



This information is provided to customers to assist you to make informed decisions as you research which hoist is right for you. There is a lot of misinformation around, this document is intended to enable you to identify what is correct and right for your situation.

Common misconceptions

This section provides those researching lifts with some of the details that are not disclosed when you contact companies. We feel it is best to make customers aware of the facts in relation to hoists and what to look for during your research.

Australian Standards design and Workplace Health and Safety Design Registration

In a commercial workplace WH&S only look for design registered equipment

Incorrect. You not only should look for design registered equipment, you should look for Australian standards approved designs. (insurance companies may request this should you have a claim). Also if you have a business there are a number of items to consider when purchasing equipment. We have presented this information with the help of WH&S Queensland, please review our summary information on <https://happ.com.au/whs/> which details various requirements including the workplace code of practice which is detailed on this page with links to the original WH&S documents.

Registration with WH&S means compliance with Australian standards.

False. Due to lax wording in most Australian states companies that state 'Worksafe Registered' only means the design has been registered with Worksafe. It does not mean made to Australian Standards.

The design registration application does not explicitly require what Australian standards are Qualifications are required, so any standard or specification can be represented. A statement of skills and knowledge and the verifier states they are suitably qualified. This loophole allows designs to be registered which is not Australian Standards compliant and with minimal verification

In Queensland the verifier must be a Registered Professional Engineer in Queensland (RPEQ), who has engineering qualifications, and has been approved by the Board of Professional Engineers in Queensland (BPEQ) and the Australian Standards must be indicated along with a compliance certificate from the verifier. If a new name appears then the full analysis report is typically requested to ensure the verifier is suitable to verify the design.

HAPP Australian Standards hoists designs to be supplied for business use are registered in Queensland with Workplace Health and Safety (WH&S), the design is:

- Designed in Australia to Australian Standards
- Developed on a process submitted to WH&S
- Design is externally verified by registered professional engineers in Queensland (RPEQ)



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- The final design is registered with WH&S indicating all Australian standards and is co-signed by engineers in the factory, HAPP and the verifying engineer.
- Design registration in states other than Queensland do NOT mean designed and compliant with Australian Standards as it does in Queensland.

[Australian Standards and New Zealand standards can have any naming](#)

Incorrect, all Australian and New Zealand standards start with the prefix AS/NZS followed by the standard number and part number separated by a period. i.e.: AS/NZS number.part
Beware, some companies are telling potential customers that they have Australian Standards approval and quote numbers that are not Australian Standards numbers

[There is only one Australian Standard approval required for hoists](#)

False. There are a number of supporting standards such as electrical, steel structure that also need to be reviewed.

Design

[You can evaluate the design without using computer analysis](#)

Partially correct. In the old days before computers engineers used manual calculations to determine suitability of a design. For more than 20years engineers use computer analysis to accurately identify stress and deflection and other attributes on every key component in the design. A qualified engineer sets up all the parameters and lets the computer calculate the attributes on all parts down at level of detail not possible without the computers help. Engineers will still perform manual calculations to verify the computer analysis is correct.

HAPP has used computer analysis in its design process since it started.

HAPP documents show snippets of the computer based design indicating stress which can only be generated using the tools described. This is our way of showing we do the proper testing.

[You don't need professional engineers to perform structural analysis](#)

Partially correct. Whilst any person can run computer analysis, the ability to verify your work with manual calculations and know that the analysis is giving the correct results requires knowledge that professional engineers have been taught and use in practice. Computers are great but with incorrect data and configuration the results will be meaningless or even misleading.

HAPP has used RPEQ engineers in its design process since it started. Qualifications range from Degree to PhD (Doctorate) level. Some have been lecturers at QUT and Griffith Universities.

[Australian Standards are the same as European CE standards](#)

False. Australian Standards have different specifications relating to many factors including structural specifications, calculations and electrical requirements to match Australian environments. The CE standard is not recognized in Australia at least in the Worksafe design



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registration applications HAPP adheres to. It is possible that the loose wording in other states allows companies to get design registration without adherence to Australian Standards. Australian standards have specific physical tests that need to be applied to designs as part of the process, these tests are different and more stringent than CE tests.

All of HAPP's hoist designs are based on Australian Standards, we also leverage CE standards in some areas where advantages to quality and safety are evident.

