General Manager who is not directly connected with the purchase order.

Such a reference submitted to the Arbitrator shall be deemed to be the submission to the Arbitrator within the meaning of the Arbitration and Conciliation Act, 1996 Statutory modification thereof. The proceedings of the arbitration shall be held in Kolkata.

- 12) Any legal dispute that may arise will be settled within the jurisdiction of Courts at Kolkata.
- 13) Guarantee/Warranty period: 12 (twelve) months from the date of execution of the job and last supply of spares only.
- 14) The entire job is to be carried out under the supervision and instruction of DGM(Maint.)-AW or his any authorized representative.
- 15) Delivery: For Spares, free delivery to our Angus Works on as & when required basis.
- 16) Service Tax payable on AMC job only as per prevailing Govt. rule on submission of documentary evidence.
- 17) **Payment Terms**: 100 % after 30 days of submission of monthly AMC bill(s) supported by relevant documents, duly certified by DGM (Maint.) – AW or his authorized representative as per availability chart mentioned. Payment for spares items will be made against bills supported with **(a)** Prior Written Permission **PWP** and **JIR**

(Joint Inspection Report) (c) Store receipt (MRR) wherever applicable.

Common Note for Payment

- i) All Challans, Invoices should be in the form as specified by GST authority.
- ii) Party shall mention the HSN code/SAC code for the ordered item(s)/Jobs in their invoice alongwith GST rates.
- iii) BCL reserves the right to keep the payment of GST amount on hold till receipt of ITC by BCL is ensured. In case of non-compliance, regarding documentation/monthly return to ensure availing Input Tax Credit (ITC) by BCL. BCL also reserves the right to deduct the resultant amount.

Payment of AMC bill will be made on the basis of % availability of each machine as mentioned below:

| | For Availability of Machines | Payment |
|----|------------------------------|--------------|
| a) | 90% to 100% | 100% payment |
| b) | 80% to below 90% | 90% payment |
| c) | 70% to below 80% | 80% payment |
| d) | 60% to below 70% | 70% payment |
| e) | 50% to below 60% | 60% payment |
| f) | Below 50% | No payment |

$\% \text{ Availability} = (\text{Total available Hrs} - \text{Hrs of breakdown}) \times 100 / \text{Total available Hrs}.$

Service Tax shall be reimbursed against documentary evidences.

- 18) The contractor has to ensure the safety of men deployed by him. BCL in no case, will be held responsible for any accident/mishap caused to the contractor's men during execution of the contract. In no case, BCL will also be held responsible for PF & ESI liability. Contractor must abide by all statutory responsibilities like PF,ESI & GST etc.
- 19) Indemnity:- Bidder shall indemnify BCL against all claims in respect of their contractual obligations in the event of non-compliance of statutory rules / obligations / laws / taxes & duties etc.
- 20) **Evaluation of Lowest bid shall be done on Grand Total for AMC rate (excluding GST) basis. However, Unit Rates (all inclusive) for Spares to be quoted but these shall not come under evaluation. But price negotiation may be done with the L-1 bidder if required.**
- 21) BCL reserves the right of postpone the due date of the tender / to cancel the tender at any stage.
- 22) Termination: BCL reserves the right to terminate the contract by giving 7 days notice (if required) due to Poor performance / negligence of obligation under the contract.
- 23) An unconditional acceptance of all notes, terms & conditions of the tender must be given along with the offer in Techno-Commercial Bid. ALTERNATELY, submission of tender form duly signed with stamp on all the pages shall also be considered as unconditional acceptance of the tender terms from the bidder.
- 24) Price Bid Part shall be opened only if Part-I is qualified.
- 25) **Price Bid :**
 - i. This part should be free from any condition.
 - ii. Quoted rates against this tender shall remain Firm till completion of the order.
 - iii. No correction, alteration, over writing etc. will be allowed.
 - iv. Price Bid without signature shall be considered as cancelled.
 - v. Rate(s) quoted must be written both in figures & words, in case of difference, the rate quoted in words shall be considered.
 - vi. The bidder shall submit rates as per following formats

For Operation & Maintenance of Air Compressors

| SI no | Description | Qty | Period | AMC Rate per compressor per month excluding GST | Total AMC Rate for 12 months excluding GST |
|-------------------------------------|---|-------|-----------|---|--|
| 1 | 2 | 3 | 4 | 5 | 6 = (5X3X4) |
| | Job contract for operation, maintenance (Routine, Preventive & breakdown maintenance of 5 nos BTDJM air Compressors, Pneumatic pipelines & accessories at BCL Angus Works on labour basis | | | | |
| 01 | For Comp SI. No (1) at Highbay Assly Shop | 1 no | 12 months | | |
| 02 | For Comp SI No (2) to (5) at Foundry and Fab. Shop | 4 nos | 12 months | | |
| GRAND TOTAL(Excluding GST) | | | | | |

Price to be quoted for Spares items as per format given as under:**Spare List for Air Compressor Make – KIRLOSKAR, MODEL – BTJ JM**

