श्यामा प्रसाद मुखर्जी पत्तन, कोलकाता
SYAMA PRASAD MOOKERJEE PORT, KOLKATA
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श्यामा प्रसाद मुखर्जी पोर्ट, कोलकाता
SYAMA PRASAD MOOKERJEE PORT, KOLKATA
Formerly Kolkata Port Trust

ISO 9001 : 2000
APPROVED BY IRQS
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A DEPARTMENT OF INDIAN REGISTER OF
ACCREDITED BY THE DUTCH COUNCIL FOR

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No.Mech/DC-III/1333 Dated, the 5th October, 2021

Sub: Submission of budgetary quotation for "purchase of two Portable Fire Pumps & one Trailer Fire Pump for use under Port Fire Service at Syama Prasad Mookerjee Port, Kolkata

Sir,

Syama Prasad Mookerjee Port, Kolkata (SMP, Kolkata) intends to purchase of two Portable Fire Pumps & one Trailer Fire Pump for use under Port Fire Service as per following terms and specification.

The major specifications of these portable fire pump and trailer fire pumps are briefly mentioned below:

SPECIFICATION OF PORTABLE FIRE PUMP AS PER 12717:2010.

Single stage high pressure portable Fire Pump directly mounted to the SS tubular cradle along with four strokes Petrol driven internal combustion highly efficient engine having minimum 2 cylinders coupled through a flexible coupling. The engine shall be capable to achieve an engine power of 70HP@7500rpm. The engine capacity shall not be less than 840CC.

Minimum discharge of the pump shall be 1600 LPM / 7 kg Cm^2. Dry Weight shall not exceed 130 kgs.

Pump casing & volute shall be of Aluminium alloy grade

Delivery outlets shall be 2 nos. 63 mm Indian standard female Made of SS.

Impeller of the pump shall be of Bronze or Aluminium.

Pump seal shall be fitted with maintenance free Mechanical Carbon seal.

Pump shaft, Delivery valve, spindle and wear rings shall be of high grade Stainless steel.

A suitable primer (Exhaust Gas Ejector type preferably) shall be fitted for lifting water from the depth of 7 meter in the 30 seconds while connecting 4 X 2.5 m length of suction hose (100 mm. Dia)

Control panel and Pump compound gauge, Engine pressure gauge and delivery pressure gauge to be fitted in such a place so that operator can see easily. Throttle control, Cold start choke, primer lever, Ignition switch and hand pulling recoil type start shall be provided in accessible place. One flood light is also to be provide.

Minimum capacity of 15 litres Fuel tank shall be fitted within the compact arrangement.

Acceptance test to be made at the Docks of KDS, SMPK. All the expenses for fuel, lube oil etc. are to be borne and all arrangements are to be made by the Contractor.

Engine manufacturer's confirmation (Confirmation Certificate shall be directly from the manufacturer, certificate from the distributors will not be accepted) for the proposed engine to be provided to confirm the maximum capacity of the engine.

Certificate conforming satisfactory performance of the same pump model supplied in past to be submitted from any Government Fire Service / PSU / Semi- Government sector. The certificate shall confirm satisfactory pump performance for a period of at least one year from the date of supply.

There shall be guarantee for two years of the Units from the date of final acceptance.

SPECIFICATION OF TRAILER FIRE PUMP AS PER IS : 944.

ENGINE :

The Engine should be TATA/ Ashok Leyland/ Kirloskar with minimum of 4 cylinders and 60 HP Diesel Engine. The Engine shall have sufficient power to drive continuously the fire pump at the discharge rate of 1800 LPM at 7 kgf/cm² without manifestation of strain and stress; it shall have 12V Electrical system complete with its electrical fittings which should be well insulated and protected with cover. The battery should be so placed as to make it easy for removing and fitting. The Engine must have a self starting device as per norms along with manual starting device with a handle. It shall be properly cased in a frame and secured. The design should be such that every part of it should have easy approach.

