

HAPP Clear floor series

Specification comparison

40 – 4T, Single point safety release, Symmetric arms

40P – 4T, Single point safety release, Asymmetric arms

45P – 4.5T, Single point safety release, Inverted cylinder, Asymmetric arms

60 – 4T, Dual point safety release, Symmetric arms

60P – 4T, Dual point safety release, Asymmetric arms





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Specifications

The following HAPP product models are included in the Clear floor series. HAPP have been making clear floor Australian Standard designed 2 post lifts for over 8 years. This document should help our customers understand the different models that have evolved over that time.

Model specific features

- 40 – 4T, Single point safety release, Symmetric arms
- 40P – 4T, Single point safety release, Asymmetric arms
- 45P – 4.5T, Single point safety release, Inverted cylinder, Asymmetric arms
- 50P – 4T, Single point safety release, Inverted cylinder, Asymmetric arms
- 60 – 4T, Dual point safety release, Symmetric arms
- 60P – 4T, Dual point safety release, Asymmetric arms

Model groups

Safety latch design

There are two main groups of HAPP **safety latch mechanisms** being.

- Single point safety release models (40, 40P, 45P, 50P)
Safety latches are on both columns and connect to carriage. Operator controls with a lever next to pump assembly and has complete control of latch operation. Latches automatically engage at each lock position as the lift raises, unless latches are held out by operator.
- Dual point safety release models (60, 60P)
Safety latches are on both carriages and connect to column. Latches automatically engage at each lock position as the lift raises. When operator wants to lower they disengage both latches at each carriage, the latch over centres a dog which holds the latch out whilst lowering and auto engages once the latch starts lifting again.

There are two main groups of HAPP **Generation 2 arms** being

- Asymmetric (standard on 30P, 35P, 40P, 45P, 60P)
Two sizes of arms 3pc with range length 580-1140mm and 2 pc with range of 890-1420mm.
With this design you can locate vehicle further backward, where you would typically have the lift post at where the drivers head is, it is now likely to be near where the rear vision mirror is located.
Advantages:
 - Load balancing is easier, especially on larger vehicles
 - Door opening and car access is easier
 - Easier to locate lift points on older, longer and unusual subframed vehiclesDisadvantages:
 - In order to load vehicles other than very light / smaller vehicles (medium to heavy and long vehicles) from *both directions*. The arms are changed from front to back first up(removing pins and moving arms over).
- Symmetric (standard on 40, 60, 70, 80)
All four arms are 3pc arms with supported range lengths of 580-1140mm.
Typically, vehicles correctly balanced have the center of gravity with driver looking out of window directly at column

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Advantages:

- Can load vehicles from both directions without changing arms from front to rear

Disadvantages

- The vehicle is positioned further forward making load balancing more difficult.
- The vehicle is positioned further forward door opening and access more difficult.
- Longer and older vehicles can be more difficult to locate standard lift points.

Production groups

There are two main **production groups** of the HAPP Clear floor series being.

- **Classic** models (40,60 models)

Supporting the standard HAPP design features from HAPP lifts developed over the last 8 years, using world class ISO facilities and medium – high technology production processes to build world class products.

- Arms made by robots following HAPP electronic design
- Parts made in electronic CNC machines following HAPP electronic design
- Arms are symmetrical enabling cars to be loaded from either direction
- Recent (3-year-old) Powder coating technology

- **Precision engineered** models (40P, 45P, 50P models)

New state of the art manufacturing facility. High technology manufacturing across the entire production process enabling **world best in class precision engineered products**.

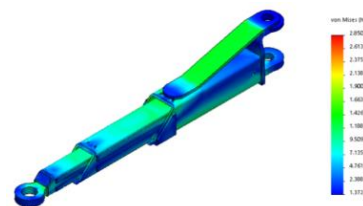
- Arms made by robots following HAPP electronic design
- All parts made in electronic CNC machines following HAPP electronic design
- Columns made by robots following HAPP electronic design
- Carriages made by robots following HAPP electronic design
- Latest Powder coating latest technology
- Asymmetric Gen 2 arms – load unusual vehicles, 4wd more

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Comparison Model specific features

All of the HAPP clear floor series have the following common **standard features**

- Computer generated and tested designs by Queensland engineers.
- Australian standards compliant designs and physical testing procedures
- Generation 2 (Gen2) arms (made by robots)
- Dual stage screw-up pads, large 50mm hole for stability
- 3" and 6" billet steel adaptors
- Steel pulleys for cables
- Column curtain (protects internals from contamination)
- Gen 2 arm locks (stronger automatic arm locks)
- Thick 9.6mm all steel synchronizing cables
- AS 3000 limit switch and pump wiring with extra fuse protection
- Industrial power plug so no need for electrician to test unit.
- Premium grade aluminum motor
- 60MPa working pressure oil lines
- 20mm grade 8.8 tru-bolts for anchor bolts (chemical fasters are better but we cannot supply due to shelf life)
- Extra thick 16mm base plates and 5mm columns.



