

ADVANCED PROTECTION FIRE SYSTEMS

D.no. 18-91/2, Road No.6, Hanumanpet, Malkagiri, Hyd-47.

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TAX INVOICE

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GST NO:-36AAHCG4562D1ZP

Bill No:-24

Dt:-04/9/2023

PO NO:20230708024

PO DATED:-8/7/2023

GST :-36AMRPP2948R1ZV

SL NO	ABSTRACT DESCRIPTION	Installation Amount
1	Fire Fighting Systems	844760.50
2	Pumps and accessories	151690.00
3	Sprinkler System	936700.00
	Total	1933150.50
	Basic	1933150.50
	CGST@9%	173983.55
	SGST@9%	173983.55
	Grand Total	2281117.59

In Words:-Twenty Two Lakhs Eighty One Thousand One Hundred Seventeen Rupees Fifty Nine Paise Only

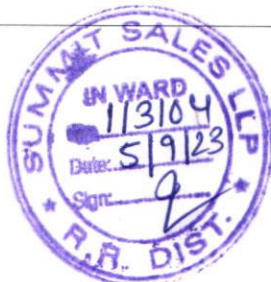
Yours Faith Fully
From



Advanced Protection Fire systems

M:9989698724/9866018724

Sr. No.	Item	Total	Unit	Installation	
				Unit Rate	Amount
I	Aboveground Piping: Heavy, 'C' class pipes , 6.3 mm thick as per IS 1239 / IS 3589 with welded joints, including all fittings, MS rigid support for header and GI stud rod supports for branches, cutting the pipes to correct length jointing with ductile iron Grooved/ threaded fitting, fixing with clamps to G.I brackets, hangers or beam clamps including testing to 15 kgs/cm2 pressure , painting, inserted rubber gaskets with 2 coats of Zinc Dichromate primer and two coat of approved enamel paint.(Fire red). 15% of the field joints shall be radiographed. Pipe supports shall be designed and complied according to the loads specified in NFPA 13 latest edition	Qty			
NOTE	Fittings shall be forged ASTM A 105 3000# socket weld type below 50mm and Seamless ASTM A 234 butt weld type for 50mm and above. Flanges shall be forged A 105 150#				
A	MS PIPE				
i	300 NB 'C' class	0	R.M	1,800.00	0.00
ii	250 NB 'C' class	7.5	R.M	1,500.00	11,250.00
iii	200 NB 'C' class	9.3	R.M	1,200.00	11,160.00
iv	150 NB 'C' class	997	R.M	720.00	717,840.00
v	100 NB 'C' class	3	R.M	600.00	1,800.00
vi	80 NB 'C' class	21.3	R.M	385.00	8,200.50
vii	65 NB 'C' class	0	R.M	390.00	0.00



