

Air Hoist Product Information

Capacity and General Information

1. The standard TCR air hoist family consists of ¼, ½, 1, 2, 3 and 6 ton capacities.
2. The units are all built on three bodies and have either single or double falls. **Body 1** consists of a ½ ton unit, when de-rated, it is a ¼ ton unit and double fall becomes a 1 ton unit. **Body 2** single fall is also a 1 ton unit; double fall a two-ton unit. **Body 3** single fall is a three-ton unit. Double fall a six ton unit. All units use Kito Grade 80-load chain, which we inventory. The air hoist chain price is the same as the comparable electric hoist chain price, capacity by capacity.
3. Harrington offers as standard an internal, pre-set load limiter. This is an option for most of our competition.
4. Our units have an 8 vane (spring-loaded vane) motor compared to an axial style piston motor.

Duty Cycle

Harrington air hoists can be operated 100% of a given time frame. They do not have a duty cycle because components do not over heat like electrically operated hoists. However, when a hoist is used on a 100% time frame the hoist and chain components should be inspected frequently for wear and components replaced as required.

Air Hoists and Hazardous Locations

Because no electrical components are used in air hoists, there is no inherent possibility of electrical arcing internally with in an air hoist.

Refer to the last page of this document, which has an expanded explanation of Explosion Proof and Spark Resistance.

Noise

Noise is measured by comparing the exhaust noise level to a known standard called a decible rating (dBA). Our average rating is an 80dBA, when measured at a point 3 feet from the exhaust manifold. The noise level varies depending upon the operating condition of the hoist. I.E. Up, down, with load, without load, air pressure, etc.

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Speed

Maximum Hoist speed may be adjusted down by reducing the air pressure at the hoist inlet port.

Speed is controlled by either an up / down cord system or pendant lever control. For the cord system, red cord controls the down motion, white cord controls the up motion. A wooden toggle handle is available as an accessory to control up / down with one hand movement. A four-lever pendant for air trolley hoist operation is available for hoist operation with a trolley. The price for this handle is included in the base pendant assembly charge shown on the price sheet.

Mounting and Trolleys

Harrington TCR air hoists are standard with either a hook or lug mount. The price is different for one style mount versus the other style mount because our lug is designed to match our standard PT and GT trolley line as well as our air trolley line, which is available in ¼ through 6-ton capacities. This requires a special, not standard lug. Therefore, the price variance. TCR Air trolleys do have a brake.

Air Supply

The TCR hoist operates properly within in a range of 60 to 90 (PSI) pounds of airline pressure per square inch. Although the hoist will work at higher line pressure, the air vanes will wear prematurely. To avoid potentially hazardous conditions, we advise against using line pressure above 90 pounds pressure. Below 60 pounds pressure the air hoist will not perform properly. A minimum of 60 PSI air pressure is required to release the brake.

The TCR air hoist requires a minimum volume as specified on page 2 and 3 of the owners manual to function properly. The volume is a function of the customer supplied air compressor. If the compressor does not have enough volume output as specified in the owners manual, the hoist will not operate properly.

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Accessories

All air hoists require clean dry air that is properly lubricated to operate properly. The TCR air hoist requires a 5 micron filter and 2-3cc/min lubricator for proper operation. If the customer air supply contains moisture, or if the hoist is used in an application with large temperature variations, i.e. outside, the customer should consider a point of use air dryer as well as the filter and lubricator. A pressure regulator is an optional feature and should be used if the customer's air supply is greater than 90PSI. Harrington can supply a filter and lubricator mounted to the hoist inlet as an optional accessory to the hoist. A regulator can also be supplied at the customer request. This will insure that the air is conditioned for proper hoist operation. The filter lubricator and regulator each have 1/2" NPT (National Pipe Thread) inlet and outlet and are sized according to the hoist air consumption requirements. The filters and lubricators require regular customer maintenance. At a minimum, the filter element should be replaced when the pressure drop exceeds 15 psi across the filter and the lubricator should be filled with oil as required. Maintenance intervals depend on hoist usage and will vary with applications.

Special lubricant for FDA applications require food grade lubricant. The TCR air hoist should not be used in applications where food grade lubricant is required until Harrington receives approval from FDA for such lubricants. Engineering will advise via an EDOC when an approval is received.