List of Spares for Kirloskar Make (540 cmf) BTJ JM model Compressor

Mechanical

| Name of the Unit | Sl. No. | Description | Part Number | Annual Qty. Tentative | Unit rate (all inclusive) Rs. |
|------------------------|---------|--|-------------|-----------------------|--------------------------------|
| L.P. Cylinder Assembly | 1 | Suction Valve Assembly | 2480060050 | 6 Nos | |
| | 2 | Delivery Valve Assembly | 2480070050 | 6 Nos | |
| | 3 | Packing (Cylinder to Valve Assly) | 2460011850 | 60 Nos | |
| | 4 | Sealing Ring ID 101.0 (Valve Cover to Valve Holder) | 2460071450 | 120 Nos | |
| | 5 | "O" Ring (Suc) | 9991269550 | 100 Nos | |
| | 6 | Valve Plate (suc & Del) | 2460060350 | 24 Nos | |
| | 7 | Cushion Plate (suc & Del) | 2460060450 | 24 Nos | |
| | 8 | Valve Spring (Suc) | 2460067450 | 180 Nos | |
| | 9 | Valve Spring (Del) | 2460067250 | 180 Nos | |
| | 10 | Lift washer 0 20 X 0 12 X0.5 thk (Suc & Del) | 2460061250 | 36 Nos | |
| | 11 | Split Pin 0 3 X 22 (Suc & Del) | 9993026050 | 50 Nos | |
| | 12 | Circlip (Suc) | 2460061150 | 50 Nos. | |
| | 13 | HUB | 2460090350 | 10 Nos | |
| | 14 | BUSH | 2460090450 | 30 Nos | |
| | 15 | Valve Holder (Suc.) | 2460300550 | 12 Nos | |
| | 16 | Valve Holder (Del.) | 2460300650 | 12 Nos | |
| H.P. Cylinder Assembly | 1 | Suction Valve Assembly | 2480065050 | 4 Nos | |
| | 2 | Delivery Valve Assembly | 2480075050 | 4 Nos | |
| | 3 | Packing (Cylinder to Valve Assly) | 2460021850 | 60 Nos | |
| | 4 | Sealing Ring ID 101.0 (Valve Cover to Valve Holder) | 2460071350 | 60 Nos | |
| | 5 | Valve Plate (suc & Del) | 2460065350 | 16 Nos | |
| | 6 | Cushion Plate (suc & Del) | 2460065450 | 32 Nos | |
| | 7 | Valve Spring (Suc) | 2460065550 | 36 Nos | |
| | 8 | Valve Spring (Del) | 2460067350 | 36 Nos | |
| | 9 | Valve Holder (Suc.) | 2460300850 | 8 Nos | |
| | 10 | Valve Holder (Del.) | 2460300950 | 8 Nos | |
| Gear Pump | 1 | Oil Seal (For Gear Pump End Cover) | 2410110550 | 2 Nos | |
| | 2 | "O" Ring (For End Cover) | 9991212800 | 2 Nos | |
| | 3 | Needle Bearing | 2410115250 | 5 Nos | |
| Oil Filter Assembly | 1 | Filter Element Complet | 0910071250 | 2 Nos | |
| | 2 | Sealing joint container | 0910071500 | 2 Nos | |
| Air Filter | 1 | Filter Element Assembly | 2460150451 | 20 Nos | |

| Name of the Unit | Sl. No. | Description | Part Number | Annual Qty. Tentative | Unit rate (all inclusive) Rs. |
|---------------------------------|---------|--|--------------|-----------------------|--------------------------------|
| "V" Belt | 1 | "V" Belt SPC 4000 | 999.46440.00 | 30 Nos | |
| Drive Assly. For Gear Pump | 1 | One Way Clutch Assly. | 2460110750 | 1 No | |
| | 2 | Oil Seal (25 - 75 - 125) | | 10 Nos | |
| Connecting Rod | 1 | Connecting Rod Bushings | 950030300 | 5 Nos | |
| | 2 | Big End Bearing Assly (Pair) | 2460032450 | 5 Nos | |
| Copper Pipe | 1 | For Inside crank Case | | 3 Nos | |
| | 2 | For lubricating line | | 10 Mtrs. | |
| Ferule | 1 | Fro Copper Tube (lubricating line) | | 24 Nos | |
| | 2 | Fro Copper Tube (Inside crank Case) | | 12 Nos | |
| Crank Shaft | 1 | Crank Shaft S.G. Iron | 952460051250 | 1 No | |
| Bearing | 1 | Bearing Upper Half | 2460032350 | 2 Nos | |
| | 2 | Bearing Lower Half | 2460032250 | 2 Nos | |
| Preasure Gauge | 1 | Machine = (0 - 6 kg/cm ²) Gluck Make | | 1 No | |
| | 2 | Machine = (0 - 25 kg/cm ²) Gluck Make | | 2 Nos | |
| | 3 | Tank = (0 - 16 kg/cm ²) Gluck Make | | 1 No | |
| Preasure Switch | 1 | Preasure Switch IPS 100 | 9995206943 | 2 Nos | |
| Solenoid Valve | 1 | Solenoid Valve | 2460204350 | 1 No | |
| Gate Valve | 1 | 25 mm | | 5 Nos | |
| | 2 | 18mm | | 6 Nos | |
| | 3 | 15 mm | | 6 Nos | |
| | 4 | 12 mm | | 6 Nos | |
| | 5 | 2" | | 6 Nos | |
| Lubricant | 1 | Servo System-32 (I.O.C. Ltd.) | | 2000 Ltrs | |
| | 2 | Servopress-68 (I.O.C. Ltd.) | | 200 Ltrs | |
| Grease | 2 | I.O.C. Servo Plex LC 3 or equivalent Li Complex | | 10 kg | |
| Ball Bearing | 1 | 6306 Z | | 6 Nos | |
| | 2 | 6307 Z | | 6 Nos | |
| Bolt,Nut,Washer & Spring Washer | 1 | 14mm x 50mm | | 50 Set | |
| | 2 | 12mm x 50mm | | 50 Set | |
| | 3 | 12mm x 35mm | | 50 Set | |
| | 4 | 12mm x 25mm | | 50 Set | |
| | 5 | 10mm x 30mm | | 50 Set | |
| | 6 | 8mm x 45mm | | 50 Set | |
| | 7 | 5mm x 35mm | | 50 Set | |