PUMP ;

The pump shall be of centrifugal single-stage type manufactured out of high grade Gunmetal. The pump shaft shall be made of stainless steel which should be carried in antifriction bearings external of casing. The impeller neck ring shall be renewable and manufactured from high grade bronze. The Stud shall be of stainless steel, Gland shall be of manual adjusting type. Drain plug shall be provided at the bottom. The suction inlet of the pump shall be of 4" (100 mm) in diameter, round threaded mouthpiece. The pump shall be capable of giving an output of 1800 LPM through two delivery outlets fitted with 2½" (63 mm) instantaneous female coupling with screwed wheel type quick closing clack valve. Blank caps fastened with chain and incorporating means to relieve pressure between the valve and the cap shall be provided one for each delivery valve. The pump shall be of rear mounted type.

TRAILER ;

The Trailer, to hold in position the complete pump unit, shall have two wheels fitted with pneumatic tyres of suitable size. The size of tyre used shall be such that these are indigenously produced and are capable of carrying the fully laden weight of the trailer without exceeding the standard load rating specified for that size of tyre by manufacturers. These requirements shall be complied, when the fully laden trailer is travelling at a road speed of 64 Kmph as stated in 7.1 (c) of I.S. The recommended size of tyre is 6.00 x 16; 8 ply.

The trailer frame shall be designed to meet the strenuous conditions which trailers receive while being towed at speed over rough ground, and the frame shall permit the pumping unit to be mounted such that the centre of gravity remains as low as possible. The centre of gravity of the complete trailer pump shall be slightly forward of the axle when the towing eye is 66 cm. from the ground. The distribution of load of the trailer shall be such that when the trailer is resting on the front leg only it shall not tilt backwards. The trailer shall hold the road well while being towed; independent springing of the wheels facilitating the low mounting of the pumping unit shall be preferable ; when being towed, the height of the towing eye of the trailer shall normally be 56 cm above ground level but no part of the trailer unit shall have a ground clearance of less than 23 cm when the trailer is tilted so as to raise the height of the eye to 66 cm or to lower it to 56 cm.

Efficient brakes shall be provided on the two wheels, operated through compensating gear by over-run. A hand lever situated in an accessible position at the front of the trailer frame shall be provided for operating the brake when disconnected from the towing vehicle. The 'OFF' position of this brake level shall be towards the front of the trailer and there shall be a ratchet or similar device to hold the brake in the 'ON' position.

Two handles (main handling bars), each not less than 50 cm long, which can be folded and secured along the frame, when not in use shall be provided at the front of the trailer frame. These handles shall be at least 15 cm above the level of the towing eye.

Two eyes for the attachment of drag ropes shall be provided in suitable positions. Four slinging eyes shall be provided to facilitate lowering the complete trailer pump into ship's holds. Two of the slinging eyes may be the drag rope eyes.

Three adjustable Jack-legs (two at the rear and one at front) shall be provided which can be quickly lowered into position and adequately secured to provide a suitable base for the unit when pumping or standing unattached. The legs shall have 200 mm length round mild steel plates dish upwards to the base of the pipe legs to prevent the pipe penetrating into earth when standing unattached. The leg shall be capable of being positively looked in the housed position.

Provisions shall be made on the trailer for carrying suction hose and other equipment as required.

STABILITY ;

The stability of the trailer pump shall be such that under equipped and loaded conditions and with the front supported to reproduce the normal towing position, if the surface on which the appliance stands is tilted to either side to an angle of 25 degrees from the horizontal, the point at which overturning occurs is not passed.

DRAW BAR & TOWING EYE ;

The draw bar and towing eye shall be of substantial construction and the towing eye shall have an internal diameter of 75 mm. They shall be of high quality forged steel of not less than 63 kgf/cm² ultimate tensile stress. The shank shall be accurately machined with adequate radius at the shoulders. To ensure that the housing will withstand shock loads inherent under towing conditions, it is essential that the design of the housing and the means of fixing the housing to the trailer chassis frame shall take care of the draw bar pull of 2000 kg without being overstressed.

The shank of the towing eyes shall be mounted in the housing so as to absorb shocks in both directions of movement forward to cushion the shock of taking the load, and backward to regulate the rate of application of the brakes. The compensation mechanism shall be such so as to give smooth tow at all reasonable speeds on average road surfaces.

BODY & PAINT ;

The body construction shall have a trim outlook. The engine portion should have a rigid cover at the front and rear and have a hinged bonnet in between which can be opened and removed easily. One equipment box shall be built at a suitable place preferably between the engine and the pump. Aluminium sheet of 16 SWG shall be used for body cover.

