

Subhead-14
Fire Detection & Protection System

| Item No. | Description of Items | Unit | Unit Rate in Dhaka & Mymensingh Zone (Tk.) | Unit Rate in Chattogram & Sylhet Zone (Tk.) | Unit Rate in Khulna, Barishal & Gopalganj Zone (Tk.) | Unit Rate in Rajshahi & Rangpur Zone (Tk.) |
|----------|----------------------|------|--|---|--|--|
|----------|----------------------|------|--|---|--|--|

14.1 FIRE EXTINGUISHER

14.1.1 DRY CHEMICAL POWDER TYPE

Supply & fixing of the following capacities multi purpose ABC dry chemical powder stored pressure type with manometer system fire extinguisher suitable for repeated use complete with wall bracket, Nitrogen (N2) cartridge, easy refilling system etc. as per sample accepted & approved by the Engineer in Charge.

Mono Ammonium Phosphate (minimum 40%) based ABC dry chemical agent & has a moisture-proof, anti-caking properties. Working pressure : 12 BAR minimum & Test pressure : 25 BAR minimum. Proper fire rating (as per NFPA 10/BS/EN) according to the capacity of the extinguisher. Manufacturer's certificate shall have to be submitted if needed. Also sample of the dry chemical powder will be tested by the proper authority in Bangladesh if needed.

| | | | | | | |
|----------|-----------------|------|----------|----------|----------|----------|
| 14.1.1.1 | 1 Kg. capacity. | Each | 1,142.00 | 1,142.00 | 1,139.00 | 1,139.00 |
| 14.1.1.2 | 2 Kg. capacity. | Each | 1,449.00 | 1,449.00 | 1,446.00 | 1,446.00 |
| 14.1.1.3 | 3 Kg. capacity. | Each | 1,878.00 | 1,878.00 | 1,876.00 | 1,876.00 |
| 14.1.1.4 | 5 Kg. capacity. | Each | 3,473.00 | 3,473.00 | 3,471.00 | 3,471.00 |
| 14.1.1.5 | 6 Kg. capacity. | Each | 4,025.00 | 4,025.00 | 4,023.00 | 4,023.00 |

14.1.2 CARBON-DI-OXIDE TYPE

[Handwritten signatures and initials in black and blue ink, including 'AT', 'df', 'S', 'P', 'M', and others, are present below the section header.]

| Item No. | Description of Items | Unit | Unit Rate in Dhaka & Mymensingh Zone (Tk.) | Unit Rate in Chattogram & Sylhet Zone (Tk.) | Unit Rate in Khulna, Barishal & Gopalganj Zone (Tk.) | Unit Rate in Rajshahi & Rangpur Zone (Tk.) |
|----------|----------------------|------|--|---|--|--|
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Supply & fixing of the following capacities Carbon-di-Oxide stored pressure type with manometer system fire extinguisher suitable for repeated use complete with wall bracket, CO₂ cartridge, easy refilling system etc. as per sample accepted & approved by the Engineer in Charge.

Working pressure : 12 BAR minimum & Test pressure : 25 BAR minimum. Proper fire rating (as per NFPA 10 / BS / EN) according to the capacity of the extinguisher. Manufacturer's certificate shall have to be submitted if needed. Also sample of the Carbon-di-Oxide will be tested by the proper authority in Bangladesh if needed.

| | | | | | | |
|----------|-----------------|------|----------|----------|----------|----------|
| 14.1.2.1 | 3 Kg. capacity. | Each | 3,105.00 | 3,105.00 | 3,103.00 | 3,103.00 |
| 14.1.2.2 | 5 Kg. capacity. | Each | 4,946.00 | 4,946.00 | 4,943.00 | 4,943.00 |

14.1.3 FOAM TYPE

Supply & fixing the following capacity foam type with manometer system fire extinguisher suitable for repeated use complete with wall bracket, easy refilling system etc. as per sample accepted & approved by the Engineer in Charge.

Working pressure: 12 BAR minimum & Test pressure : 25 BAR minimum. Proper fire rating (as per NFPA 10 / BS / EN) according to the capacity of the extinguisher. Manufacturer's certificate shall have to be submitted if needed. Also sample of the foam type extinguisher will be tested by the proper authority in Bangladesh if needed.

| | | | | | | |
|----------|---|------|----------|----------|----------|----------|
| 14.1.3.1 | 9 Liter capacity. | Each | 3,756.00 | 3,755.00 | 3,751.00 | 3,751.00 |
| 14.1.4 | ACCESSORIES OF FIRE EXTINGUISHERS | | | | | |
| | Providing & fixing of the following parts of fire extinguisher as per sample accepted/approved by the Engineer in Charge. | | | | | |
| 14.1.4.1 | Trigger. | Each | 184.00 | 184.00 | 184.00 | 184.00 |
| 14.1.4.2 | Hose pipe | Each | 344.00 | 344.00 | 344.00 | 344.00 |
| 14.1.4.3 | Nipple with nozzle | Each | 135.00 | 135.00 | 135.00 | 135.00 |
| 14.1.4.4 | Cartridge up to 6 Kg. | Each | 1,104.00 | 1,104.00 | 1,104.00 | 1,104.00 |
| 14.1.4.5 | ABC powder. | kg | 196.00 | 196.00 | 196.00 | 196.00 |
| 14.1.4.6 | Carbon-di-Oxide recharge | kg | 227.00 | 227.00 | 227.00 | 227.00 |

