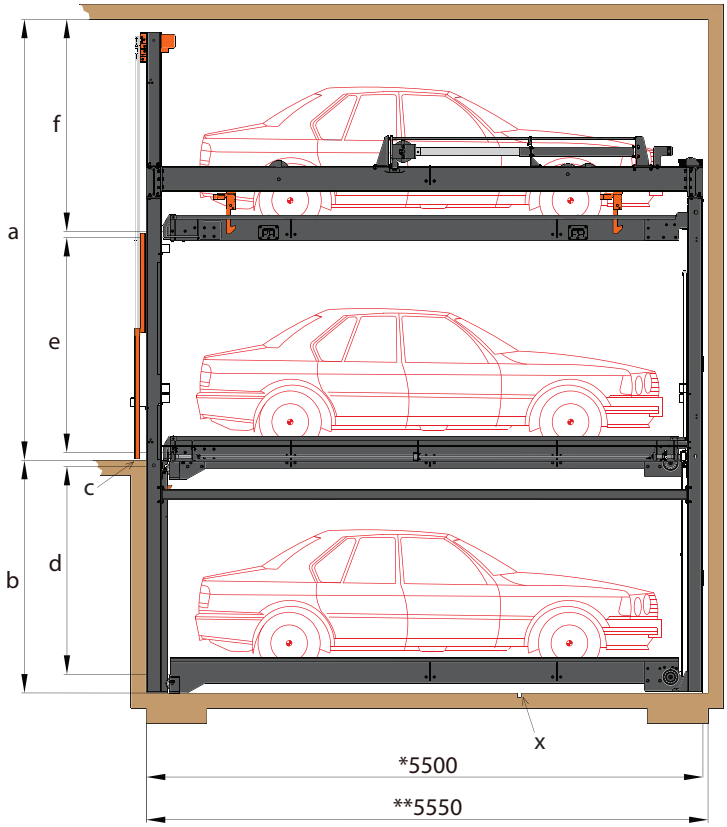
Product Data Sheet

DP-1+2 2.1



Independent parking type stacker that is designed for the use by permanent users or a valet operation.

Maximum load capacity is 2100kg per parking space. There is a greater load capacity model available: - the DP-1+2 2.7 which has a load capacity of 2700kg per parking space.

All dimension shown and/or discussed in this Product Data Sheet are done so in mm.

The drawings in this Product Data Sheet are not meant to be to a scaled, therefore refer only to the displayed measurements and dimensions.

For parking large vehicles such as station wagons, larger sedans, 4WD's, etc we strongly recommend that individual platform widths of 2500mm to 2700mm are installed, as well as the use of the Extra Long 5700mm long system.

Systems can be from two grids wide through to ten or eleven grids wide. Systems that are greater than ten or eleven grids wide are available, but traffic management issues must be taken into account. Discuss this with your Phoenix Car Stackers representative.

Gates or doors are mandatory for this type of car stacker and are always included in our designs. Manual and electric versions are both available.

Due to continual product research, development and improvement, we reserve the right to make ongoing modifications and changes. The day, month and year shown on the bottom right-hand corner of each page should be noted prior to making any commitments.

a = The available "clear" soffit height of your building. The final measurement of the soffit should take into account any services such as plumbing, drainage, electrical fittings or cable runs, fire services, etc., that are directly above the car stacker.

b = The pit depth. These range from 1900mm for the Standard versions though to 2300mm for the Premier versions. See below for the full list of versions and their pit depths. Please note that we can also customise our versions to suit your requirements. Additional costs can apply for this customisation.

c = A maximum decline of 3% or incline of 5% 600mm leading up to the point of entrance to the car stacker point is allowable, in order to prevent the possibility of as low to the ground vehicles clashing with the platform.

d = Clear height of the lower level parking space. This is dependent upon the version type and/or the pit depth. See below for the full list of versions and their clear heights.

e = Clear height of the entry level parking space. This is dependent upon the version type. See below for the full list of versions and their clear heights.

f = Clear height of the upper level parking space. This is dependent upon the version type, as well as the clear soffit height. See below for the full list of versions and their clear heights.

x If drainage is required, we recommend approximately this point as the location of the drain. A fall of 1-2% to the drain is allowable.

* This is the standard version equipment length. For parking larger vehicles, we recommend that the extra long (EL) version is used. This EL version equipment is 5700mm long and subsequently allows for vehicles up to 5200mm to be parked.

** This is the required minimum clear pit length. When using the above mentioned EL version, an additional 200mm is required.