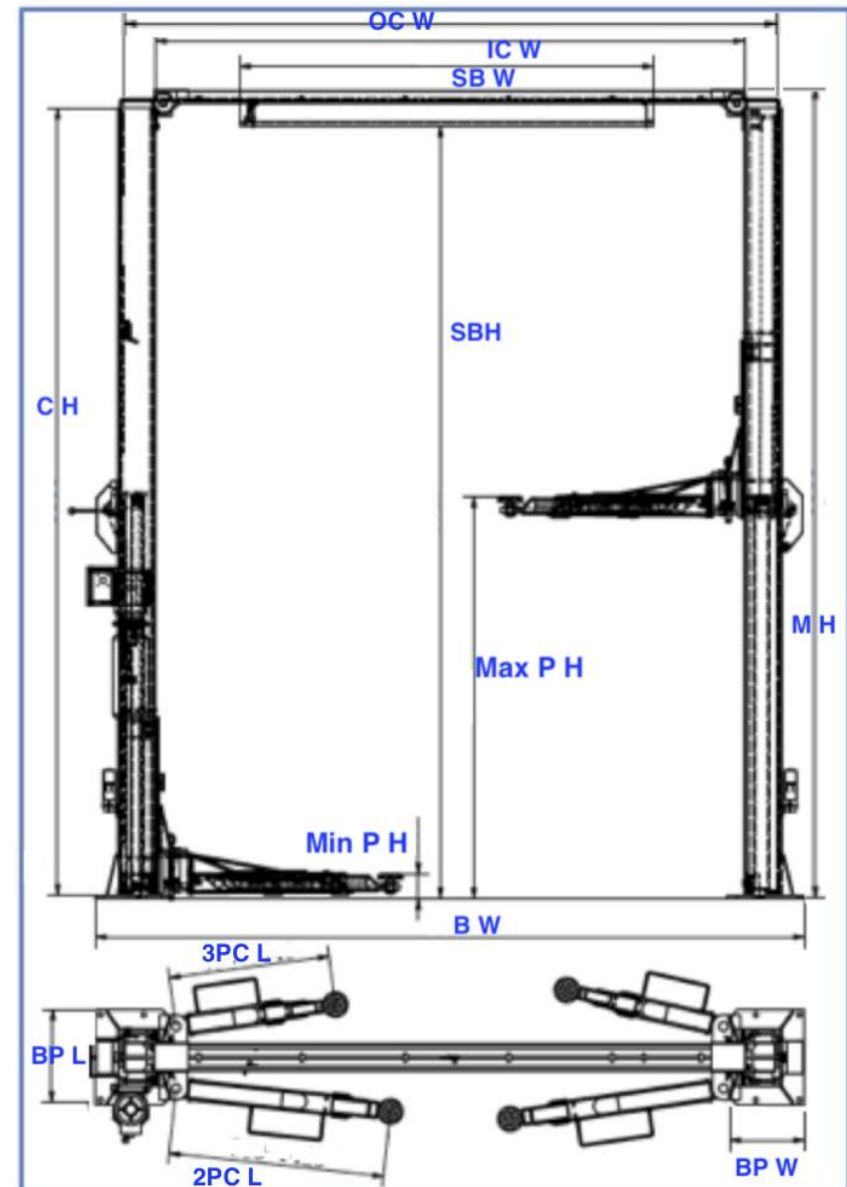
Functionality

Model	SWL	Aus Std	Arm style	Std Arms	Std Load dir	Opt Arms	Std Load dir	Safety Release	Lift style	Column style	Pad	Std Pad ext	Power	Lift Limit switch	Anchor bolts
40	4T	Yes	Gen 2	SYM	both	ASYM	one	Single Pt	Hyd Cyl - Chain	Parallel	HAPP Dual stage screw up. 50mm hole	3" + 6" 50mm hole	240V 15Amp / 415V 20 Amp	Yes Safety Bar	20mm tru bolt
40P	4T	Yes	Gen 2	ASYM	one	SYM	both	Single Pt	Hyd Cyl - Chain	Parallel					
45P	4.5T	Yes	Gen 2	ASYM	one	SYM	both	Single Pt	Inverted Hyd Cyl	Parallel					
60	4T	Yes	Gen 2	SYM	both	ASYM	one	Dual Pt	Hyd Cyl - Chain	Parallel					
60P	4T	Yes	Gen 2	ASYM	one	SYM	both	Dual Pt	Hyd Cyl - Chain	Parallel					

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Dimensions

			Dimension (mm)				
			40	40P	45P	60	60P
Height	C H	Column Height	3676	3670	3800	3694	3702
	M H	Max Height	3710	3775	3904	3694	3702
Width	B W	Base Width	3452	3446	3430	3432	3446
	OC W	Outside Column Width	3272	3210	3210	3272	3210
	IC W	Inside Column Width	2900	2850	2850	2900	2850
Lift	Min P H	Min Pad Height	100	100	100	100	100
	Max P H	Max Pad Height	1910	1920	1900	1925	1920
	SB H	Safety Bar Height	3528	3600	3729	3555	3585
Base Plate	BP L	Base Plate Length	375	375	375	375	375
	BP W	Base Plate Width	460	460	460	460	460
Arms	2PC L	2 Piece Arm Length	580 - 1140	580- 1140	580 - 1140	580- 1140	580- 1140
	3PC L	3 Piece Arm Length	890- 1420	890- 1420	890- 1420	890- 1420	890- 1420



