

T.No.65.12.8029

Specifications of Central Gas Pipeline for Central Hospital. WCR.JBP.

Scope of work.

The details of the Product and System we require is mentioned below & the Design, Supply, Installation, Testing and Commissioning of Central Medical Gas Pipeline System with all accessories and basic systems, should exactly conform to the hospital building and meet all the requirements of the hospital needs:-

The Bed Head Panels should be (Vertical and Horizontal) with Medi-Rail System.

There should be rigid / swivel / single arm / double arm pendants for the OT & ICU.

There should be an area Alarm Panel / Master Alarm Panel for all medical gases.

The Medi-rail system should be provided with all mounting accessories.

There should be a provision of a nurse call system.

Pipe material.

They should be solid, seamless, deoxidized, non arsenical, half hard, tempered & of degreased material confirming to HTM 2022 Standards.

The pipe sizes should be of the following standard size only, as under:

28mm OD x 1.2 mm thick

22mm OD x 0.9 mm thick

15mm OD x 0.9 mm thick

12mm OD x 0.7 mm thick

Fittings used for connecting copper tubing should be of Copper and brazed type connection as per BS: 864: Part 2:1983.

All pipe-jointing fittings should be made of Copper as per BS 864 Standards and should be suitable for a steam of working pressure of 17 bars and especially be made for brazed socket type connections.

Shut off valves should be suitable for the pipe diameter of non lubricated 90 degree turn lever & having stainless steel hard chrome brass body with PTFE seat and S.S. ball. Sizes to be appropriate for copper pipes with screw threaded ends and brass adapter .All valves should be pneumatically tested for double the working pressure and degreased for medical gases supply.

Installation.

Installation of piping should be carried out with strict cleanliness. Only pipes, fittings and valves which have been degreased to be used.

Pipe fixing clamps should be of non-ferrous or non-deteriorating plastic type suitable for the diameter of the pipe being used.

Testing:

After installation, all the pipes should be cleaned or purged with gas, and then the complete system to be tested at 1 1/2 times of working pressure for minimum 24 hours for any faults or leaks.

Painting:

All the existing and proposed exposed pipes will have to be painted with two coats of synthetic enamel paint & according to the colour codification as per IS-2379 of 1963.

Terminal Outlets. To conform to the following features:

All outlets should accept, retain and release the probes by means of a quick release mechanism, to be of design for single - handed operation.

The terminal unit/probe connection will be of non-swivel type, so that any secondary equipment, such as a flow meter, is not tilted by the weight of the probe hose.

The outlet should be strictly totally leak proof, safe and easy to operate.

All the probes of a particular gas should be non-interchangeable specific gas and vacuum probes.

All outlets to be permanently identifiable with colour for specific gas / vacuum besides bearing labelled name of the gas, to be engraved on its face.

Back Pressure Compensated Flow meter.

The flow meter should be sturdy and reliable for an accurate measuring of the flow of gases.

The flow meter should be made of chromium plated brass body.

The metering tube and cover should be made of unbreakable Poly carbonate.

The flow adjustment should be by a needle valve fitted with inlet filter- 100um.

The flow rate range should be between 0- 15 liters per minute.

The flush flow should be minimum of 60 liters per minute.

The reading in the flow meter should be on the center of the floating ball.

The inlet pressure should be minimum of 60 psi.

Bubble Humidifiers.

The lid should be made of ABS Plastic, Jar should be of unbreakable Poly

Carbonate, The valve pressure should be of brass & chromium plated,

the humidifier jar should be steam autoclaveable or should be gas sterilizable.

Ward Suction Unit.

The whole unit should be wall mountable ward Vacuum Unit.

The capacity of the Jars should be between 550ml / 2000ml.

The range of control of flow should be between 0 To 700 Mm./Hg.

An over flow safety valve should be present in the Lid assembly.

The lid should be made of ABS Plastic variety.

The jar should be made of unbreakable poly carbonate material.

The jar should be sterilizable by steam to the temperature of above 132 Degree Celsius.

The vacuum control regulator should have an ON/OFF Knob.

It should have a high pressure hose at inlet and a low pressure hose at collection end of the jar.

The operation theatre should be provided with :-

MOBILE THEATRE SUCTION UNIT. Consisting of:-

Unbreakable Poly Carbonate Collection jars 2 Nos of 2000ml capacity each.

Provision of an ABS Lid with over flow safety valve is required.

A special 3 way valve is to be provided to operate either left hand side or right hand side and both should be operable simultaneously.

A regulator is to be provided to control the negative pressure from 0 to 750 mm./ Hg. with an ON /OFF knob.

All these items should be assembled on an Aluminium powder coated trolley with castors for mobility in the operation theatre.

A 1 – 2 mtr high pressure hose should be provided at the inlet and 2-3 Mtr low pressure hose to be provided at collection end of the jar.