HAPP performs the Australian Standards physical tests on its products.

Thicker steel is better

Hard to tell without proper investigation. It depends on the part being referred to. If the steel has the same chemical composition and there are no folds or forming being performed then it may be correct. However the increased thickness may create defects in fabrication when folding, rolling etc. Structural analysis identifies the size range of steel for the part and processing. It may be that thinner is better.

Thicker steel does not compensate for poor design it may increase the design defects.

If the steel is of different chemical composition then it may well be that a thinner steel is better. The same steel grade from different suppliers can have markedly different chemical composition and physical characteristics.

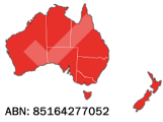
It is generally better to avoid focusing on just steel thickness and to focus more on the critical aspects such as chemical composition, steel grade, stress, work hardening, deflection etc. HAPP considers chemical composition, physical characteristics and supplier specifications in its analysis of structures.

Some design features to consider

This is some examples of the features you should consider.

Structural

If a design has been developed in accordance with the intention of Australian standards and the worlds best in class computer aided design tools you will see an indication of this in the suppliers documentation. An example of this that is shown on HAPP products is presented below. HAPP is one of the few hoist suppliers world-wide that is able to perform these analyses.



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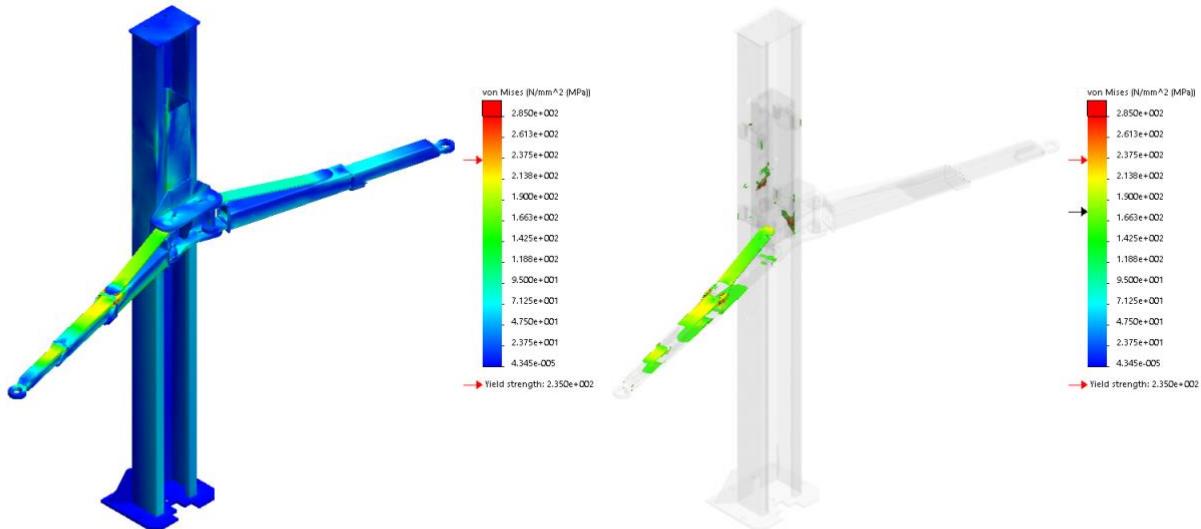


Figure: Examples of HAPP structural analysis of lifts during design, every parts inside and out is analysed by our engineers.

Electrical components

HAPP single phase hoists are supplied pre wired with industrial 15Amp plugs (orange collar). 3Phase units are supplied with a fly lead only as these lifts are typically hard wired.

Most HAPP designs are made by robots in our world best in class factory

Check out <https://happ.com.au/factory/> to see examples of HAPP's robots and latest tech CNC, laser cutting machines.

Examples are shown below.



Figure: Arm and column welding of HAPP products.

The reason we have now started labelling models with the P suffix is because we now make our lifts to much tighter precision with these techniques than was previous possible.

The quality of production facilities is something potential buys should consider in their reviews, there are factories in almost poverty conditions all the way up to HAPPs hi tech facility. You get what you pay for.

Motor

Typical electrical motors are 3HP single phase.