viii	50 NB 'C' class	92.5	R.M	300.00	27,750.00
ix	40 NB 'C' class	0	R.M	240.00	0.00
x	32 NB 'C' class	0	R.M	192.00	0.00
xi	25 NB 'C' class	6	R.M	120.00	720.00
2	Underground Piping: Heavy, 'C' class G.I pipes, 6.3 mm thick as per IS 1239 / IS 3589 with screwed or grooved joints, including all fittings, MS rigid support for header and GI stud rod supports for branches, cutting the pipes to correct length jointing with G.I threaded fitting, fixing with clamps to G.I brackets / hangers GI nuts bolts, washer including supporting/fixing. Pipe to be laid underground in 1 Mtr x 1 Mtr trench with 25mm sand bedding, with supply of sand & laying below the pipe including testing to 15 kgs/cm2 pressure, painting, inserted rubber gaskets with 2 coats of bituminous primer and 4mm thick wrapping according to IS10221. Underground pipes shall be holiday tested.				
i	200 NB 'C' class	0	R.M	1,800.00	0.00
ii	150 NB 'C' class	0	R.M	1,350.00	0.00
iii	80 NB 'C' class	0	R.M	800.00	0.00
3	Supply, Installation, Testing & commissioning of D.I double flanged sluice valve of rating PN 16 with non rising spindle, bronze / gun metal seat, ISI marked complete with nuts, bolts, washers, gaskets, confirming to IS 780 or FM approved of following sizes as required.				
i	300 NB	0	Nos.	2,400.00	0.00
ii	250 NB	0	Nos.	2,000.00	0.00
iii	200 NB	0	Nos.	1,600.00	0.00
iv	150 NB	0	Nos.	1,200.00	0.00
v	100 NB	0	Nos.	800.00	0.00
vi	80 NB	0	Nos.	650.00	0.00
vii	65 NB	0	Nos.	520.00	0.00
4	Supply, Installation, Testing & commissioning of lever / gear operated D.I Butterfly valves of rating PN 16 with ISI marked complete with nuts, bolts, washers, gaskets, confirming to IS 14846 of following sizes as required. (200NB and above shall be gear operated)				
i	200 NB	3	Nos.	1,600.00	4,800.00
ii	150 NB	23	Nos.	1,200.00	27,600.00
iii	100 NB	3	Nos.	800.00	2,400.00
iv	80 NB	4	Nos.	640.00	2,560.00
v	50 NB	0	Nos.	400.00	0.00
5	Supplying, installation testing and commissioning PN-20 C.I. Non-return valve conforming to IS : 5312 with flanged ends (heavy) tested to hydraulic pressure with necessary companion flanges, bolts, nuts, gasket packing and any other spares, as per fire practice etc complete.				
i	150NB	3	Nos	1,200	3,600.00
ii	100 NB	0	Nos	800	0.00
iii	80 NB	2	Nos	640	1,280.00
6	Supplying, installation testing and commissioning Foot valve/strainer with Flanged ends.				
I	a) 150mm dia	0	Nos	1,200	0.00
	b) 100 mm dia	0	Nos	800	0.00
7	Providing and fixing with 5mm thick glassdoor (with M.S. frame 2hr fire rating) of size 1500x910mm or as per architects requirements with center opening for fire hose cabinet. Suitably marked on the outside with the letters "FIREHOSE" including locking arrangement, all consumables & accessories ...etc. complete in all respect as per drawing. All M.S. work to be in Enamel of P.O. Red colour over appropriate primer. (Cost shall be inclusive of providing break glass box containing key for the cabinet along with hammer).	0	Nos.	1,500.00	0.00
8	Providing and fixing with 5mm thick glassdoor (with M.S. frame 2hr fire rating) of size 750x600x250mm with center opening for fire hose cabinet. Suitably marked on the outside with the letters "FIREHOSE" including locking arrangement, all consumables & accessories ...etc. complete in all respect as per drawing. All M.S. work to be in Enamel of P.O. Red colour over appropriate primer. (Cost shall be inclusive of providing break glass box containing key for the cabinet along with hammer).	0	Nos.	500.00	0.00

