

**LINIAN CRANE & HOIST COMPANY**  
*Excellence in Lifting & Handling Equipment*  
Tel: 01744 736 330  
sales@linian.com www.linian.com

## **Basic Information about Hoists**

When you need a hoist, remember to always tell us as much as you possibly can about your intended use of the hoist.

- What is the actual weight of the load you are lifting?
- How often you will be using the hoist?
- Describe the load.
- What is the height of lift?
- Will the hoist be fixed suspension or will it travel along a beam?
- Do you need single or two speeds?
- What controls - pendant or remote?
- What will be the power supply?
- What is the general environment?
- Are there any special requirements?

Whatever you want, we will do it.

## **HELPFUL HINTS**

### **Make of Hoist**

These days most European hoists are inherently safe, and operator friendly. They do not break down unless you abuse them. However, when you buy a hoist make sure that it is a well proven make with excellent local spares and service backup as a guarantee may be of little use to you if the spare parts are not readily available.

### **The Load**

The Safe Working Load, or Working Load Limit, is the maximum load which can be safely lifted by the hoist. Tell us the actual load you are lifting and do not round it up yourself. Also tell us how often you will lift the load. We will then be able to propose the most appropriate hoist type to suit your needs.

### **Hoist Duty**

Hoist duty ranges from light to very heavy and we are best able to advise on this after carefully considering all the other information you let us have.

### **Nature of the Load**

Tell us as much as possible about the load, its size, shape and what it consists of.

### **Height of Lift**

This is measured from the hoist hook in its lowest position (usually the floor) up to its highest position. If possible, tell us the **exact** height of lift required.

## **Headroom**

This is the distance between the hoist suspension point (top hook or runway beam bottom flange) and the load hook in its highest position. Some hoists are designed to be low/close headroom so that you can maximise the height of lift.

## **Speed of Lift**

Some hoist applications only need single speed hoisting and travel but a two speed hoist (fast and slow) is essential where precise load positioning is required or where the load is such that it is safer to make the initial lift at a slow speed. Some manufacturers now offer variable speed hoists.

## **Hoist Suspension**

Hoists can be supplied with a top hook or eye for a fixed position suspension but if the hoist is to travel along a beam then the options are manual push/pull travel, or power travel. The cheapest option is push/pull travel, but this is not recommended over 1.5 tonnes and the trolley tends to travel in "jerks" of one or two feet at a time so accurate load positioning is difficult. Power travel is best because the hoist travels effortlessly with the simple push of a button and you can have either single speed or two speed operation.

## **Control**

Most hoists are supplied with a low voltage pendant control which is a push button box suspended from the hoist on a cable. The pendant can be any length to suit the job. Alternatively, the push button box can be wall mounted in a fixed position. Another option is remote control by either radio or infra-red. Radio control is the more versatile but bear in mind that the operator does not need to be in sight of the hoist to operate it so care should be taken to ensure that the handset is only used by responsible people and with great care. Infra-red requires line of sight between the handset and the sensor on the hoist and this can be a safety feature but the sensors on the hoist must be cleaned regularly otherwise they get dusty and will not function. All controls can be supplied with a key operated isolator switch for security and safety. We recommend that all remote-control hoists are supplied with a spare plug-in pendant as a backup just in case the remote control fails, often the handsets get lost, damaged or need charging.

## **Safety Features**

Most hoists these days are fitted with overload protection preventing the hoist from lifting more than its safe working load. Slipping clutches are sometimes used for this purpose and they also prevent over hoisting and over lowering. Limit switches also prevent over hoisting and over lowering.

## **Environment**

Indoor, warm, and dry or outdoor, cold, and wet?

Is the atmosphere hazardous requiring explosion or fire-resistant measures?

Is there a lot of dust or other contaminants?

### **Enclosure Protection**

Most hoists are protected to IP55 (dust and water resistant) as standard which covers most normal environments, but you may wish to consider additional protection for hoists which are permanently outdoors. An outdoor hoist should also be fitted with a weather protection canopy.

### **Chain Hoists / Wire Rope Hoists**

Chain hoists are cheaper and usually preferred up to 5 tonnes, they require less maintenance, tolerate more abuse, chain can last 30 times longer than wire rope, more allowance for side pulling, and they have a true vertical lift. Wire rope hoists tend to be quieter, smoother, have faster lifting speeds and are generally preferred over 5 tonnes especially for long lifting heights and for heavy duty use. There are other pros and cons and we will advise on these according to your specific requirements.

### **Electric Power Supplies**

In the UK it is normal to use 400volt 3 phase 50Hz power supplies, but some hoists are available for use with 110volt or 220volt single phase.

### **Pneumatic Power Supplies**

Most pneumatic hoists operate on an air pressure of approx. 90psi or 6 bar, but it is important to realise that they need a reasonable volume of air supply to operate properly. Typically hoists up to 2 tonnes capacity consume air at approx. 22 litres/second.