They typically use two capacitors, one is used during start-up (start capacitor) after which the other capacitor (the run capacitor) takes over.

These motors typically draw more current at start-up.

The more expensive motors typically draw less current due to higher quality windings.



The 3HP motors with quality windings will be rated at 15Amp.

You should not see a motor rating higher than 15Amp for an automotive hoist.

HAPP hoist motors are rated at 15Amp.

Over the years the aluminium housing motors from quality suppliers have been found to be the most reliable. HAPP uses the most expensive motors from the best supplier for this reason.

Control circuits (internal wiring to solenoids, limit switches etc)

There are two types of circuits commonly used on automotive lifts.

Wiring in control circuits should be aligned with Australian standards wiring colour codes. HAPP does this.

Wherever possible HAPP installs the wiring in the lift during production eliminating the need to perform this during installation reducing the chances of incorrect wiring.

High voltage 240V 15Amp circuit

These circuits are typically found where there is just a pump and limit switches in the design. The limit switch is directly connected into the contactor on one of the 15amp lines.

All wiring on this type of circuit must be double insulated and the devices wired directly to earth with an earth wire to comply with Australian Standards.

Generally during installation the limit switch wiring is connected directly into the contactor by an electrician, in this case the electrician must be on site during installation. In HAPP hoists the limit switch connections are exposed via a terminal block which comes standard with a loop back connection installed. The hoist also has the main power lead fitted with an industrial 15Amp plug. This enables installation to be performed without the electrician. At a later time the limit switch wires can then be connected and tested by an electrician.

In addition to this HAPP include a 4 amp quick blow fuse which some say negate the need for the double insulation. In HAPP lifts both the 4amp quick blow fuse and double insulation are used.

It is possible to see 240V solenoids used however HAPP does not use these.

Low voltage 24V circuit

These circuits are typically used by HAPP in circuits that solenoids to operate latches. In this case there is no need for double insulation of the wires enabling which makes wiring of the system more robust due to reduced size of wiring.

In these cases the wiring is connected into terminal blocks inside IP65 control boxes.

Hydraulic systems

The working pressure of most automotive lifts is below 20 mPa.

Oil lines under Australian Standards must have a burst pressure 6 x the working pressure being 120mPa.

China mandates that oil lines must have a burst pressure of 4 x the operating pressure.

As a result the common oil lines from china is a 20 mPa oil line would have a burst pressure of 80 mPa which is not enough.

HAPP provide oil lines with an working pressure of 60 mPa (240 mPa burst pressure) which is well in excess of the Australian Standard. Consequently we do not see issues with our hoses.



Maintenance is often overlooked when purchasing a hoist. Yet the hoist will be with you for years to come. Regular maintenance and operational checks is essential to the continued use of a hoist in safe operating environment.

These notes are an indication of the types of items you need to consider when purchasing a hoist.

How often do I need to service my hoist

Hoists are typically serviced yearly. The HAPP installers typically leave a sticker indicating the contact details for yearly services.

What checks are required on my hoist

Australian standards provide information on how to perform

- Regular operational checks
- Repairs, maintenance and preventative maintenance
- Inspection and test

HAPP provides you with guidelines for operational checks in the manuals which should form part of your workshop practices that are derived from the Australian standards. Those with the workplace health and safety kit have hard copy documents that allow details of maintenance procedures to be kept. In addition extra lift operation procedure stickers are provided.

Daily monitoring of hoist operations and training of operators are key components of your work practices.

Please refer to HAPPs section on WH&S for more information on that side <https://happ.com.au/whs/>

How can you maintain the nylon wear blocks in 2 post lifts

In HAPP P model products you can change the nylon blocks using the removeable plates above the top and below the bottom nylon blocks. This allows you to maintain and service those parts easily by removing two allen key bolts at each location.

In other machines these access points are not considered, in this case the hoist must be dismantled to access the nylon blocks at a cost similar to your original installation cost.

How can you maintain your safety latches

In all cases the HAPP lifts make maintenance of latches straight forward with removeable access plates and covers.

In HAPP single point lifts you can adjust the latch operation using cable adjustment on the latch (like a motorbike) or with adjustment nuts on solenoid units.

I HAPP 2 post dual point release lifts the latches can be accessed via removeable access plates on the sides of the columns.