9	Supply & Installation of Single headed hydrant valve Type A as per IS 5290, made of SS with 63 mm dia instantaneous outlet of 80 mm dia fanged inlet ,Blank caps , chain and hand wheels etc complete. All the hydrant accessories shall be given serial number for identification, numbers shall be written in the white paint complete, as per directions of EIC	17	Nos.	400.00	6,800.00
10	Supply & Installation of 15 M long, 63mm dia RRL hose with stainless steel instantaneous couplings binded with copper wire and Hoses shall be stored in side the hose cabinet with Bracket and required accessories.	58	Nos.	100.00	5,800.00
11	Supply, Installation, Testing & commissioning of first aid fire hose reel of braided rubber/thermoplastic suitably reinforced dia.19mm size & 36m standard length with SS 6mm tapering branch nozzle. Rigid Pipe connection to riser with flanged shut off valve attachment. Hose to be swinging type wall mounted drum to suitable location including fixing with approved fasteners & bolts (Including drum and swivel arrangement) etc complete.	14	Nos.	800.00	11,200.00
12	Self Contained open circuit Automatic Positive Pressure Compressed Air Breathing Apparatus Set confirming to EN137:2006 Type 2 & CBRN approved, with 6.8 liters/300 Bar Aluminium lined fully wrapped carbon composite material Compressed Air Cylinders approved to EN 12245 & CE marked, as per following specifications.SCBA set : CE marked, EN 137: 2006 type 2 approval and CBRN approval.Facemask : EN 136: class 3Cylinder : CE marked EN 12245 and CCOE Nagpur approvedCylinder valve : EN 144 approved	0	Nos.	-	0.00
13	4 Way gun metal fire,brigade breaching inlet with built in NRV and isolation valve suitable for PN16 rating. Instaneous couplings shall conform to IS:903	0	Nos.	1,200.00	0.00
14	2 Way gun metal fire brigade breaching inlet with built in NRV and isolation valve suitable for PN16 rating. Instaneous couplings shall conform to IS:903	0	Nos.	800.00	0.00
15	Supply & Installation of SS short branch pipe made of 63 mm dia Male instantaneous coupling with nozzle, conforming to IS 903 complete with supports or clamps.	0	Nos.	100.00	0.00
				Total	844,760.50
II	Pumps and accessories				
Sr. No.	Item	Total	Unit	Instalaltion	
				Unit Rate	Amount
1	Supply, installation, testing & commissioning of TEFC Electric motor of suitable capacity driven appropriate centrifugal end suction fire water pump of 2850LPM @7 Kg/cm2 discharge pressure, 2900 RPM, with common base plate, coupling, coupling guard, power & control cables, foundation bolts, earthing, anti vortex plate etc. complete as per specifications and drawing. Pump shall be able to deliver 150% of discharge with minimum 65% rated head with suitable motor for the same with shut off not exceeding 120% Pump shall be suitable as per NPSH required & available. Fire pump shall have C.I. casing, CS diffusers, bronze impeller (hard finished and dynamically balanced) and S.S. (304) Shaft with Mechanical seal. Including the necessary piping connections & fittings, flexible coupling, coupling guard & complete, as per directions of EIC. (The pump should be tested for duty point test at factory).	2	Nos.	25,000.00	50,000.00
2	Supply, Installation, Testing & commissioning of diesel Engine driven stand by pump, centrifugal end suction type having capacity 2850LPM and 7bar head. Fire pump shall have C.I. casing, CS diffusers, bronze impeller (hard finished and dynamically balanced), CS Shaft with mechanical seal and anti vortex plate. The installation shall be complete with necessary foundation, with frame and fittings.The pump shall be coupled to suitable HP of Diesel engine radiator water cooled type with speed of 1500 RPM and complete set shall be mounted on common base frame. Batteries & battery leads with stand, Fuel tank (for 6 Hrs. operation) with stand & gauge glass, Fuel piping with valves. The quoted rate shall include radiator water cooling piping(if required) coupling guard and other standard accessories, MS fabricated common base plates and foundation bolts, anti vibration mounting, etc. complete. Pump shall be capable of furnishing Not less than 150% of rated capacity at a head of Not less than 65% of the rated head. The shut off head shall Not exceed 120% of rated head. heat exchanger with necessary piping connections & fittings, flexible coupling, coupling guard & exhaust pipe connection complete, as per directions of EIC (The pump should be	1	Nos.	40,000.00	40,000.00