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|----------|--|-------|--|---|--|--|
| 14.1.4.7 | Foam | liter | 215.00 | 215.00 | 215.00 | 215.00 |
| 14.1.5 | FIRE BALL Supply of 1.25 Kg Fireball with bracket filled with Non-Toxic Mono Ammonium Phosphate of minimum 40 grade (fire class C). | Each | 1,841.00 | 1,841.00 | 1,841.00 | 1,841.00 |
| 14.1.6 | FIRE BLANKET Supply and fixing of fire proof emergency Fire Blanket made of fire glass cloth . Dimension of the blanket should be minimum 6' x 6' . Working temperature is minimum 550 ^o C. | Each | 1,411.00 | 1,411.00 | 1,411.00 | 1,411.00 |

14.2 FIRE WATER PUMP (Engine Driven) With Controller

Supply , installation , testing & commissioning of **UL listed and FM approved** diesel engine driven fire pump complete with all related & essential accessories including control panel, listed casing relief valve and vacuum & pressure gauge at the suction and discharge side of pump respectively. The manufacturing company must have manufacturing experience of **minimum 30 years** . The pump shall be designed and installed in accordance with NFPA 20 standard. Each unit shall be UL listed and FM approved. It should be compatible with BMS supported UL listed and FM approved control panel.

Type: Pumps shall be of the non-overloading, centrifugal, horizontally split / End Suction type allowing discharge of the liquid without disturbing the pipe connections and operating at not over 3000 rpm. Pumps shall be selected for a total efficiency of not less than 65%. Pump performance curves shall be submitted for approval together with the pump technical data. Pump performance Curves shall be conformed to NFPA 20.

DIESEL ENGINE :

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| Item No. | Description of Items | Unit | Unit Rate in Dhaka & Mymensingh Zone (Tk.) | Unit Rate in Chattogram & Sylhet Zone (Tk.) | Unit Rate in Khulna, Barishal & Gopalganj Zone (Tk.) | Unit Rate in Rajshahi & Rangpur Zone (Tk.) |
|----------|----------------------|------|--|---|--|--|
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The diesel engine shall be **UL listed and FM approved** suitable for rated pump capacity. The engine shall rated at standard conditions for 500 ft above sea level at 29.4°C by the testing laboratory. The engine shall be of a reputed manufacturer from which spare parts can be obtained locally. The engine shall be provided with an adjustable governor capable of regulating engine speed with a range of 10% between shut-off and maximum load conditions of the pump. The governor shall be set to maintain the rated pump speed at maximum pump load. Engines shall be provided with an over speed shutdown device.

BATTERY & CHARGER :

The engine shall be provided with two maintenance free storage battery units, each having sufficient capacity, at 5°C (41°F) to maintain cranking speed recommended by the engine manufacturer through a 6 min cycle. Two means for recharging shall be provided. One shall be the generator furnished with the engine. The other shall be an automatically controlled charger taking power from the building power supply.

FUEL TANK :

The fuel tank shall be as per manufacturer's recommendation with rigid frame. Fuel tank shall have capacity of at least equal to 1 gallon per horsepower plus 5% volume for expansion. Fuel tank shall be equipped with fuel supply line, return line, fill, drain, overflow, air vent and sight glass.

COOLING SYSTEM & ENGINE EXHAUST PIPE :

The engine shall be provided with close circuit cooling water circulation system. The exhaust pipe shall be galvanized steel sized in accordance with the manufacturer's recommendations. The exhaust pipe shall be as short as possible.

CONTROLLER :

[Handwritten signatures and initials in various colors (black, blue, red) are present below the text, including a large signature on the right and several initials on the left and center.]

| Item No. | Description of Items | Unit | Unit Rate in Dhaka & Mymensingh Zone (Tk.) | Unit Rate in Chattogram & Sylhet Zone (Tk.) | Unit Rate in Khulna, Barishal & Gopalganj Zone (Tk.) | Unit Rate in Rajshahi & Rangpur Zone (Tk.) |
|----------|----------------------|------|--|---|--|--|
|----------|----------------------|------|--|---|--|--|

The controller shall be **UL listed & FM approved and BMS supported**, completely assembled and wired from the factory. The controller shall be 12 volt / 24 volt., and shall be complete with all necessary components and accessories.

The controller shall be operable automatically on sensing low pressure in the system and shall be provided with a pressure-actuated switch having independent high & low calibrated adjustments. The switch shall be responsive to water pressure in the fire protection system. The pressure-sensing element of the switch shall be capable of momentary surge pressure of 300 psi (min^m) without loosing its accuracy, suitable provision shall be made for relieving pressure to the pressure actuated switch to allow testing of the operation of the controller and the pumping unit.