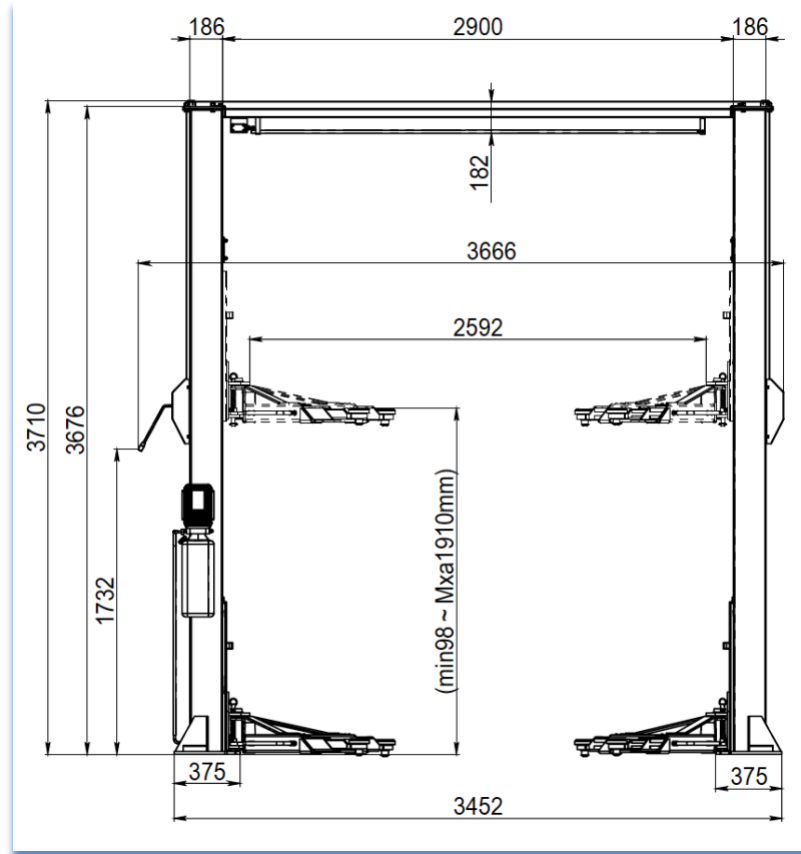
HAPP Clear floor series



HAPP 40

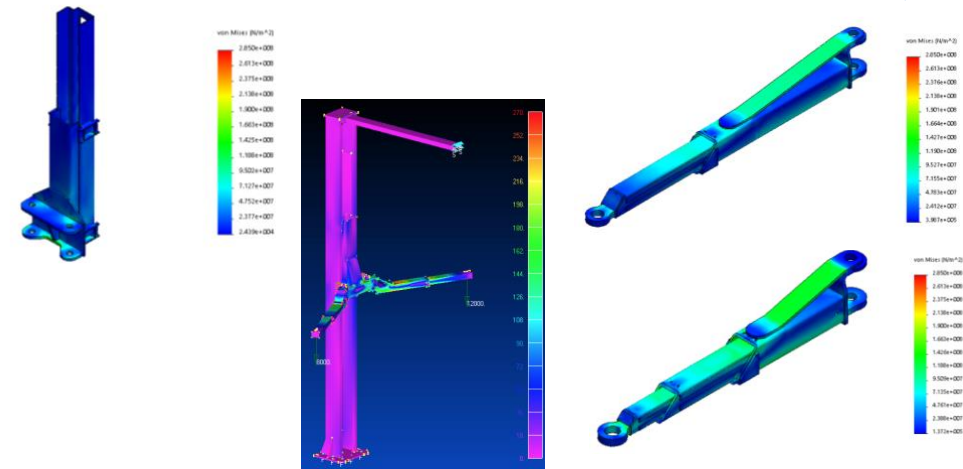
Good for workshops and project / race car users who will use the lift frequently. HAPPs long standing clear floor lift design now with 4 x Gen 2 3Pc arms allows cars to be lifted from either direction more easily.

- Symmetric Gen 2 arms 4 x 3Pc
- Single point release,
- Low column height – low height sheds
- Column height extension (600mm) for taller vehicles
- 1910 – 2110+(with pads) mm lift height



Model	HAPP 40
Style	2 Post Gantry Lift
Standard arm style	SYM - 3 PC 580-1140, 3 PC 580-1140
Optional arm style	ASYM - 3 PC 580-1140, 2 PC 890-1420
Lifting style	Electric over 2 hydraulic cylinders + chain
Column Width	2900mm
Lifting Capacity	4000kg
Lift height	100 to 1910 – 2110 (with pads) mm
Size(W*H) (options)	3452*3710mm (4010, 4310, 4610 with extension kit)
Lifting Time	40-70s
Motor Power	2.2kw
Power supply	3-415v/50hz 1-240v/50hz/15Amp
Power oil pressure	20Mpa
Net weight	689kg
Noise level	<70dB

Snippet from structural analysis of the lift to Australian Standards in QLD:

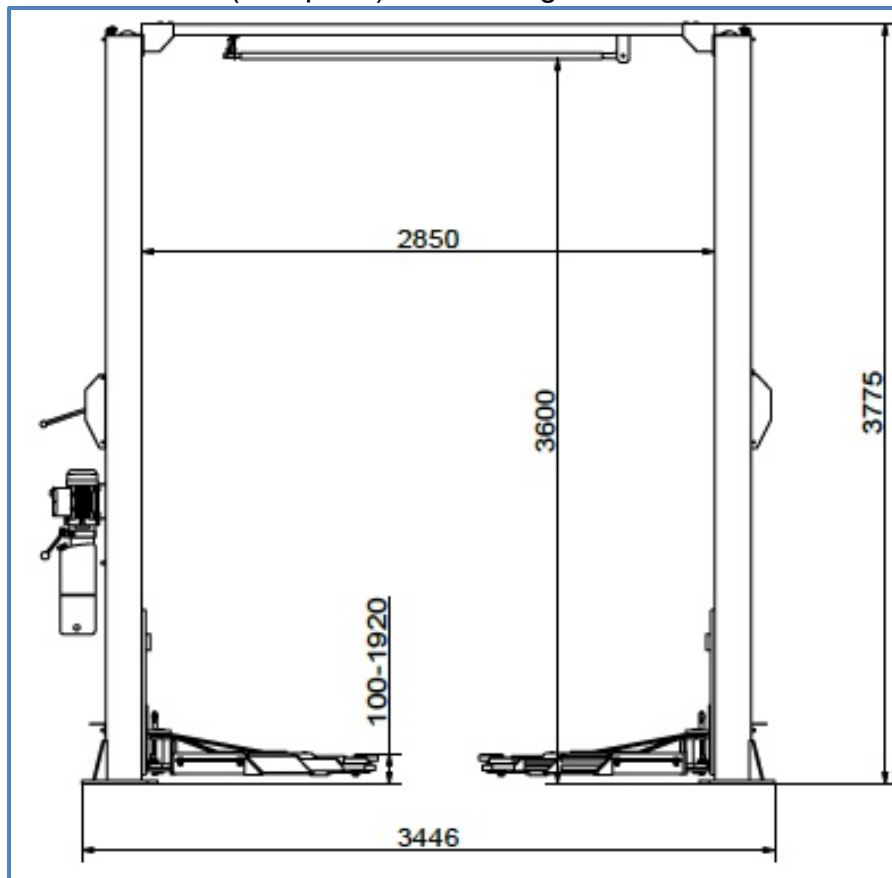


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HAPP 40P

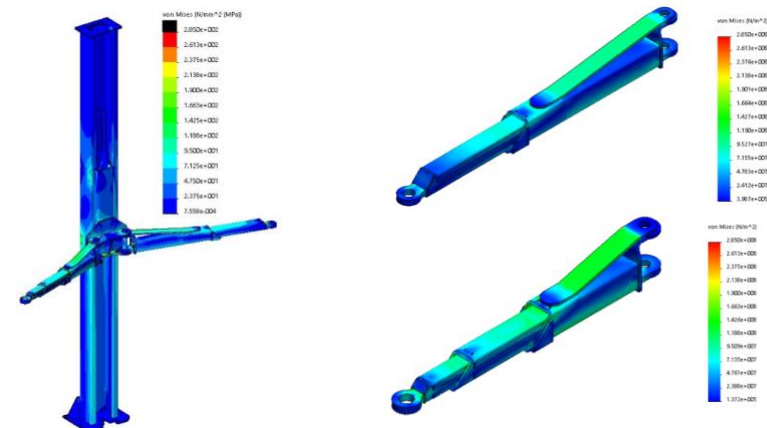
Good for workshops and project / race car users who will use the lift frequently and have a wide variety of vehicles to lift including 4WDs with uneven load distribution. You can load small / light vehicles from either direction, medium weight and larger vehicles can be loaded from both directions by swapping arms from front to back.

- Asymmetric Gen 2 arms – load unusual vehicles, 4wd more easily, open doors and access more easily
- Single point release,
- Low column height – low height sheds
- 1920 – 2120(with pads) mm lift height



Model	HAPP 40P
Style	2 Post Gantry Lift
Arm style	ASYM - 3 PC 580-1140, 2 PC 890-1420
Optional arm style	SYM - 3 PC 580-1140, 3 PC 580-1140
Lifting style	Electric over 2 hydraulic cylinders + chain
Column Width	2850mm
Lifting Capacity	4000kg
Lift height	100 to 1920 – 2120 (with pads) mm
Size(W*H)	3446*3775mm
Lifting Time	40-70s
Motor Power	2.2kw
Power supply	3-415v/50hz 1-240v/50hz/15Amp
Power oil pressure	20Mpa
Net weight	689kg
Noise level	<70dB

Snippets from structural analysis of the lift to Australian Standards in QLD:



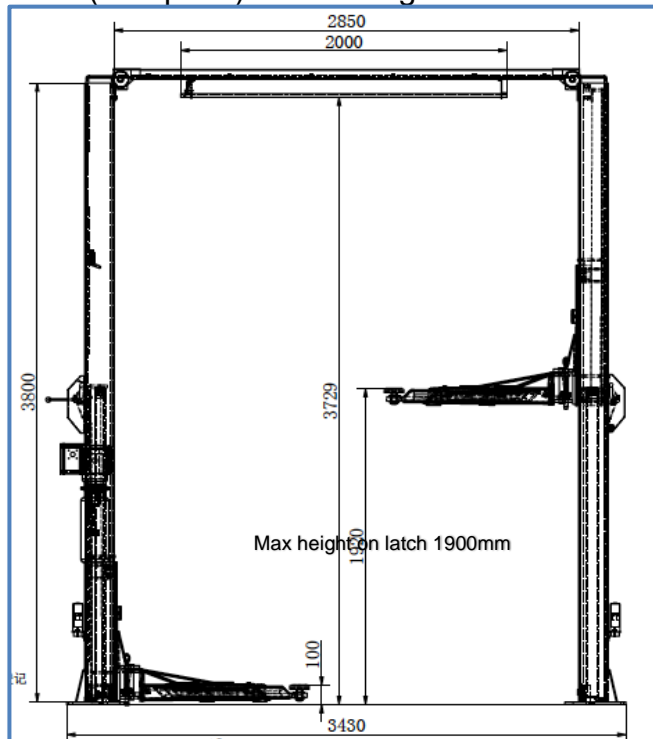
HAPP Clear floor series



HAPP 45P

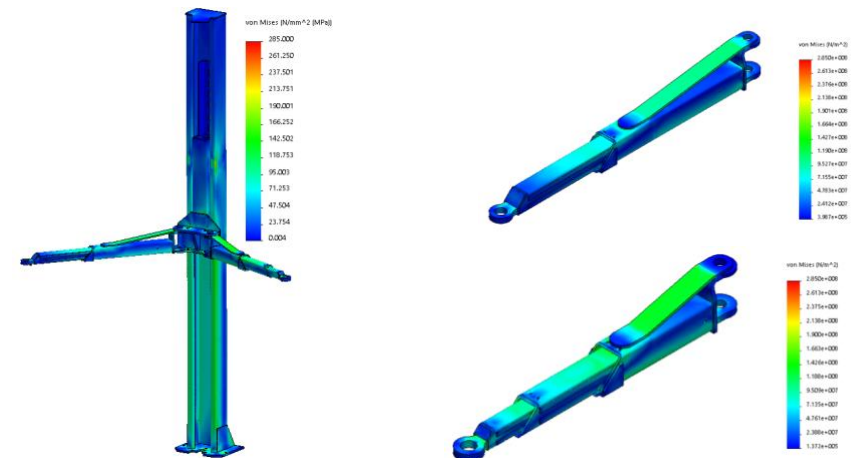
The HAPP 45P provides a huge 4.5T lift capacity with a high 3.729 height to the safety bar. The lift also uses direct drive cylinders (no chains) which reduces the number of moving parts. The arms are the same design as 40P, the arms and carriage use higher grade steel for extra load rating. Good for workshops and project / race car users who will use the lift frequently and have a wide variety of vehicles to lift including 4WDs with uneven load distribution. You can load small / light vehicles from either direction, medium weight and larger vehicles can be loaded from both directions by swapping arms from front to back.

- Asymmetric Gen 2 arms – load unusual vehicles, 4wd more easily, open doors and access more easily
- Single point release,
- Lift tall vehicles with standard columns
- Direct drive cylinders with less moving parts
- 1900 – 2100(with pads) mm lift height



Model	HAPP 45P
Style	2 Post Gantry Lift
Arm style	ASYM - 3 PC 580-1140, 2 PC 890-1420
Optional arm style	SYM - 3 PC 580-1140, 3 PC 580-1140
Lifting style	Electric – 2 inverted hydraulic cylinders
Column Width	2850mm
Lifting Capacity	4500kg
Lift height	100 to 1900 – 2100 (with pads) mm
Size(W*H)	3430*3904mm
Lifting Time	40-70s
Motor Power	2.2kw
Power supply	3-415v/50hz 1-240v/50hz15Amp
Power oil pressure	20Mpa
Net weight	689kg
Noise level	<70dB

Snippets from structural analysis of the lift to Australian Standards in QLD:



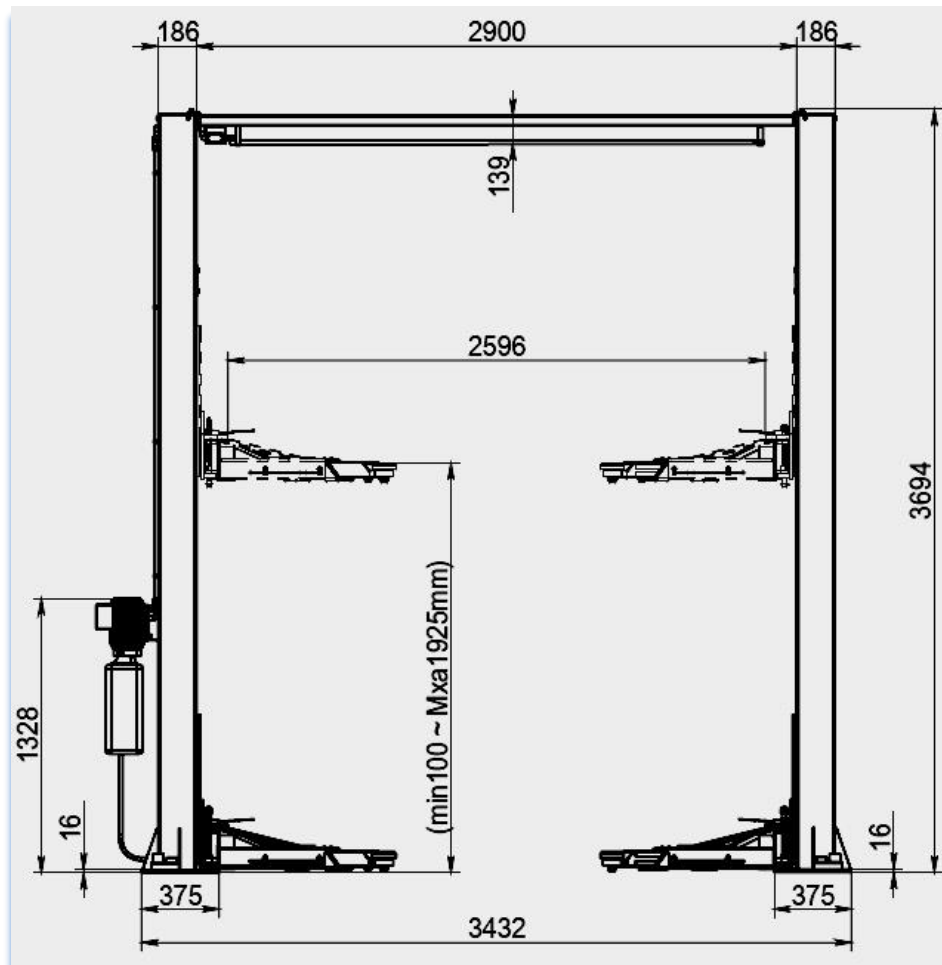
HAPP Clear floor series



HAPP 60

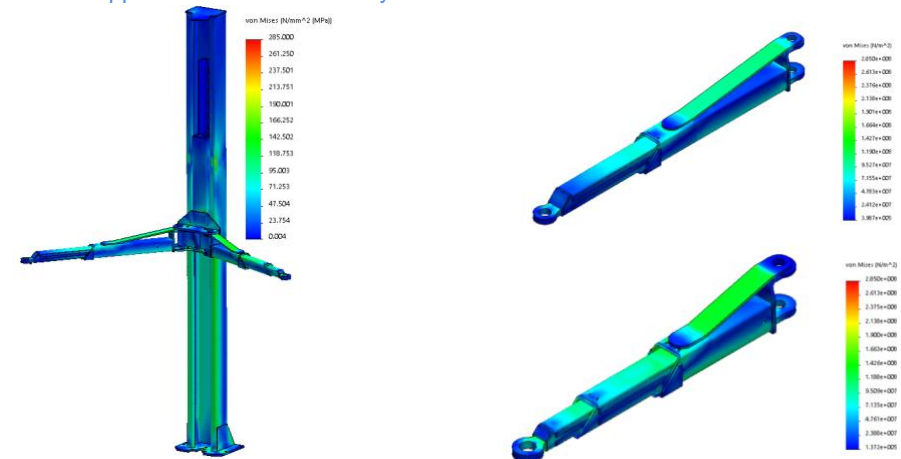
The HAPP 60 is great for users with infrequent use of the lift. It has a low column height for low ceilings and provides a cost effective Lift with full HAPP reliability. Great for enthusiasts doing occasional servicing or as a second lift where you are storing cars.

- Symmetric Gen 2 arms – load vehicles from either end easily
- Dual point safety release, good for regular maintenance use
- 1925 – 2125(with pads) mm lift height



Model	HAPP 60
Style	2 Post Gantry Lift
Arm style	ASYM - 3 PC 580-1140, 2 PC 890-1420 SYM - 3 PC 580-1140, 3 PC 580-1140
Lifting style	Electric over 2 hydraulic cylinders + chain
Column Width	2850mm
Lifting Capacity	4000kg
Lift height	100 to 1925 – 2125 (with pads) mm
Size(W*H)	3432*3694mm
Lifting Time	40-70s
Motor Power	2.2kw
Power supply	3-415v/50hz 1-240v/50hz15Amp
Power oil pressure	20Mpa
Net weight	689kg
Noise level	<70dB

Snippets from structural analysis of the lift to Australian Standards in QLD:



HAPP Clear floor series

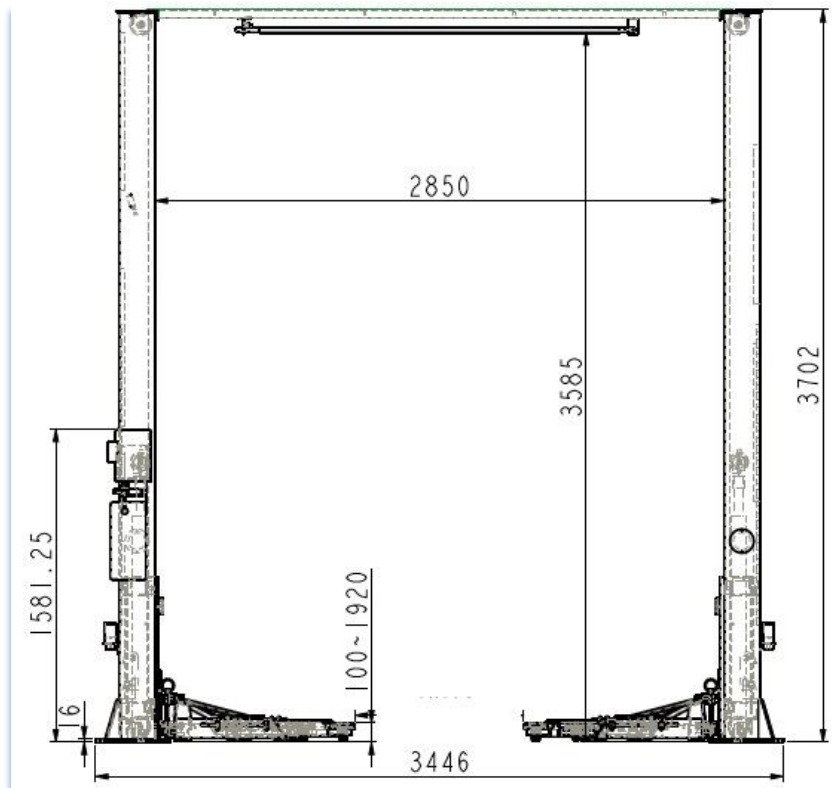


HAPP 60P

The HAPP 60P is great for users with infrequent use of the lift. It can have a low column height for low ceilings and provides a cost effective lift with full HAPP reliability. Great for enthusiasts doing occasional servicing or as a second lift.

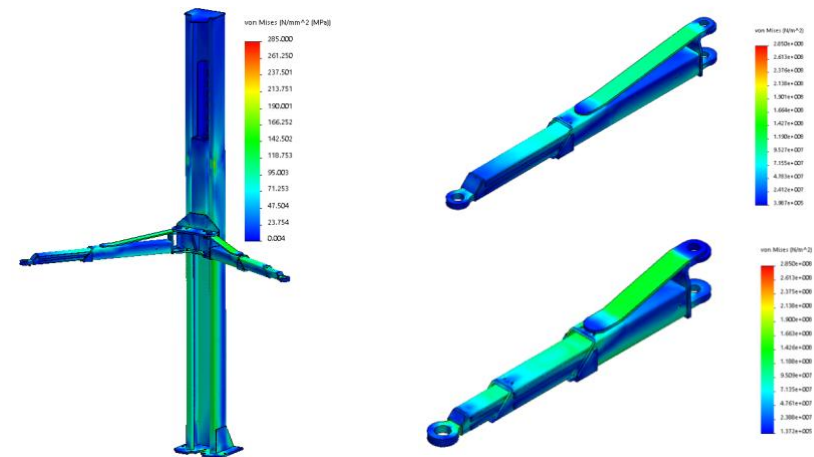
Good for loading a wide variety of vehicles to lift including 4WDs with uneven load distribution. You can load small / light vehicles from either direction, medium weight and larger vehicles can be loaded from both directions by swapping arms from front to back.

- Asymmetric Gen 2 arms – load unusual vehicles, 4wd more easily. Open doors and access more easily
- Dual point safety release, good for regular car maintenance use
- 1920 – 2120(with pads) mm lift height



Model	HAPP 60P
Style	2 Post Gantry Lift
Std Arm style	ASYM - 3 PC 580-1140, 2 PC 890-1420
Optional arm style	SYM - 3 PC 580-1140, 3 PC 580-1140
Lifting style	Electric over 2 hydraulic cylinders + chain
Column Width	2850mm
Lifting Capacity	4000kg
Lift height	100 to 1920 – 2120 (with pads) mm
Size(W*H)	3446*3702mm
Lifting Time	40-70s
Motor Power	2.2kw
Power supply	3-415v/50hz 1-240v/50hz15Amp
Power oil pressure	20Mpa
Net weight	689kg
Noise level	<70dB

Snippets from structural analysis of the lift to Australian Standards in QLD:





ABN: 85164277052
HAPP AUSTRALIA PTY LTD

HAPP Clear floor series

Production Capability

HAPP Australia Pty Ltd (HAPP) is focused foremost on quality production of automotive products and high-quality product management and service provision.

HAPP has been supplying automotive lifts and workshop products in to the Australia and New Zealand markets for over 9 years. HAPP has evolved its designs to be efficient for users and easier to install and maintain for installation teams by working closely with our network of experienced installer partners and customers.

HAPP manufactures its products in China with partners aligned with our commitment to high quality design and production. Our strength is through selecting production partners that are prepared to engage in collaborative design and development, where **design is driven by meeting and surpassing Australian Standards requirements**, and to enable application of requirements specific to the Australian market. We do not purchase on price, we purchase on quality and performance to specification.

More recently we have worked with longstanding production partners to incorporate state of the art production processes – CNC machinery Robotic forming and welding to enable use of our **Australian Standard compliant computer-generated models** to provide significant gains in performance and consistent quality.