3	Installation, testing & commissioning electric motor driven pump of TEFC Electric motor of suitable capacity KW, Motor driven vertical inline type single stage fire water pump of 180LPM @7Kg/cm2 discharge pressure, 2900 RPM, with common base plate, coupling, coupling guard, power & control cables, anti vibration mounts, foundation bolts, earthing, antivortex plate etc. complete as per specifications. Pump shall be able to deliver 150% of discharge with minimum 65% rated head with suitable motor for the same with shut off minimum 120% Pump shall be suitable as per NPSH required & available.	2	Nos.	15,000.00	30,000.00
4	Supply, installation, testing & commissioning of Modular compartmentalized Motor Control Centre fabricated main body from 14 SWG CRCA sheet. The panel shall be dust and vermin proof, 415V 3Ph, 50 Hz as per IP 42 construction. The panel shall be powder coated with FIRE RED with 7 tank process for clearing and phosphating before powder coating. The bus bar will be of aluminium. The panel should comprise of soft starters or variable frequency drives for individual electric pump and the diesel engine controller feeder for diesel engine pumps integrated to same electric panel. All MCCB shall be suitable for motor duty application. Outgoings should consist of TP MCCB 50KA magnetic based release with spreader link and ROHM, TP contractor, overload relay, start/stop push button. ON/OFF/Trip indicating lamp and 6A control MCB 10KA suitable for motor rating. Suitable 400 Amps Incomer should consist of TP 50KA MCCB of thermal magnetic based release with spreader link and ROHM, ammeter CTR 400/5A and voltmeter with in built SS, CT, RYB Indicating lamp and 6A control MCB 10KA suitable for motor rating.	0	Nos.	22,000.00	0.00
4a	Suitable size feeder for Battery Charging if required or Spare				
5	Supplying, installing, testing and commissioning of electrical motor Driven Booster pump for hydrant system with discharge 900 lpm against head 35 m with M.S. frame and clamps as necessary for fixing the pumps on the foundation of slab as per site conditions	1	Nos	8,000.00	8,000.00
6	Supply, installation, testing and commissioning of weather proof type starter consisting of following and made of 2mm thick CRCA sheet including painting with epoxy powder coating for Booster pump motor. The box shall be suitable for terminating AYFY cable of 3core 6sq.mm size. The box shall be mounted on suitable angle frame work of 450mm height on a PCC pedestal including all materials.	0	Nos	0	0.00
	DOL starter suitable motor with MPCB and contactor, over load relay, single phasing preventor and ON/OFF/TRIP indication A/M selection switch & push button for manual operations and with volt meter, Ammeter with selector switches	0	Nos.	4000	0.00
7	Fire survival and armoured power cable from MCC panel to Electric pump, diesel engine pump, jockey pump, all pressure switches, including termination, earthing, cable tray, gland etc. as required complete.	0	Lot	12,000.00	0.00
8	Supply, installation and testing of additional length of exhaust pipes Class C with 75 mm thick aluminium & mineral wool insulation and density of insulation 48kg/m3 with 26 gauge aluminum sheet with long radius bend from residential silencer with necessary clamps, fixtures, civil works and 2 coat painted with heat resistant, rust proof, bituminous paint of approved colors to full height, in stages of following sizes including suitable rain guard for top. Fixing shall be done with proper GI clamps, expansion bolts, rigid supports, also painted, fixed on the wall / inside the duct etc. complete, as instructed by the Engineer.	0	R.M	1,200.00	0.00
9	Air release valve 25NB	11	Nos.	250.00	2,750.00
9	Supply, installation, testing & commissioning of 50NB header assembly having 6 Pressure switches range of (1 to 22 bar) for pump sets with Ball valves, Fittings like unions / colors / reducers etc. with IP 33 protection, complete with making provision for draining.	5	Lot	1,500.00	7,500.00
10	Supply, Installation, Testing & commissioning of Glycerine filled Pressure gauges of 0 - 20 kg/cm2 range, 6 inch dia dial with Ball valves, siphon, Fittings like unions / colors / reducers etc.	6	Nos.	300.00	1,800.00
11	Supply, Installation, Testing & commissioning of double flanged vertical pressure vessel with bladder of 200Ltrs, PN16 complete with stand and mounting brackets, drain valves, flanged inlet and outlet connections, 25 NB Drain valve.	1	Nos.	3,000.00	3,000.00