| | | | | | | |
|---------|---|------|--------------|--------------|--------------|--------------|
| 14.2.1 | Fire Pump End Suction (500 GPM, 9 BAR) | Each | 3,268,857.00 | 3,268,857.00 | 3,268,857.00 | 3,268,857.00 |
| 14.2.2 | Fire Pump End Suction (500 GPM, 10 BAR) | Each | 3,576,969.00 | 3,576,969.00 | 3,576,969.00 | 3,576,969.00 |
| 14.2.3 | Fire Pump End Suction (500 GPM, 12 BAR) | Each | 4,014,289.00 | 4,014,289.00 | 4,014,289.00 | 4,014,289.00 |
| 14.2.4 | Fire Pump End Suction (500 GPM, 14 BAR) | Each | 4,054,046.00 | 4,054,046.00 | 4,054,046.00 | 4,054,046.00 |
| 14.2.5 | Fire Pump End Suction (750 GPM, 9 BAR) | Each | 3,994,411.00 | 3,994,411.00 | 3,994,411.00 | 3,994,411.00 |
| 14.2.6 | Fire Pump End Suction (750 GPM, 10 BAR) | Each | 4,044,106.00 | 4,044,106.00 | 4,044,106.00 | 4,044,106.00 |
| 14.2.7 | Fire Pump End Suction (750 GPM, 12 BAR) | Each | 4,103,741.00 | 4,103,741.00 | 4,103,741.00 | 4,103,741.00 |
| 14.2.8 | Fire Pump End Suction (750 GPM, 14 BAR) | Each | 4,257,797.00 | 4,257,797.00 | 4,257,797.00 | 4,257,797.00 |
| 14.2.9 | Fire Pump Split Case (1000 GPM, 9 BAR) | Each | 4,127,794.00 | 4,127,794.00 | 4,127,794.00 | 4,127,794.00 |
| 14.2.10 | Fire Pump Split Case (1000 GPM, 10 BAR) | Each | 4,640,452.00 | 4,640,452.00 | 4,640,452.00 | 4,640,452.00 |
| 14.2.11 | Fire Pump Split Case (1000 GPM, 12 BAR) | Each | 4,670,269.00 | 4,670,269.00 | 4,670,269.00 | 4,670,269.00 |
| 14.2.12 | Fire Pump Split Case (1000 GPM, 14 BAR) | Each | 4,803,895.00 | 4,803,895.00 | 4,803,895.00 | 4,803,895.00 |
| 14.2.13 | Fire Pump Split Case (1250 GPM, 9 BAR) | Each | 4,640,452.00 | 4,640,452.00 | 4,640,452.00 | 4,640,452.00 |
| 14.2.14 | Fire Pump Split Case (1250 GPM, 10 BAR) | Each | 4,690,147.00 | 4,690,147.00 | 4,690,147.00 | 4,690,147.00 |
| 14.2.15 | Fire Pump Split Case (1250 GPM, 12 BAR) | Each | 5,251,706.00 | 5,251,706.00 | 5,251,706.00 | 5,251,706.00 |
| 14.2.16 | Fire Pump Split Case (1250 GPM, 14 BAR) | Each | 5,515,092.00 | 5,515,092.00 | 5,515,092.00 | 5,515,092.00 |
| 14.3. | FIRE WATER PUMP (Motor driven) with controller | | | | | |

Handwritten signatures and initials are present below the table, including names like 'tw', 'M', and various initials in blue and black ink.

| Item No. | Description of Items | Unit | Unit Rate in Dhaka & Mymensingh Zone (Tk.) | Unit Rate in Chattogram & Sylhet Zone (Tk.) | Unit Rate in Khulna, Barishal & Gopalganj Zone (Tk.) | Unit Rate in Rajshahi & Rangpur Zone (Tk.) |
|----------|----------------------|------|--|---|--|--|
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Supply, installation, testing & commissioning of **UL listed and FM approved** electrically driven centrifugal type end suction / split case Fire Water Pump manufactured according to globally accepted international standard, shall be complete with skid mounted, coupled with motor, safety cover etc. The manufacturing company must have manufacturing experience of **minimum 30 years**. Motor shall be 420V / 3 phase / 50 HZ / 2900 rpm / Class F insulation / Enclosure IP55. Motor capacity shall be as per NFPA 20 and performance curve (from manufacturer) shall be provided to verify pump performance.

Pumps shall be of the non-overloading allowing discharge of the liquid without disturbing the pipe connections and operating at not over 3000 rpm. Pumps shall be selected for a total efficiency of not less than 65%.

Electric Motor: The electric motor shall be **UL listed and FM approved** suitable for rated pump capacity. Motor shall be 380V-420V / 3 phase / 50 HZ / 2900 rpm / Class F insulation / Enclosure IP55. Motor capacity shall be as per NFPA 20 and performance curve (from manufacturer) shall be provided to verify pump performance. The motor shall rated at standard conditions for 500 ft above sea level at 29.4°C by the testing laboratory. The motor shall be of a reputed manufacturer from which spare parts can be obtained locally. The motor shall be provided with an constant motor speed with a range of 10% between shut-off and maximum load conditions of the pump. Starting current of motor shall not exceed 2.5 times of rated current.

Controller: The controller shall be **UL listed and FM approved**, BMS supported complete with MCCB / MCB / magnetic contactor / on-off push switch / indication lamp for phase indication, run, trip mode / ampere meter / volt meter / overload selector switch / phase failure protection device / dry operation protection device / volt guard / connector block / bus-bar / CT of rated capacity / ventilation fan / buzzer / cable lugs / and all other accessories. The panel shall be well dressed in side for safety purpose and for looking good.

[Handwritten signatures and initials in blue and black ink, including 'AB', 'P', 'W', and 'R']

| Item No. | Description of Items | Unit | Unit Rate in Dhaka & Mymensingh Zone (Tk.) | Unit Rate in Chattogram & Sylhet Zone (Tk.) | Unit Rate in Khulna, Barishal & Gopalganj Zone (Tk.) | Unit Rate in Rajshahi & Rangpur Zone (Tk.) |
|----------|----------------------|------|--|---|--|--|
|----------|----------------------|------|--|---|--|--|

The panel shall be suitable for 3-phase 400 ± 5% volt 50Hz power supply. The panel shall be with auto/manual mode to operate the pumps controlled by pressure sensors. For fire pump the panel shall have option to start the pump automatically and stop shall be manual.

Encloser of the panel shall be made with 16 SWG sheet steel and shall be painted with powder coating of red color approved as Fire code. Door of the panel shall be swing type with locking arrangement. Knob of main MCCB shall be extended in front screen. The panel shall be wall mounted type with fixing arrangement properly.