One tool box is to be built in front of the engine. Suction hose bracket with suitable leather padding shall be provided on either side for accommodation 4 length of suction Hose 8 ft in length and 4 inch dia. The unit is to be suitably painted with heavy coat of primer and finish paint of post-office red shade. Mudguards of heavy section Aluminium are to be provided.

"**पोर्ट फ□अर स□र्विस, श्य□म□प्रस□द मुखर्जी पत्तन**" to be written by Golden Yellow with Black border on the both side of the Unit.

PUMP PRIMER ;

The priming system shall be of reciprocating vertical type, preferably of Dennis model. Means shall be provided to automatically limit the speed of engine while the primer is engaged.

The primer shall be capable of lifting water at least from 7.0 M in not more than 24 seconds and shall preferably be fully automatic

TRANSMISSION ;

Assembly of the Pump and the Engine shall be as compact as possible. The Transmission between the Engine and the Pump may be provided with flexible coupling and universal joint.

The Engine and Pump should be mounted on anti-vibration mountings so as to reduce vibration to minimum.

CONTROL & INSTRUMENT ;

The Control and instrument which shall be grouped conveniently and situated adjacent to pump suction and delivery connection shall include the following :

(a) Ignition switch with warming light to show the switch in 'ON' position
(b) Throttle Control
(c) Ampere meter
(d) Central cock for the gravity feed tank
(e) Primer Control
(f) Compound gauge calibrated as follows :
Vacuum 0 to 75 cm of mercury in Red
Pressure 0 to 6.0 kgf/cm² in Black
(g) Pressure gauge calibrated from 0 to 17.5 Kgf/cm²
(h) Thermometer for engine cooling water system
(i) Oil pressure gauge
(j) Fuel tank content gauge
(k) Self starter switch

ILLUMINATOR ;

Means shall be provided to illuminate the controls and instruments. One red light should be so placed that during night it could be treated as safety indication lamp. Generator/Alternator is to be installed for charging 12V Battery.

WEIGHT ;

The complete Unit shall be as light as possible. The weight of the complete trailer pump including water, fuel and oil but without equipment shall not exceed 1100 kg.

WORKMANSHIP & FINISH ;

The standard workmanship and finish of all electrical and mechanical parts shall be such that the parts normally required to be replaced can be supplied and that they will fit without difficulty. Casting and machining of Pump components should be free from any kind of defects and should have good surface finish.

INSTRUCTION BOOK & ACCESSORIES ;

An instruction Book (or Books) shall include all item-wise and illustrated spare parts list giving reference numbers to all the wearing parts with a view to ensure that adequate number of such part is made available whenever necessary. An instruction book (or books) for the guidance of user, containing both operating and normal maintenance procedure shall be supplied.

INSPECTION & TESTING

There shall be the following inspection :

1) Final acceptance test as per I.S.

Acceptance test to be made at the Docks of KDS, KoPT. All the expenses for fuel, lube. oil etc. are to be borne and all arrangements are to be made by the Contractor.

MANUFACTURER'S CERTIFICATE & GUARANTEE ;

1) The Contractor shall supply the Manufacturer's Test Certificate for the Engine and the Pump.
2) There shall be guarantee for two years for all the materials, workmanship and operation of the Unit from the date of final acceptance and handing over of the Trailer Fire Pump to KoPT.
3) All Expenditure for testing of Pump shall be borne by the Contractor.

Budgetory Quotation is to be submitted strictly as per attached Bill of Quantities (BOQ) separately.

Considering the above, you are requested to submit your budgetary quotation as per the attached BOQ format superscribing the envelope **'Submission of budgetary quotation for "purchase of two Portable Fire Pump & one Trailer Fire Pump for use under Port Fire Service at Syama Prasad Mookerjee Port, Kolkata"** and addressed to the Chief Mechanical Engineer, 8, Garden Reach Road, Kolkata-700043 or in email to ddas@kolkataporttrust.gov.in.

Your budgetary quotation should reach to the above address or through email on or before 25.10.2021.

Thank you,

Yours faithfully,

Enclo: Bill of Quantities.

(D. Das)
Dy. Chief Mechanical Engineer-III
for Chief Mechanical Engineer
(Mobile:9674720043)