Standard 1

Parking Level	Clear Height	Vehicle Height
Upper Level (f)	1700mm	1650mm
Entry Level (e)	1700mm	1650mm
Lower Level (d)	1700mm	1650mm

Minimum clear soffit height (a) = 35650mm
Pit depth (b) = 1900mm

Standard 2

Parking Level	Clear Height	Vehicle Height
Upper Level (f)	1800mm	1750mm
Entry Level (e)	1800mm	1750mm
Lower Level (d)	1800mm	1750mm

Minimum clear soffit height (a) = 3760mm
Pit depth (b) = 2000mm

Standard 3

Parking Level	Clear Height	Vehicle Height
Upper Level (f)	2000mm	1950mm
Entry Level (e)	2000mm	1950mm
Lower Level (d)	2000mm	1950mm

Minimum clear soffit height (a) = 4160mm
Pit depth (b) = 2200mm

Premier 1

Parking Level	Clear Height	Vehicle Height
Upper Level (f)	2100mm	2050mm
Entry Level (e)	2100mm	2050mm
Lower Level (d)	1900mm	1850mm

Minimum clear soffit height (a) = 4360mm
Pit depth (b) = 2100mm

Premier 2

Parking Level	Clear Height	Vehicle Height
Upper Level (f)	2100mm	2050mm
Entry Level (e)	2100mm	2050mm
Lower Level (d)	2000mm	1950mm

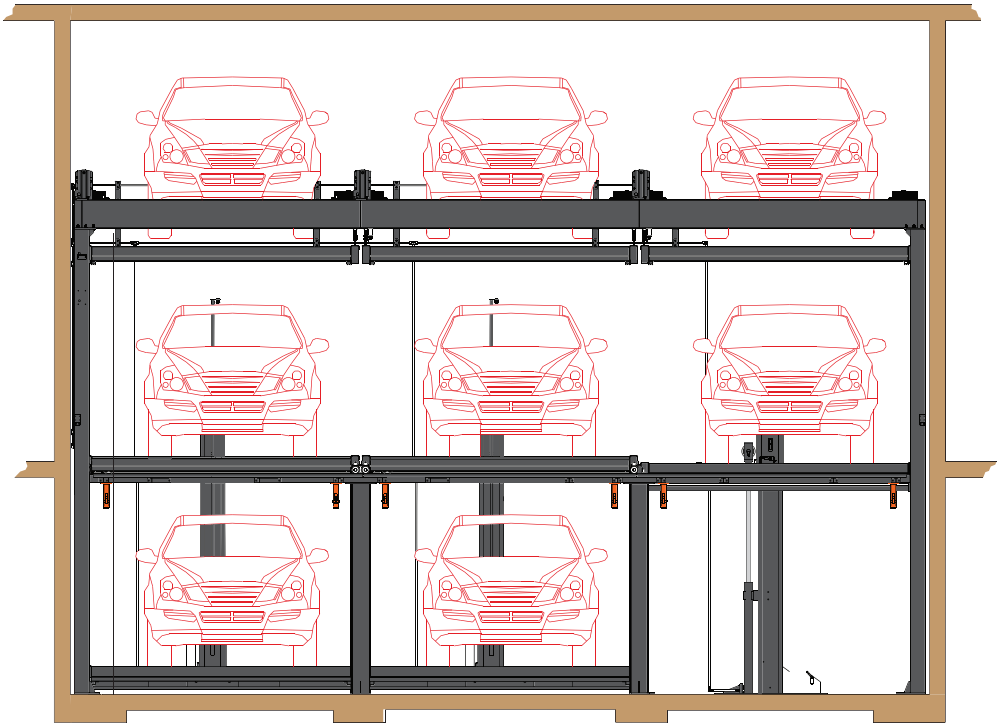
Minimum clear soffit height (a) = 4360mm
Pit depth (b) = 2200mm

Premier 3

Parking Level	Clear Height	Vehicle Height
Upper Level (f)	2100mm	2050mm
Entry Level (e)	2100mm	2050mm
Lower Level (d)	2100mm	2050mm