Our management leverages 40 years of world-class professional engineering capability experience and our product management and distribution is highly regarded, with a large percentage of new customers brought in through referrals from our satisfied customer base.



Figure 1 Robot welding of HAPP columns
<http://happ.com.au/pub/vid/columnwelding.mp4>

Our main warehouse in Hemmant, we ship across Australia and to other countries.

We are proud to be a significant Queensland-based supplier of quality products at reasonable prices across Australia and New Zealand. **HAPP has built its reputation as a leading supplier of quality products and customer service based on the thousands of automotive lifts supplied to our customer base that spans home users, race car teams, commercial business and educational institutions.**

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Product Data

Manufacturing Capability

Efficient projects delivered on-time and within budget require consistent quality production sources. HAPP production capability is of the highest standards through ensuring:

- Use of Robots and computer numeric control (CNC) machines linked with our structural designs creates higher levels of consistent high quality than otherwise possible
- All lifts are inspected in the factory by external on-site HAPP quality assurance engineers during production / assembly.
- New models have detailed type testing against Australian Standards in the factory by HAPP engineers.

Factories

HAPP has a number of arrangements in place for manufacture of the 200+ products supplied. These factories all develop to HAPP design specifications agreed. In relation to the vehicle lifts, HAPP has arrangements with two factories with advanced manufacturing techniques to meet HAPP design specifications.

The HAPP 2 post lifts, are manufactured in our partner factories using the latest CNC, robotics and powder coating systems. This factory was commissioned 18 months ago using automotive lift engineering teams from the best-in-class manufacturers in China and HAPP has been involved in this process since early after its inception. Each of these components work together to reduce the tolerances in the components and improve consistency of production. We are confident that these products are at the highest quality level available in the automotive lift market.

Examples of the manufacturing facility components are presented in the following pages:

CNC controlled laser, water jet cutting, machining machines



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CNC controlled folding of automotive lift columns

Tight integration with HAPP computer generated column designs makes column folding exact. Then our integration with CNC machine and robot welding of carriage creates a precise fit of the carriage into the column.

Click on the attached link to see the automated folding in action.

Figure: Robot folding of HAPP columns

<http://happ.com.au/pub/vid/columnfolding.mp4>



Robotic welding of columns, carriage and arms

With accurate CNC cutting of arms components the robots can accurately weld to the tight tolerance

Specified by HAPP to achieve minimum deflection and stress.

Click on the attached link to see the automated folding in action.

Figure: Robot welding of HAPP arms

<http://happ.com.au/pub/vid/armwelding.mp4>



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Welding of the column to the baseplate can be a tricky task, robots demand that parts are positioned correctly and then lay out a constant weld across the entire column.

Figure: Robot welding of HAPP columns
<http://happ.com.au/pub/vid/columnwelding.mp4>



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Quality Assurance

Standards Compliance

Design

All lifts are computer designed in Queensland with constant review to ensure compliance with Australian Standards. We may review CE design artefacts as part of this process. Robots and CNC machines use these designs to achieve higher quality than otherwise possible.

CE designs are not recognized in Australia. Australian Standards are higher than CE to suit Australian requirements.¹

Steel used in latches and structure are of high grade tested / specified in Queensland by professional engineers using structural analysis tools to identify stress and deflection issues. Designs are subjected to type tests to further clarify designs in operational environments.

The relevant Australian Codes, Specifications and References relied upon in the design and testing of these lifts are:

- AS/NZS 1418.1:2002 Cranes, hoists & winches - General requirements
- AS/NZS 1418.9:1996 Cranes - Vehicle hoists
- AS/NZS 2550.9:1996 Cranes - Safe use of vehicle hoists
- AS/NZS 3990:1993 Mechanical Equipment – Steelwork
- AS/NZS 4100:1998 Steel structures
- AS/NZS 3000:2018 Electrical Installations “Wiring Rules”

Operation

Documentation supplied with hoist (WH&S kit if purchased) include operational checks and visual alerts for operators on columns and arms of two post lifts.

The workplace health and safety kit recognizes the need for ongoing safety and maintenance checks that can be recorded for subsequent review as part of in house procedures. Three log books are provided for:

- Regular operational Checks Log Book
- Repairs / Maintenance / Preventative Maintenance Log Book
- Inspection / Test Log Book

These log books have been developed in accordance with the following Australian design codes:

- AS / NZS 2550.1 :2011 Cranes, hoists and winches - Safe us, General requirements
- AS / NZS 2550.9 :1996 Cranes - Safe use, Vehicle hoists
- AS / NZS 1418.9 :1996 Cranes - Vehicle hoists

¹ WH&S registration in states other than Queensland assume that Australian Standards analysis has been done. In Queensland, the design review must be verified by a Registered Professional Engineer in Queensland (RPEQ) who has an understanding of the relevant standards and tools / processes to be used.

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WorkCover Queensland Design Registration

A certificate for each hoist indicating its approval and the design registration number will be supplied with each lift in their workplace health and safety kit if purchased.

Online Quality assurance

Type tests are performed on new models and as required in the factory under the review of HAPP engineer and operations inspectors.

Production quality control are in constant contact with our HAPP operations personnel. Online quality assurance on weld quality and critical design points are carried out by HAPP operations personnel