Chain Buckets

Initially we will supply our ER canvas bucket as an option. The buckets will be modified to fit the TCR products. Special metal buckets will be available for special applications and these requests should be referred to the Engineering Department.

Delivery

It is our intent to supply air hoists that are standard in the same delivery cycle as electric hoists. Modifications such as special pendant lengths and chain lengths will require the same lead-time as similar electric units.

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Pricing and Competition

We have elected to price these units to be competitive with the C. M. family of air hoists. Depending upon capacity and control feature, we may be as much as 8 to 10 percent higher than C.M., Budgit, Coffing and Yale. *We do offer as standard, features such a load limiter that are either not available or are optional from them. Therefore, we believe that our products are competitively priced to meet market demands.* When it comes to extra length lifts, our chain prices are very competitive. We will be significantly less priced than the industry leader, I. R. and slightly less in price than the other two players, Gardner Denver and Chicago Pneumatic. J. D. Neuhaus is also a major player, but is not competitive in our capacity range.

Only I. R. offers a greater range of capacities and specials than Harrington does.

Full Special Units

We have the ability to quote large capacity units (greater than 6 tons, up to 50 tons). The quotation will take about a week for a response. Delivery will be about thirteen to sixteen weeks from receipt of order. Special Owner's Manuals and Parts Lists need to be developed by Engineering as a part of any such order. We appear to be competitively priced in these capacities.

Price Sheet Information

1. Units do not include chain buckets. Extra capacity buckets will be priced upon customer request. These buckets are a full special and will require a few days for Engineering to quote.
2. Base pendant assembly charge. To create a new pendant assembly for a customer we need to cut the large black armor colored sheath to length and draw the required air lines through the sheath, attach the requisite fittings, strain relief wire and assemble to the hoist and air pendant lever throttle. This is covered by the base figure. There still is a per foot adder to cover the materials used to create the assembly. This is shown in the price sheet.
3. We do not show air hose supply line prices or mechanical connectors. We may do so at a future date. These items can be secured from a local industrial or hydraulic supply house.

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AIR HOISTS & HAZARDOUS LOCATIONS

Explosionproof

The term HAZARDOUS LOCATION is defined by the National Electrical Code. Hazardous Areas are areas where fire or explosion hazards may exist due to flammable gases or vapors, flammable liquids, combustible dusts, or ignitable fibers or flyings. The NEC defines special requirements for electrical equipment in such areas – the equipment must either have insufficient energy to cause ignition, or it must be in a special enclosure. Most conventional electrical equipment, including electric chain hoists, have enough energy to cause ignition; therefore, it must be in a special enclosure.

There are two types of enclosures for electrical apparatus in hazardous locations. One is Explosionproof and the other is Dust-ignitionproof. Generally, Explosionproof is for use in hazardous areas involving gases, liquids, and vapors. Dust-ignitionproof is for use in hazardous areas involving dust, fibers, or flyings. The definitions of these two terms are as follows:

Explosionproof – An enclosure capable of withstanding an explosion of a specified gas or vapor that may occur within it. For such an explosion the enclosure must prevent the ignition of a specified gas or vapor surrounding it by sparks, flashes, or explosion of the gas or vapor within. Furthermore, the enclosure's external temperature must remain low enough so that it does not ignite a surrounding flammable atmosphere. (Paraphrased from Article 100 of the 1996 NEC).

Dust-ignitionproof – An enclosure that excludes dusts. The enclosure must prevent arcs, sparks, or heat that occurs within it from igniting exterior accumulations or atmospheric suspensions of a specified dust. (Paraphrased from Article 502-1 of the 1996 NEC).

Since air hoists are not electrical, the above special requirements for hazardous locations do not apply. Also, the terms Explosionproof and Dust-ignitionproof do not apply.

Spark Resistant

Contrasted to Explosionproof above, Spark Resistant is poorly defined. Little exists in industry to provide guidance or regulations in this area. Generally, the term Spark Resistant deals with using materials that minimize or eliminate the likelihood of sparks of sufficient energy for ignition of the atmosphere. These are sparks that are generated from parts contacting each other, not electrical sparks. Currently, Harrington does not offer a spark resistant hoist. However, in the future, if the market dictates that a spark resistant air hoist is required, Harrington will develop a family of spark resistant products.