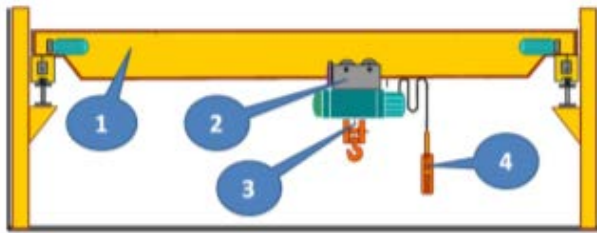


**BASIC COMPONENTS**



- 1. Bridge**  
X-direction movement  
Working bay
- 3. Hoist**  
Z-direction movement  
Up-Down

- 2. Trolley**  
Y-direction movement  
Across the bay
- 4. Control**  
Device to control X-Y-Z  
directional movement

**CONTROL TYPE**

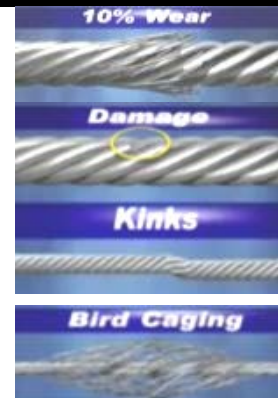
Cab Control	The operator remains in the cabin and moves the crane as per the rigger/signalman's indications by hand movement.
Pendant Control	Control device connected with a crane through a cable. The operator walks along with the crane movement.
Remote Control	Wireless control device works on infrared or radio frequency.

	Initial Inspection	Regular Inspection	Statutory Inspection
Who	Supplier or trained person to perform inspection	Operator to perform routine inspection as per checklist	Inspection by regulatory authority/ competent person
When	Newly installation Re-installed after repair	Daily or Monthly or Quarterly	Annually once

**ROUTINE INSPECTION**

Ensure that

- There is no abnormality has been reported in the previous shift.
- Warning sound (siren) is working.
- There is no abnormal sound is generated.
- All required components are lubricated.
- The bridge, trolley and hoist are moving smoothly.
- The hoist limit switch is working correctly.
- Hook and safety latch are not damaged.
- Strength of battery in remote is well.
- There is no leakage from tanks, lines, valves or other systems.
- The condition of the wire rope is good.
- Don't use wire rope with damage or kinks or bird cage.



**SAFE WORK PRACTICE**

**DO**

- Know the safe working load capacity of the crane.
- Know the centre of gravity of the material to be lifted.
- Operate crane on defined load path only.
- Keep a constant watch on the working area.
- Operate warning sound to attract attention.
- Wear appropriate PPEs (gloves, helmet, safety shoes)
- Park your crane at the defined location at the end of work.

**DON'T**

- Avoid keeping the load in suspension.
- Avoid crane movement overworking personnel
- Avoid X-Y-Z movement simultaneously.
- Avoid lifting the load when the weight is not sure.
- Avoid unsafe lifting attachments.
- Avoid incorrect slinging procedures (side lifting, overloading, load swinging).
- Don't touch the hook once the load is lifted.
- Don't touch any electrical components.

**SAFETY DEVICES**

- LOAD INDICATOR/ OVERLOAD LIMIT DEVICE**  
It is recommended when weight is not known. It will sense and indicate the weight of the load. It will also stop crane operation if overloaded
- CROSS TRAVERSE/ LIMIT DEVICE**  
When two cranes are running on the same track, it will stop crane operation before collision.
- HOISE LIMIT DEVICE**  
It will stop crane operation when the hoist lifting device reaches at pre-determined height to prevent a hit to the hoist drum/overwinding.



#### CAB CONTROL OPERATION

- Use standard hand signals.
- Follow signals by the rigging supervisor only.
- Follow the emergency stop signal immediately from anyone.
- Use voice communication devices between the cab operator and rigger supervisor.
- Put all controls off before leaving the workplace.

#### SLING PROCEDURE

- Only authorized crane operators/riggers are to be allowed/ involved.
- Determine the weight of the load to be lifted.
- Determine the centre of gravity of the load.
- Determine the capacity of the sling to be used.
- Determine the position of tying the load with slings (web sling or chain sling).
- Lift the load gently to a little high and observe load balance, swinging.
- Adjust the position of the tie if required.
- Lift the load to a safe height for clear movement.
- Don't touch the hook once the load is lifted.
- Avoid side lifting, load swinging, overloading, and damaged lifting attachments.
- Avoid lifting on top of the hook

**IT IS RECOMMENDED TO DISPLAY THE PHOTOGRAPHIC LIST OF AUTHORIZED CRANE OPERATORS/ RIGGERS.**

#### STATUTORY INSPECTION

- All lifting tools & tackles and devices are to be inspected and tested by competent personnel on an annual basis.
- It is recommended to display information on SWL and the Next Due Date of inspection on the crane.
- Certificates of approval are to be maintained.

#### EXTERNAL DOWNLOAD

IS 3177:1999 Code of Practice for Electric Overhead Travelling Cranes and Gantry Cranes other than Steel Work Cranes

<https://law.resource.org/pub/in/bis/S08/is.3177.1999.pdf> (DOWNLOAD)

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**AKSHAR MANAGEMENT CONSULTANT**

B-201, Darshnam Oxy Park,  
Nr. Neelkamal Farm,  
Vasna Bhayali Road,  
Vadodara-390007,  
Gujarat (INDIA)

+91-99099.79870  
[contact@aksharQHSE.in](mailto:contact@aksharQHSE.in)