The panel shall be manufactured in accordance with standard code of practice as NFPA/ NEMA / IEC / VDE / BS standards comprising of required capacity.

| | | | | | | |
|---------|---|------|--------------|--------------|--------------|--------------|
| 14.3.1 | Fire Pump End Suction (500 GPM, 9 BAR) | Each | 2,043,036.00 | 2,043,036.00 | 2,043,036.00 | 2,043,036.00 |
| 14.3.2 | Fire Pump End Suction (500 GPM, 10 BAR) | Each | 2,374,339.00 | 2,374,339.00 | 2,374,339.00 | 2,374,339.00 |
| 14.3.3 | Fire Pump End Suction (500 GPM, 12 BAR) | Each | 2,595,208.00 | 2,595,208.00 | 2,595,208.00 | 2,595,208.00 |
| 14.3.4 | Fire Pump End Suction (500 GPM, 14 BAR) | Each | 2,810,555.00 | 2,810,555.00 | 2,810,555.00 | 2,810,555.00 |
| 14.3.5 | Fire Pump End Suction (750 GPM, 9 BAR) | Each | 2,153,470.00 | 2,153,470.00 | 2,153,470.00 | 2,153,470.00 |
| 14.3.6 | Fire Pump End Suction (750 GPM, 10 BAR) | Each | 2,484,773.00 | 2,484,773.00 | 2,484,773.00 | 2,484,773.00 |
| 14.3.7 | Fire Pump End Suction (750 GPM, 12 BAR) | Each | 2,694,599.00 | 2,694,599.00 | 2,694,599.00 | 2,694,599.00 |
| 14.3.8 | Fire Pump End Suction (750 GPM, 14 BAR) | Each | 3,036,945.00 | 3,036,945.00 | 3,036,945.00 | 3,036,945.00 |
| 14.3.9 | Fire Pump Split Case (1000 GPM, 9 BAR) | Each | 2,595,208.00 | 2,595,208.00 | 2,595,208.00 | 2,595,208.00 |
| 14.3.10 | Fire Pump Split Case (1000 GPM, 10 BAR) | Each | 2,816,076.00 | 2,816,076.00 | 2,816,076.00 | 2,816,076.00 |
| 14.3.11 | Fire Pump Split Case (1000 GPM, 12 BAR) | Each | 3,025,902.00 | 3,025,902.00 | 3,025,902.00 | 3,025,902.00 |
| 14.3.12 | Fire Pump Split Case (1000 GPM, 14 BAR) | Each | 3,257,814.00 | 3,257,814.00 | 3,257,814.00 | 3,257,814.00 |
| 14.3.13 | Fire Pump Split Case (1250 GPM, 9 BAR) | Each | 2,810,555.00 | 2,810,555.00 | 2,810,555.00 | 2,810,555.00 |
| 14.3.14 | Fire Pump Split Case (1250 GPM, 10 BAR) | Each | 3,036,945.00 | 3,036,945.00 | 3,036,945.00 | 3,036,945.00 |
| 14.3.15 | Fire Pump Split Case (1250 GPM, 12 BAR) | Each | 3,467,639.00 | 3,467,639.00 | 3,467,639.00 | 3,467,639.00 |
| 14.3.16 | Fire Pump Split Case (1250 GPM, 14 BAR) | Each | 3,809,986.00 | 3,809,986.00 | 3,809,986.00 | 3,809,986.00 |

14.4 **JOCKEY PUMP with controller**
(Pressure maintenance pump)

Handwritten signatures and initials in blue ink are present below the table, including names like 'tee', 'AK', and various initials.

| Item No. | Description of Items | Unit | Unit Rate in Dhaka & Mymensingh Zone (Tk.) | Unit Rate in Chattogram & Sylhet Zone (Tk.) | Unit Rate in Khulna, Barishal & Gopalganj Zone (Tk.) | Unit Rate in Rajshahi & Rangpur Zone (Tk.) |
|----------|----------------------|------|--|---|--|--|
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JOCKEY PUMP

Supply, installation of multistage jockey pump manufactured in accordance with globally accepted international standard or fire hydrant system to keep a certain pressure in water distribution system. The manufacturing company must have manufacturing experience of **minimum 30 years**. Pump shall be completed with motor suitable to meet performance curve of the pump. The motor shall be 420V / 3 phase / 50 HZ / 2900 rpm.

Controller: The controller shall be UL listed / FM approved, BMS supported complete with MCCB / MCB / magnetic contactor / on-off push switch / indication lamp for phase indication, run, trip mode / ampere meter / volt meter / overload selector switch / phase failure protection device / dry operation protection device / volt guard / connector block / bus-bar / CT of rated capacity / ventilation fan / buzzer / cable lugs / and all other accessories. The panel shall be well dressed in side for safety purpose and for looking good.

The panel shall be suitable for 3-phase 400 ± 5% volt 50Hz power supply. The panel shall with auto/manual mode to operate the pumps controlled by pressure sensors. For jockey pump the panel shall be suitable to start-stop the pump automatically controlled by pressure sensor.

Enclosure of the panel shall be made with 16 SWG sheet steel and shall be painted with powder coating of red color approved as Fire code. Door of the panel shall be swing type with locking arrangement. Knob of main MCCB shall be extended in front screen. The panel shall be wall mounted type with fixing arrangement properly.

[Handwritten signatures and initials in black and blue ink, including names like 'tw', 'Raj', 'P.P.', 'Amit', 'R.R.', and 'N']

| Item No. | Description of Items | Unit | Unit Rate in Dhaka & Mymensingh Zone (Tk.) | Unit Rate in Chattogram & Sylhet Zone (Tk.) | Unit Rate in Khulna, Barishal & Gopalganj Zone (Tk.) | Unit Rate in Rajshahi & Rangpur Zone (Tk.) |
|----------|----------------------|------|--|---|--|--|
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The panel shall be manufactured in accordance with standard code of practice as NFPA/ NEMA / IEC / VDE / BS standards comprising of required capacity.