Electrical

| Name of the Unit | Sl. No. | Description | Part Number | Annual Qty.Tentative | Unit rate (all inclusive) Rs. |
|-------------------------------|---------|---|-------------|----------------------|--------------------------------|
| Aluminum Lug | 1 | Bottol Type 185 mm ² , Dowalls Make | | 9Nos | |
| | 2 | Bottol Type 150 mm ² , Dowalls Make | | 6Nos | |
| | 3 | Flate Type 185 mm ² ,10 dia hole, Dowalls Make | | 9Nos | |
| | 4 | Flate Type 150 mm ² ,10 dia hole, Dowalls Make | | 6Nos | |
| | 5 | Flate Type 120 mm ² ,10 dia hole, Dowalls Make | | 12Nos | |
| | 6 | Flate Type 95 mm ² ,10 dia hole, Dowalls Make | | 12Nos | |
| Copper Lug (Heavy duty) | 1 | Ring Type 16 mm ² , 8 dia hole, Dowalls Make | | 6Nos | |
| | 2 | Ring Type 25 mm ² , 8 dia hole, Dowalls Make | | 6Nos | |
| | 3 | Ring Type 95 mm ² ,10 dia hole, Dowalls Make | | 6Nos | |
| Motor Terminal | 1 | For Cromtrom Gives Motor (above mentioned) | | 2Nos | |
| Combination Fuse Switch Unit | 3 | Moving Contact Unit for 200 A | | 2 set | |
| | 4 | Fixed Contact Unit for 200 A | | 2 set | |
| Fuse | 1 | HRC Fuse (T F - 200 A) EE Make | | 15Nos | |
| Contact Tips | 1 | AC3 :110 A , 415 V, (Kit No.- 6-358) BCH Make | | 2Nos | |
| | 2 | AC3 :70 A , 415 V, (Kit No.- 6-335) BCH Make | | 1No | |
| | 3 | ML-6 (AC3:110 A , 415 V), L & T Make | | 2Nos | |
| | 4 | ML-4 (AC3:70 A , 415 V), L & T Make | | 1No | |
| Contactor | 1 | AC3 :110 A , 415 V, BCH Make | | 2Nos | |
| | 2 | AC3 :70 A , 415 V, BCH Make | | 1No | |
| | 3 | ML-6 (AC3:110 A , 415 V), L & T Make | | 2Nos | |
| | 4 | ML-4 (AC3:70 A , 415 V), L & T Make | | 1Nos | |
| Selector Switch | 1 | Type- C10P326C (10 A / 440 V 1th : 16 A) RecomMake | | 2Nos | |
| Indicating Lamp | 1 | LED Type , 220 V , (Base Dia - 25 mm) | | 6Nos | |
| Voltmeter | 1 | 0-500 V AC,1.5, 50-60 Hz, AE make | | 5 Nos. | |
| Ampere Meter | 1 | 0-300A,, AC,1.5, 50-60 Hz, 30/5A, AE make | | 3 Nos. | |
| Timer | | ET 100, (9-30 Sec), L&T make | | 2 Nos. | |
| | | Pneumatic Timer 0-30 Sec,415V,AC coil BCH make | | 1 No. | |
| Over Load Relay | 1 | 66 A to 110 A , L & T Make | | 1No | |
| Solenoid Coil | 1 | 220 V, 50 Hz, 6 VA, Electro Pneumatic Make | | 2Nos | |
| Corrosion Inhibiting Compound | 1 | GTZ - 8785 , Dowall's Make | | 1No | |

| Sl.No. | Description of job/operation | Motor Specification | Rate per Motor (all inclusive) |
|--------|------------------------------|----------------------------|---------------------------------|
| 1 | Stator winding | 93 KW,1475 RPM,FRAME C250M | |
| 2 | Rotor winding | | |
| 3 | Replacement of Bearings | | |
| 4 | Replacement of Shaft | | |
| 5 | Repairing of Shaft | | |
| 6 | Repairing of End Covers | | |

Braithwaite & Co. Ltd.