ROAD BLOCK BARRIER TECHNICAL SPECIFICATION

PRODUCT DEFINITION:

Road block barrier should be PLC (Programmable Smart Controller) controlled and hydro-mechanical type. Road block barrier will be used to control vehicle flow. Other technical specifications are as follows:

Road Block Barrier Mechanical Features:

1. Road block barrier's active shield's length should be between 2000-6000nms specified by the administration. While active, shield of the barrier's vertical length from the floor must be 620mm (+%5) minimum . Barrier assembly package's heigth must be minimum 930mm (+%5), it's width must be 1250 mm (+%5) at least. Assembly package's heigth has to be 16 cm longer than barrier's shield maximum. The barrier's measurements mustn't be shorter than the measurements given.
2. Road block barrier's assembly package must be made from 100mm npu100*100*5mm and 1,5 mm thick steel metal plates which are cut with laser . Assembly package must be designed suitable for both concrete assembly and canal assembly. If it's preferred to assemble it to the canal, the metal frame which is going to be used will be manufactured 100 mm npu. If it's going to be assembled concreted, the assembly package must be covered with 1.5 mm DKP metal plates.
3. Road block barrier's shield should be formed by 5 mm thick vertical metal plates and 10 mm thick upper metal plates which are cut with laser. Shiled's front metal plate has to be 5 mm thick minimum. The pillars height should be 670 mm (+%5) minimum. For every 500 mm (+/- %5) there should be a pillar. To prevent any detachments upon impact, any pillar or technique which is made by cutting and welding will not be accepted. On pillar's front side, for road block barrier to not to break up upon impact one-piece pillars will be used stationed from active shield's back to the front.
4. While inactive, road block barrier's height should be 0 cm related to the road's surface. There shouldn't be any hinges or etc. bulges on road block barrier's surface to not block the cars that are passing by over the barrier. Road block barrier should be supported with steel bearings through case's bottom for every 100 cm depending on the manufacture measurements. Road block barrier should be screwed with 4 screws on top for lubrication and maintenance. Road block barrier should be painted with at least 1 layer of lining and 2 layers of topcoat paint.
5. Road block barrier should be suitable for passing by cars which weigh at least 15 tonnes for every one aks. Companies should put forward this with a written commitment.
6. There should be a maintenance hatch on the road block barrier into which the staff can enter easily. The hatch should have at least 6 screws.
7. There should be a drainage well which is manufactured from 1,5 mm DKP metal plates and with measurements 50*50*60 mm for water pump and buoy which will be put in to the barrier in order to prevent it from getting affected by rain.
8. Hydraulic power unit and electric panel should be put into a separate cabin. The cabin should be designed water-proof and dust-proof. The cabin measurements can be set by the manufacturer while considering easy-use and maintenance. The cabin will be painted with electrostatic dust paint. In cabin's manufacturing process 1,5 mm DKP metal plates should be used.
9. In road block barrier's assembly ready-mixed concrete with TS 706 EN license should be used.
10. The excavation, removal of the excavation, vertical and horizontal transport, concreting, wiring and processes like these which are needed for road block's assembly are all be done by the

contractor. The required material and labor costs will be included in the payment for these operations. No extra payment will be made to the company for these operations.
11. Road block barrier should be capable of stopping a car which weighs 18 tonnes and has a velocity of 80 km/h. This situation should be committed by the company written.

Road Block Barrier's Hydraulic System Features:

1. Road block barrier should operate hydro-mechanical. There should be at least one hydraulic piston inside the barrier. Hydraulic piston's inner mile diameter should be at least 50 mm. Other measurements for the piston will be set by the manufacturer. In hydraulic piston's joints steel bearings will be used. Bearings which are made with casting will not be accepted.
2. Inside the barrier hydraulic hose pipes which are 1/2" double helix rubber isolated and resistant to 160 bar hydraulic pressure minimum will be used. Hose pipes and cables between the barrier and the control unit will be transported through korege pipes whose diameter is 100 mm.
3. Hydraulic system engine should operate in 380 VAC and 50 Hz voltage. Minimum engine power should be 4,0 kW. Electric engine must have CE and TSE licenses.
4. Road block barrier should have the ability to work for 24 hours continuously. Barrier activation and deactivation durations should be minimum 3 seconds and maximum 9 seconds.
5. There should be a adjustment valve to prevent hard collisions while deactivating the barrier.
6. Hydraulic oil cauldron should be at least 40 litres in volume. Oil cauldron should be manufactured from 2 mm metal plates at least. On the cauldron there should be a analog temperature, oil level indicator, oil discharge stopper and oil pressure indicator. There should be insulation between the body and the hatch of the cauldron. The bolts that connect the body and the hatch must be outside of the cauldron. For the possibility of the bolts falling down inside the cauldron and causing problems, inner connection screw system will not be accepted.
7. The pump which will be used in the hydraulic system should be 20 centiliter / cycle. Coupling which will be used between the pipe and the engine will not be made with casting. Pump joint bowl should be injection casting, not plastic.
8. Solenoid valves should operate with 24 VAC/DC voltage for the sake of worker safety. Valve capacity should be NG 10 class. The valves should have at least 2 poles, open center.
9. On the hydraulic tank there should be a lever to lower down the barrier in case of a breakdown or power cut.
10. There should be direction selective and double effective hydraulic hand pump in case of a power cut.
11. System operating pressure must be at least 50 bars and maximum tube pressure must be 160 bars.
12. There should be an oil addition hatch.
13. There should be an adjustable hydraulic pressure protection adjustment valve on the hydraulic system.
14. All joint records, tubic tube and connectors should be galvanized against oxidation.
15. The manufacturer should have ISO 9001-2008 Industrial Registry Certificate which is required from Ministry of Science, Industry and Technology.

Road Block Barrier PLC Features:

1. In PLC's relay, supply and input-output voltage must be maximum 24 VDC.
2. In PLC's relay, there should be at least 14 inputs and 10 outputs.

3. Extension module should be pluggable.
4. On PLC relay there should be a LCD screen(Liquid Crystal Display) which is capable of displaying 2 lines * 16 characters.
5. There must be front panel buttons for programming.
6. It should have real time clock, normal and fast type counters and analog-digital I/Q features.
7. It should be programmable with RS 232 interface.
8. Programming language must be Turkish.

Road Block Barrier Electric Panel Technical Features:

1. Electric panel should be at least 40*60*20 cm, manufactured from PVC or carbonfibre, at least IP 56 standard and lockable type.
2. The connection cables inside the panel should be assembled into PVC canal.
3. All members should be Raya assembly type for a fast connection.
4. Panel supply voltage should be 380 VAC / 50 Hz.
5. There must be an at least 25 Ampere conductor and appropriate power analog thermal relay for the hydraulic engine.
6. For every engine, traffic light, coil circuit, solenoid valve, metal mass detector and photocell relay there must a separate connector output.
7. All cables leading to the panel must be connected using VDU type ray connector connection. Connectors' input and output information must be written on the panel.
8. In system's panel photocell relay, red-green lit traffic light, metal mass detector, button front connections and preparations must be ready
9. All cables and hose pipes must enter the panel with IP 56 standards.
10. The metal mass detector which will be optional must have sockets, must be 2 canals and 24 VAC/DC.
11. The photocell relay must be RX-TX (receiver-transmitter) type, 24 VAC/DC and must have IR feature.

Road Block Barrier Operation and General Features:

1. Road block barrier must be controllable with both manual buttons and remote control.
2. Barrier commands must only include active, deactivate and emergency stop. Systems with the option only to active-deactivate will not be accepted. Emergency stop will not be on the remote controller, it should be on manual buttons.
3. When required, it should have the ability to add an another controller.
4. Road block barrier should manage vehicle flow safety with optional metal mass detectors. There should be at least 2 detectors which will be one on the front of the barrier and one on the back of the barrier. While there's a vehicle on top of the barrier they shouldn't move.
5. In case of a possible defect in the system, the user must be able to request information from the PLC panel. System must be able to find it's failure, and have a software that's able to show it.
6. All software language must be Turkish.
7. While the barrier is ready for a transition, the traffic light must glow green. Other times it must glow red.
8. The user must be able to ungear the system in case of a defect or a power cut using a valve.
9. Barrier and the hydraulic pump must be usable manually.

10. All system must be able to operate in -15 / +50 °C.
11. System’s all dry contact information, Access systems, card readers, security relays and warning components must be compatible with each other.
12. All system must have a warrant of 2 years at least. This situation must be committed by the company written.