| | | | | | | |
|---------|---|------|------------|------------|------------|------------|
| 14.4.1 | Jockey Pump (20 GPM, 9 Bar) (for 500 GPM Fire pump) | Each | 208,598.00 | 208,598.00 | 208,598.00 | 208,598.00 |
| 14.4.2 | Jockey Pump (20 GPM, 10 Bar) (for 500 GPM Fire pump) | Each | 214,733.00 | 214,733.00 | 214,733.00 | 214,733.00 |
| 14.4.3 | Jockey Pump (20 GPM, 12 Bar) (for 500 GPM Fire pump) | Each | 220,869.00 | 220,869.00 | 220,869.00 | 220,869.00 |
| 14.4.4 | Jockey Pump (20 GPM, 14 Bar) (for 500 GPM Fire pump) | Each | 288,356.00 | 288,356.00 | 288,356.00 | 288,356.00 |
| 14.4.5 | Jockey Pump (30 GPM, 9 Bar) (for 750 GPM Fire pump) | Each | 220,869.00 | 220,869.00 | 220,869.00 | 220,869.00 |
| 14.4.6 | Jockey Pump (30 GPM, 10 Bar) (for 750 GPM Fire pump) | Each | 233,139.00 | 233,139.00 | 233,139.00 | 233,139.00 |
| 14.4.7 | Jockey Pump (30 GPM, 12 Bar) (for 750 GPM Fire pump) | Each | 245,410.00 | 245,410.00 | 245,410.00 | 245,410.00 |
| 14.4.8 | Jockey Pump (30 GPM, 14 Bar) (for 750 GPM Fire pump) | Each | 306,762.00 | 306,762.00 | 306,762.00 | 306,762.00 |
| 14.4.9 | Jockey Pump (40 GPM, 9 Bar) (for 1000 GPM Fire pump) | Each | 257,680.00 | 257,680.00 | 257,680.00 | 257,680.00 |
| 14.4.10 | Jockey Pump (40 GPM, 10 Bar) (for 1000 GPM Fire pump) | Each | 282,221.00 | 282,221.00 | 282,221.00 | 282,221.00 |
| 14.4.11 | Jockey Pump (40 GPM, 12 Bar) (for 1000 GPM Fire pump) | Each | 319,033.00 | 319,033.00 | 319,033.00 | 319,033.00 |
| 14.4.12 | Jockey Pump (40 GPM, 14 Bar) (for 1000 GPM Fire pump) | Each | 355,844.00 | 355,844.00 | 355,844.00 | 355,844.00 |
| 14.4.13 | Jockey Pump (50 GPM, 9 Bar)(for 1250 GPM Fire pump) | Each | 269,951.00 | 269,951.00 | 269,951.00 | 269,951.00 |
| 14.4.14 | Jockey Pump (50 GPM, 10 Bar)(for 1250 GPM Fire pump) | Each | 294,492.00 | 294,492.00 | 294,492.00 | 294,492.00 |
| 14.4.15 | Jockey Pump (50 GPM, 12 Bar)(for 1250 GPM Fire pump) | Each | 325,168.00 | 325,168.00 | 325,168.00 | 325,168.00 |
| 14.4.16 | Jockey Pump (50 GPM, 14 Bar)(for 1250 GPM Fire pump) | Each | 343,574.00 | 343,574.00 | 343,574.00 | 343,574.00 |

(NB: pressure of jockey pump will be equal to the pressure of fire pump)

14.5 FIRE BRIGADE CONNECTION : 2 - WAY

[Handwritten signatures and initials in black and blue ink are present below the section header, including names like 'AK', 'M', and various initials.]

| Item No. | Description of Items | Unit | Unit Rate in Dhaka & Mymensingh Zone (Tk.) | Unit Rate in Chattogram & Sylhet Zone (Tk.) | Unit Rate in Khulna, Barishal & Gopalganj Zone (Tk.) | Unit Rate in Rajshahi & Rangpur Zone (Tk.) |
|----------|----------------------|------|--|---|--|--|
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Supply & installation of Single Jacket fire hose of 38mm dia 30 meter long with hose rack frame & nipple suitable to install inside the hydrant cabinet. The hose shall conform to NFPA 1961. The hose shall be UL Listed / FM approved. Working pressure & burst test pressure shall be not less than 200 psi & 600 psi respectively, shall be made with special quality EPDM rubber as internal lining, suitable to withstand heat and polluted water, heat and abrasion resistance. Jacketting shall be made up of 100% polyester for extra strength. Hose shall be 30meter long in a single length and shall be with aluminium alloy body instantaneous male coupling in one end other end with instantaneous female coupling. Color of the hose pipe shall be white.

Each 16,565.00 16,565.00 16,565.00 16,565.00

14.7.3 **Jet / spray nozzle : 1½" dia**

Supply & installation of UL listed / FM approved Jet/ spray nozzle having 40mm dia with male instantaneous coupling or shall be connected to the male/ female instantaneous coupling of 38mm hose pipe. The nozzle shall be operable in three modes: jet - spray - shut off. The nozzle shall be light weight and easy operable. Construction of the nozzle shall be of brass & Working pressure shall be not less than 100 psi. Test pressure shall be minimum 230 psi (16 bar). Flow Capacity of nozzle shall not be less than 100 GPM @ 100 psi. Nozzle shall be installed inside the cabinet.

Each 7,730.00 7,730.00 7,730.00 7,730.00

14.8 **FIRE HYDRANT UNIT (2½" dia):**

Each 2½" dia fire hydrant unit shall be complete with the following components and accessories.

14.8.1 **HOSE ANGLE VALVE (landing valve) : 2½" dia**

Supply and installation of Hose angle valve of 2½" (63mm) shall be made with brass & shall conform to NFPA 1961/BS. The angle valve shall be UL Listed / FM approved or LPCB/Kitemark certified and working pressure shall be 300 psi. Inlet shall be threaded end type/ flange type. Inlet shall be installed inside the hydrant cabinet. Coupling shall be suitable for using with Fire service & civil defence department of Bangladesh.