12	Supply, Installation, Testing & commissioning of MS flanged Basket strainer, PN 16 with SS mesh, suitable flanges, nuts, bolts, washer, gaskets etc. complete as required. Flanged drilled to ANSI B16.5 #150.				
i	400 NB	0	Nos.	3,200.00	0.00
ii	350 NB	0	Nos.	2,800.00	0.00
iii	300 NB	0	Nos.	2,400.00	0.00
iv	250 NB	1	Nos.	2,000.00	2,000.00
v	100 NB	0	Nos.	800.00	0.00
13	SS expansion bellows of PN16 rating for pump suction and discharge of following sizes				
i	250 NB	0	Nos.	600.00	0.00
ii	200NB	3	Nos.	500.00	1,500.00
iii	150 NB	3	Nos.	500.00	1,500.00
iv	100 NB	0	Nos.	400.00	0.00
	80 NB	2	Nos.	320.00	640.00
v	65 NB	0	Nos.	300.00	0.00
14	Non slam type Check valve Ductile iron body FM approved. Complete with flanges as per ANSI150#/ grooved couplings washers, nuts, bolts etc.				
	200 NB	0	Nos.	1,200.00	0.00
	150 NB	0	Nos.	900.00	0.00
	65 NB	0	Nos.	400.00	0.00
15	Structural Steel of IS:2062 complete with fabrication, painting as per existing plant standards, welding, fasteners etc. complete .	0	Kgs	50.00	0.00
16	Supply, installation, testing and comissioning of UL Listed flanged Pressure Relief Valve with ductile iron ASTM A-536 Body & bonnet, self actuated and pilot operated Bronze disc Guide, Nylon reinforced diaphragm , Stainless steel stem & spring, Fusion Bonded Epoxy Coated with matching flanges and waste cone as per specifications, complete. Maximum operating pressure 1600Kpa.				
	200 mm NB x 350 mm NB	0	Nos.	-00	0.00
17	Forged brass ball valve. 25NB	30	Nos.	100.00	3,000.00
18	Forged brass ball valve. 50NB	0	Nos.	150.00	0.00
	CABLE TRAY				
19	Supplying and installing of perforated G.I. sheet cable tray with necessary angle iron suspension supports, anchor fasteners etc. complete. Maximum height of suspension shall Not exceed 500 mm. Size of the tray shall be suitable for laying the cables of pumps.	0	Lot	12,000.00	0.00
20	Supplying, installing of G.I. Earthing strips of 25mm x 6mm thick, strip shall be run on floor / ceiling / walls, from the equipment to the nearest Earth pit with necessary accessories as required. (Earth pit shall be executed by other agencies).	0	Lot	1,500.00	0.00
				Total	151690.00
III	Sprinkler System				
Sr. No.	Item	Total	Unit	Installation	
				Unit Rate	Amount
1	Supply and installation, Providing and fixing approved make 15mm orifice quartzoid bulb type sprinklers, 68°C rating, recessed pendent type without rosset plate off white finish wherever required and all accessories, supports and painting etc.	1102	Nos	850	936,700.00
1	Aboveground Piping: Heavy, 'C' class pipes , 6.3 mm thick as per IS 1239 / IS 3589 with welded joints, including all fittings, MS rigid support for header and GI stud rod supports for branches, cutting the pipes to correct length jointing with ductile iron Grooved/ threaded fitting, fixing with clamps to G.I brackets, hangers or beam clamps including testing to 15 kgs/cm2 pressure , painting, inserted rubber gaskets with 2 coats of Zinc Dichromate primer and two coat of approved enamel paint.(Fire red). 15% of the field joints shall be radiographed. Pipe supports shall be designed and complied according to the loads specified in NFPA 13 latest edition				
NOTE	Fittings shall be forged ASTM A 105 3000# socket weld type below 50mm and Seamless ASTM A 234 butt weld type for 50mm and above. Flanges shall be forged A 105 150#				
A	MS PIPE				
i	300 NB 'C' class	0	R.M	1,200.00	0.00

ii	250 NB 'C' class	0	R.M	1,000.00	0.00
iii	200 NB 'C' class	0	R.M	800.00	0.00
iv	150 NB 'C' class	0	R.M	600.00	0.00
v	100 NB 'C' class	0	R.M	400.00	0.00
vi	80 NB 'C' class-Cellar	0	R.M	320.00	0.00
vii	65 NB 'C' class	0	R.M	260.00	0.00
viii	50 NB 'C' class	0	R.M	300.00	0.00
ix	40 NB 'C' class	0	R.M	240.00	0.00
x	32 NB 'C' class	0	R.M	192.00	0.00
xi	25 NB 'C' class	0	R.M	150.00	0.00
				Total	936700