OT Pendant design: should be provided with the following items:-

Provision should be for 2 Oxygen and 2 Nitrous Oxide Gas Outlets.

Four Switch Sockets of 5/15 Amps each.

Stainless steel IV hooks with Infusion Pump Mounting Facility.

There should be 1 Monitor Shelve.

Alarm System for Gases. Should have the mandatory essential features:-

Wall Mountable. Digital display of line pressure in Psi.

An Audio Visual Alarm for High & Low level of gases. A reliable pressure sensor.

The alarms should be provided with pressure sensors with an in-built On-Off switch.

The system should have a facility to be kept off as and when required.

The audio alarms to become active in case of any abnormality in the pressure and to be shut off by pressing the MUTE button to be provided in the system.

The audio alarm should restart automatically if the pressure does not come back to the normal range within 15 - 30 minutes, thus warning that the fault is still active and unattended.

The system should have feather touch buttons in the system.

A battery pack to be provided for uninterrupted power supply to the system with minimum 2 hours back-up supply for the system.

The whole area is to be made of fire-proof material as per international standard.

Bed Head panel. Should be provided with the following essential items:-

A horizontal Bed Head Panel with provision of all the Gas Outlets & Electrical 5/15 amps switches, Sockets, Nurse Call cut out as per requirement on each bed.

Each Bed Head Panel should be provided with the following :-

2 each for Oxygen & 2 Vacuum Outlets.

4 multi- pins 5/15 Amps, Switch Sockets outlets combined.

Medi-rail.

Provision for Nurse Call Cut out.

NURSE CALLING SYSTEM.

A digital nurse calling system for large hospital denotes quiet working & efficiency.

The system should be having:-

A Wall mounted unit to be installed on each bed of good pleasant design of aluminium panel with screw attachment & coded colour powder coating.

The front panel should have the following :

1. 3 colour indicators :

RED for Calling.

GREEN for Ready

YELLOW for Wait

2. Reset switch.

3. Hanging cord.

4. Patient Switch to be installed at the nursing station.

5 Central monitor to have bright red digital display for bed numbers.

Features :- Single 3 Sec beep on call or Periodic beep.

Acknowledgement switch on the monitor.

Flashing display on call & freeze mode on wait.

Central monitor to accommodate minimum 10- 20, beds capacity.

Siren mode if the patient is not attended after providing wait signal.

Electrical Installation of single wire to be laid from every bed to the nursing station through

concealed conduits. The central monitor to work on 230v 50hz supply. Provision of

DC voltage to be supplied to wall unit & patients switch so that micro shocks & leakage current shocks are avoided.

General Terms.

1. The firm shall install the entire system in the hospital in accordance to the building plan requirements and measurements on completion of the construction.

2. The firm shall give an undertaking for 7 years comprehensive AMC after 2 years of warranty period.

3. All safety standards have to be met during installation & after installation a compliance report will have to be submitted by the firm.

4. User & Technical /Maintenance manual will have to be supplied by the firm.

5. The firm will supply the list of hospitals where the same equipment has been installed.

MD.WCR.

RAILWAY HOSPITAL SURVEY REPORT (100 BED) D T 21.04.2011

S NO.	DISCRIPTION	BED	02 PT	SUC.PT	N20PT
A	GROUND FLOOR				
1	CASUALTY	9	9	9	-----
2	MINOR OT	2	2	2	2
3	EXAMINATION ROOM	1	1	1	-----
4	SONOGRAPHY ROOM	0	1	1	-----
5	X RAY ROOM	0	1	1	-----
	FIRST FLOOR				
	LABOUR ROOM	0	2	2	-----
	WAIT & WATCH ROOM	1	1	1	-----
	FEMALE WARD GYNA& SURG	23	23	23	-----
	MATERNITY WARD	7	7	7	-----
	PEDIATRIC WARD	9	9	9	-----
	FELMALE INTRMEDATE C.U	8	8	8	-----
	MALE INTERMEDIATE C.U.	8	8	8	-----
	SECOND FLOOR				
	OT NO.1 (MADULAR OT)	0	0	0	0
	OT NO.2	0	4	4	3
	OT NO.3	0	4	4	3
	OT RECOVERY ROOM	5	5	5	-----
	ICU MEDICAL & SURGICAL	21	21	21	-----
	SEPTIC OT	0	1	1	1
	THIRD FLOOR				
	OFFICER CABIN	4	4	4	-----
	SUBORDINATE STAFF CABIN 2 ROOM, 2 POINT IN EACH	4	4	4	-----
	TOTAL	102	115	115	09

BED-HEAD PANEL

GROUND FLOOR

Observation ward (casualty) ----- 07

First floor

Labour room -----03

Pediatric ward -----09

Male/female intermediate CU-----

SECOND FLOOR

Recovery room-----05

Surgical ward ICU-----11

Medical ward ICU-----10

TOTAL

45