Each 18,406.00 18,406.00 18,406.00 18,406.00

14.8.2 **FIRE HOSE : 2½" dia**

[Handwritten signatures and marks are present below the table, including a large signature on the left and several smaller ones across the bottom right.]

| Item No. | Description of Items | Unit | Unit Rate in Dhaka & Mymensingh Zone (Tk.) | Unit Rate in Chattogram & Sylhet Zone (Tk.) | Unit Rate in Khulna, Barishal & Gopalganj Zone (Tk.) | Unit Rate in Rajshahi & Rangpur Zone (Tk.) |
|----------|----------------------|------|--|---|--|--|
|----------|----------------------|------|--|---|--|--|

Supply and installation of cast Iron body double headed pillar hydrant complete with 2 (two) nos. cast brass made controllable outlet of 65mm dia with female instantaneous outlet, Inlet shall be 100mm dia flanged end. It should be LPCB/ Kitemark certified. The hydrant shall be suitable to withstand test pressure of 300 psi (minimum). Color of the unit shall be red / approved by the manufacturer or as per code. Pillar hydrant Shall be BS standard& comply with Fire service & civil defence department of Bangladesh.

Each 17,179.00 17,179.00 17,179.00 17,179.00

14.10 STEEL CABINET

Fabrication, supply & installation of hydrant cabinet of suitable size (as per site measurement and requirement / recommended by the Engineering to accommodate landing valve, hose, nozzle and coupling. The cabinet shall be with swing type door with or without breakable glass. The cabinet shall be made with 18 SWG sheet steel, powder coated of red color.

Country of origin: Locally fabricated.

| | | | | | | |
|---------|--|------|-----------|-----------|-----------|-----------|
| 14.10.1 | Class - I cabinet (for 2.5" hose rack assembly) | Each | 14,725.00 | 14,725.00 | 14,725.00 | 14,725.00 |
| 14.10.2 | Class - II cabinet (for 1.5" hose rack assembly) | Each | 14,725.00 | 14,725.00 | 14,725.00 | 14,725.00 |
| 14.10.3 | Class - III cabinet (for 1.5" hose rack assembly & 2.5 hose angle valve/ landing valve) | Each | 15,952.00 | 15,952.00 | 15,952.00 | 15,952.00 |
| 14.10.4 | Outdoor hydrant box for pillar hydrant | Each | 14,725.00 | 14,725.00 | 14,725.00 | 14,725.00 |

14.11 BLACK STEEL PIPE , 40 SCHEDULE:

Supply and installation of ERW / seamless schedule 40 black steel pipe of API 5L/ASTM A53 standard . The pipe work shall be included with welded type tee, elbow, reducer etc. and also hangers / supports etc completed. Pipe work (over ground) shall be painted with red oxide primer. Underground pipes should be laid after wrapping with approved PVC tape. Pipe wall thickness shall be as per mentioned diameters.

| | | | | | | |
|---------|---|-----|----------|----------|----------|----------|
| 14.11.1 | 250 mm (10 inch) dia, wall thickness: 8.2mm | ft. | 3,804.00 | 3,804.00 | 3,804.00 | 3,804.00 |
| 14.11.2 | 200 mm (8 inch) dia, wall thickness: 8.2mm | ft. | 3,313.00 | 3,313.00 | 3,313.00 | 3,313.00 |
| 14.11.3 | 150 mm (6 inch) dia, wall thickness: 7.1mm | ft. | 2,945.00 | 2,945.00 | 2,945.00 | 2,945.00 |

Handwritten signatures and initials are present at the bottom of the page, including a large signature on the left and several smaller ones on the right.

| Item No. | Description of Items | Unit | Unit Rate in Dhaka & Mymensingh Zone (Tk.) | Unit Rate in Chattogram & Sylhet Zone (Tk.) | Unit Rate in Khulna, Barishal & Gopalganj Zone (Tk.) | Unit Rate in Rajshahi & Rangpur Zone (Tk.) |
|----------|--|------|--|---|--|--|
| 14.11.4 | 100 mm (4 inch) dia, wall thickness: 6.0mm | ft. | 2,356.00 | 2,356.00 | 2,356.00 | 2,356.00 |
| 14.11.5 | 80mm (3 inch) dia, wall thickness: 5.5mm | ft. | 1,718.00 | 1,718.00 | 1,718.00 | 1,718.00 |
| 14.11.6 | 65 mm (2½ inch) dia, wall thickness: 5.2mm | ft. | 1,166.00 | 1,166.00 | 1,166.00 | 1,166.00 |
| 14.11.7 | 50 mm (2 inch) dia, wall thickness: 3.9mm | ft. | 724.00 | 724.00 | 724.00 | 724.00 |
| 14.11.8 | 40 mm (1½ inch) dia, wall thickness: 3.7mm | ft. | 607.00 | 607.00 | 607.00 | 607.00 |
| 14.11.9 | 32 mm (1.25 inch) dia, wall thickness: 3.6mm | ft. | 504.00 | 504.00 | 504.00 | 504.00 |
| 14.11.10 | 25 mm (1inch) dia, wall thickness: 3.4mm | ft. | 521.00 | 521.00 | 521.00 | 521.00 |
| 14.11.11 | 20 mm (¾ inch) dia, wall thickness: 2.9mm | ft. | 362.00 | 362.00 | 362.00 | 362.00 |
| 14.11.12 | 12 mm (½ inch) dia, wall thickness: 2.8mm | ft. | 233.00 | 233.00 | 233.00 | 233.00 |

14.12 SS PIPE :

Supply and Installation of Stainless Steel TP304/304L grade Pipe for Fire pumps pressure sensing line. The pipe work shall be included with welded type tee, elbow, reducer etc.

Standard ASTM, ASME, DIN, EN, ISO, JIS..

| | | | | | | |
|---------|--|-----|--------|--------|--------|--------|
| 14.12.1 | SS Pipe for Sensing line 20 mm (¾ inch) dia, | ft. | 472.00 | 472.00 | 472.00 | 472.00 |
| 14.12.2 | SS Pipe for Sensing line 12 mm (½ inch) dia, | ft. | 368.00 | 368.00 | 368.00 | 368.00 |

VALVES & FITTINGS**GATE VALVES**

Supply & installation of valves & fittings complies with ANSI, flange / groove type, temperature range: 0°C-80°C; working pressure: 300 PSI minimum, valve body as per ASTM A536, 65-45-12 standard, UL Listed / FM approved.

14.13 OS & Y GATE VALVES

| | | | | | | |
|---------|-----------------------|------|-----------|-----------|-----------|-----------|
| 14.13.1 | 250 mm (10 inch) dia, | Each | 92,029.00 | 92,029.00 | 92,029.00 | 92,029.00 |
| 14.13.2 | 200 mm (8 inch) dia | Each | 69,942.00 | 69,942.00 | 69,942.00 | 69,942.00 |
| 14.13.3 | 150 mm (6 inch) dia | Each | 59,512.00 | 59,512.00 | 59,512.00 | 59,512.00 |
| 14.13.4 | 100 mm (4 inch) dia | Each | 44,787.00 | 44,787.00 | 44,787.00 | 44,787.00 |
| 14.13.5 | 80 mm (3 inch) dia | Each | 34,235.00 | 34,235.00 | 34,235.00 | 34,235.00 |
| 14.13.6 | 65 mm (2½ inch) dia | Each | 24,541.00 | 24,541.00 | 24,541.00 | 24,541.00 |
| 14.13.7 | 50 mm (2 inch) dia | Each | 22,087.00 | 22,087.00 | 22,087.00 | 22,087.00 |

m

| Item No. | Description of Items | Unit | Unit Rate in Dhaka & Mymensingh Zone (Tk.) | Unit Rate in Chattogram & Sylhet Zone (Tk.) | Unit Rate in Khulna, Barishal & Gopalganj Zone (Tk.) | Unit Rate in Rajshahi & Rangpur Zone (Tk.) |
|--------------|---------------------------------------|------|--|---|--|--|
| 14.14 | RESILIENT SWING CHECK VALVES : | | | | | |
| 14.14.1 | 250 mm (10 inch) dia, | Each | 98,164.00 | 98,164.00 | 98,164.00 | 98,164.00 |
| 14.14.2 | 200 mm (8 inch) dia | Each | 70,555.00 | 70,555.00 | 70,555.00 | 70,555.00 |
| 14.14.3 | 150 mm (6 inch) dia | Each | 51,536.00 | 51,536.00 | 51,536.00 | 51,536.00 |
| 14.14.4 | 100 mm (4 inch) dia | Each | 42,947.00 | 42,947.00 | 42,947.00 | 42,947.00 |
| 14.14.5 | 65 mm (2½ inch) dia | Each | 24,541.00 | 24,541.00 | 24,541.00 | 24,541.00 |
| 14.14.6 | 50 mm (2 inch) dia | Each | 24,541.00 | 24,541.00 | 24,541.00 | 24,541.00 |
| 14.15 | Y-STRAINERS | | | | | |
| 14.15.1 | 250 mm (10 inch) dia, | Each | 92,029.00 | 92,029.00 | 92,029.00 | 92,029.00 |
| 14.15.2 | 200 mm (8 inch) dia | Each | 60,003.00 | 60,003.00 | 60,003.00 | 60,003.00 |
| 14.15.3 | 150 mm (6 inch) dia | Each | 49,082.00 | 49,082.00 | 49,082.00 | 49,082.00 |
| 14.15.4 | 65 mm (2½ inch) dia | Each | 25,154.00 | 25,154.00 | 25,154.00 | 25,154.00 |
| 14.15.5 | 50 mm (2 inch) dia | Each | 24,541.00 | 24,541.00 | 24,541.00 | 24,541.00 |
| 14.16 | FOOT VALVE WITH STRAINER | | | | | |
| 14.16.1 | 250 mm (10 inch) dia, | Each | 85,893.00 | 85,893.00 | 85,893.00 | 85,893.00 |
| 14.16.2 | 200 mm (8 inch) dia | Each | 60,003.00 | 60,003.00 | 60,003.00 | 60,003.00 |
| 14.16.3 | 150 mm (6 inch) dia | Each | 31,903.00 | 31,903.00 | 31,903.00 | 31,903.00 |
| 14.16.4 | 65 mm (2½ inch) dia | Each | 18,406.00 | 18,406.00 | 18,406.00 | 18,406.00 |
| 14.16.5 | 50 mm (2 inch) dia | Each | 14,725.00 | 14,725.00 | 14,725.00 | 14,725.00 |
| 14.16.6 | 40 mm (1½ inch) dia | Each | 12,270.00 | 12,270.00 | 12,270.00 | 12,270.00 |
| 14.17 | ANTI VORTEX PLATE | | | | | |
| 14.17.1 | 250 mm (10 inch) dia, | Each | 61,352.00 | 61,352.00 | 61,352.00 | 61,352.00 |
| 14.17.2 | 200 mm (8 inch) dia | Each | 49,082.00 | 49,082.00 | 49,082.00 | 49,082.00 |
| 14.17.3 | 150 mm (6 inch) dia | Each | 36,811.00 | 36,811.00 | 36,811.00 | 36,811.00 |
| 14.17.4 | 65 mm (2½ inch) dia | Each | 18,406.00 | 18,406.00 | 18,406.00 | 18,406.00 |
| 14.17.5 | 50 mm (2 inch) dia | Each | 12,270.00 | 12,270.00 | 12,270.00 | 12,270.00 |
| 14.17.6 | 40 mm (1½ inch) dia | Each | 9,816.00 | 9,816.00 | 9,816.00 | 9,816.00 |
| 14.18 | FLEXIBLE JOINT : | | | | | |

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| Item No. | Description of Items | Unit | Unit Rate in Dhaka & Mymensingh Zone (Tk.) | Unit Rate in Chattogram & Sylhet Zone (Tk.) | Unit Rate in Khulna, Barishal & Gopalganj Zone (Tk.) | Unit Rate in Rajshahi & Rangpur Zone (Tk.) |
|--------------|--|------|--|---|--|--|
| | Supply & installation of flexible joint complies with ANSI, temperature range: 0°C-80°C ; working pressure: 200 PSI minimum, valve body as per ASTM A536, 65-45-12 standard, UL Listed / FM approved. | | | | | |
| 14.18.1 | 250 mm (10 inch) dia, | Each | 45,401.00 | 45,401.00 | 45,401.00 | 45,401.00 |
| 14.18.2 | 200 mm (8 inch) dia | Each | 34,357.00 | 34,357.00 | 34,357.00 | 34,357.00 |
| 14.18.3 | 150 mm (6 inch) dia | Each | 24,541.00 | 24,541.00 | 24,541.00 | 24,541.00 |
| 14.18.4 | 65 mm (2½ inch) dia | Each | 12,270.00 | 12,270.00 | 12,270.00 | 12,270.00 |
| 14.18.5 | 50 mm (2 inch) dia | Each | 9,816.00 | 9,816.00 | 9,816.00 | 9,816.00 |
| 14.19 | BALL VALVES CLASS : PN16, Supply & installation of ball valves complies with ANSI, temperature range: 0°C-80°C ; working pressure: 200 PSI minimum, valve body as per ASTM A536, 65-45-12 standard, UL Listed / FM approved. | | | | | |
| 14.19.1 | 65 mm (2½ inch) dia | Each | 11,043.00 | 11,043.00 | 11,043.00 | 11,043.00 |
| 14.19.2 | 50 mm (2 inch) dia | Each | 7,976.00 | 7,976.00 | 7,976.00 | 7,976.00 |
| 14.19.3 | 40 mm (1½ inch) dia | Each | 3,681.00 | 3,681.00 | 3,681.00 | 3,681.00 |
| 14.19.4 | 25 mm (1 inch) dia | Each | 2,700.00 | 2,700.00 | 2,700.00 | 2,700.00 |
| 14.19.5 | 20 mm (¾ inch) dia | Each | 1,779.00 | 1,779.00 | 1,779.00 | 1,779.00 |
| 14.19.6 | 12 mm (½ inch) dia | Each | 957.00 | 957.00 | 957.00 | 957.00 |
| 14.20 | PRESSURE GAUGE : Supply and installation of 3.5" - 4" dial type pressure gauges including supply of all accessories and consumable. The range shall be 0-300 psi, UL Listed / FM approved. | | | | | |
| | | Each | 6,135.00 | 6,135.00 | 6,135.00 | 6,135.00 |
| 14.21 | PRESSURE SWITCH | | | | | |

| Item No. | Description of Items | Unit | Unit Rate in Dhaka & Mymensingh Zone (Tk.) | Unit Rate in Chattogram & Sylhet Zone (Tk.) | Unit Rate in Khulna, Barishal & Gopalganj Zone (Tk.) | Unit Rate in Rajshahi & Rangpur Zone (Tk.) |
|----------|----------------------|------|--|---|--|--|
|----------|----------------------|------|--|---|--|--|

Supply, installation and testing of pressure switch complete with sensing element, enclosure material, 15 mm NPT pressure connection, direct mounting electrical connection, other material etc. accepted / approved by the Engineer. It shall be UL Listed / FM approved.

Each 18,406.00 18,406.00 18,406.00 18,406.00

14.22 PRESSURE RELIEF VALVE

Supply, installation and testing pressure relief valve to automatically relieve excess pressure in fire protection pumping systems. Valve body as per ASTM A536 65-45-12 and available pressure relief range 100-300 PSI. Inlet / outlet shall be flanged / threaded end type, UL Listed / FM approved.

| | | | | | | |
|---------|-----------------------|------|------------|------------|------------|------------|
| 14.22.1 | 150 mm (6 inch) dia | Each | 251,545.00 | 251,545.00 | 251,545.00 | 251,545.00 |
| 14.22.2 | 100 mm (4 inch) dia | Each | 214,733.00 | 214,733.00 | 214,733.00 | 214,733.00 |
| 14.22.3 | 80 mm (3.25 inch) dia | Each | 122,705.00 | 122,705.00 | 122,705.00 | 122,705.00 |

14.23 WASTE CONE

Supply & installation of flange type waste cone. Two sight glasses extending from the center of the waste cone allow users to observe the flow of water and ensure that the system's pumps and other components are working correctly. The size of the waste cone shall be selected as per main-relief valve out line: UL Listed / FM approved.

| | | | | | | |
|---------|--------------------------------|------|------------|------------|------------|------------|
| 14.23.1 | 200 x 300 mm (8 x 10 inch) dia | Each | 116,570.00 | 116,570.00 | 116,570.00 | 116,570.00 |
| 14.23.2 | 150 x 200 mm (6 x 8 inch) dia | Each | 85,893.00 | 85,893.00 | 85,893.00 | 85,893.00 |
| 14.23.3 | 100 x 150 mm (4 x 6 inch) dia | Each | 58,898.00 | 58,898.00 | 58,898.00 | 58,898.00 |

14.24 AUTO AIR-VENT VALVE

Supply & installation of auto air vent valve of 1 inch (25mm) dia. The valve shall be suitable to release air from the fire hydrant pipes. Shall be suitable to withstand pressure up to 10kg/cm². It shall be UL Listed / FM approved.

Each 18,406.00 18,406.00 18,406.00 18,406.00

14.25 FLOW SWITCH

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