Minimum clear soffit height (a) = 4360mm
Pit depth (b) = 2300mm

Typical 3 Grid System



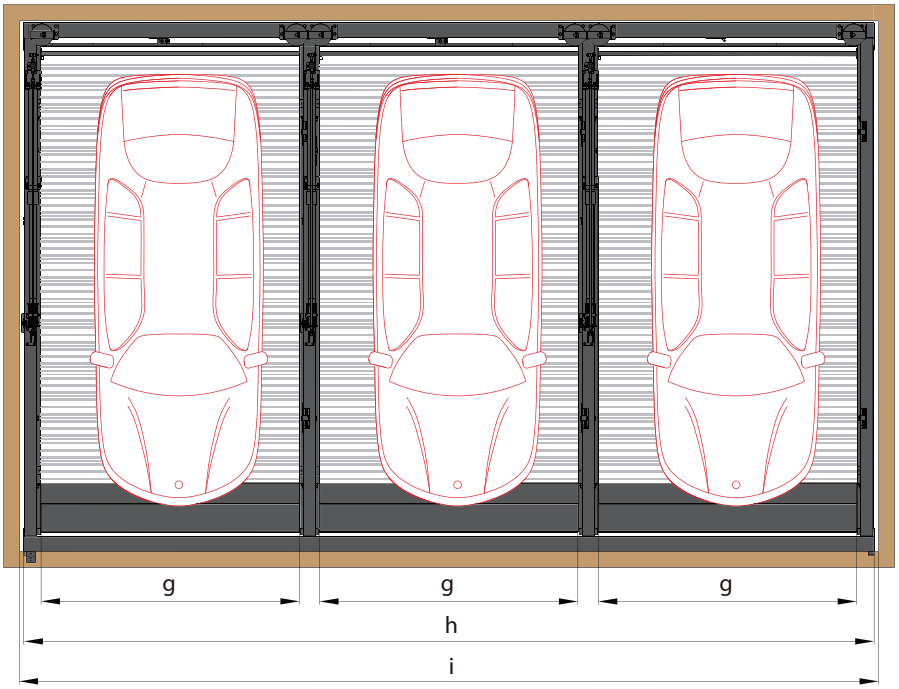
Please note: -

1.
The drawings on this page are of a 3 grid system. As the below System Width Dimension table indicates, the standard DP-1+2 model car stacker can supplied as a 2 grid, through to an 11 grid system.

2.
There is no technical reason that the DP-1+2 model car stacker is limited to 11 grids wide. However, for traffic management reasons we recommend 11 grids wide to be the maximum.

3.
If the DP-1+2 model car stacker is to be used for vehicle storage, or in a valet parking environment rather than the normal car parking environment, then the traffic management issues referred to in the above point 2 need not apply.

4.
DP-1+2 model car stackers must be supplied with gates or doors. These gates or doors, as well as the running and working equipment, have been intensionally left off the drawings on this page. Please see page three of this Data Sheet for information about our gates.



g = The clear platform width. Standard widths of 2100mm, 2200mm, 2300mm, 2400mm, 2500mm, 2600mm and 2700mm are available. Custom sized platform widths can also be catered for, but additional costs are incurred.

h = The total width of the System. The standard platform widths verses the number of grids is listed below in the System Width Dimensions table. If custom sized platforms are to be used, then consult with Phoenix Car Stackers to confirm what this will be.

i = The minimum width of the pit width required to install the system. Add 100mm to overall system width calculated by again using the below System Width Dimensions table (h). For example: - If you are to selecting a 5 grid system with 2500mm clear width platforms, then the pit width (i) required is 13650 + the 100mm. Therefore, the minimum pit width in this example would be 13750mm.

System Width Dimensions

Platform Width (g)	2 Grid System (h)	3 Grid System (h)	4 Grid System (h)	5 Grid System (h)	6 Grid System (h)	7 Grid System (h)	8 Grid System (h)	9 Grid System (h)	10 Grid System (h)	11 Grid System (h)
2100	4750	7050	9350	11650	13950	16250	18550	20850	23150	25450
2200	4950	7350	9750	12150	14550	16950	19350	21750	24150	26550
2300	5150	7650	10150	12650	15150	17650	20150	22650	25150	27650
2400	5350	7950	10550	13150	15750	18350	20950	23550	26150	28750
2500	5550	8250	10950	13650	16350	19050	21750	24450	27150	29850
2600	5750	8550	11350	14150	16950	19750	22550	25350	28150	30950
2700	5950	8850	11750	14650	17550	20450	23350	26250	29150	32050

Mounting / Fixing Requirements

The stacker posts are fixed to the floor and/or walls of the pit(s) by using either wedge anchor bolts or chemically set studs to a depth of up to approximately 120mm.

Concrete grade/strength class C20/25 is required, with a minimum thickness of 150mm.

The area where the stackers are to be installed must be even and flat to prevent the need for excessive shimming under the stacker posts. Shimming greater than 10mm will inccur additional costs.

The front wall (entry) of the pit(s) must be perfectly flat and vertical and must also be formed from C20/25 concrete.

We highly recommend that pit drainage is used, particularly if there is any possibility of rain water entering the pit(s). See page 1 for the recommend location of the drain.

Depending upon the location of the Power Packs, Electrical Switch Cabinets or User Control Panels, openings or penetrations for the installation of electrical and/or hydraulic lines are to be provided. Please liaise with Phoenix Car Stackers.

Installation Notes

Power packs vary in physical size, depending upon the number of stackers being serviced by each. Provision must be made for the location of these power packs and should be discussed with Phoenix Car Stackers very early in the planning process.

The location of the electrical switch cabinets also need to be planned as early in the planning process as possible. The provision of the electrical isolator (discussed in the section "Electrical" on this page) needs to be within one (1) metre of the power pack location.

Concrete grade/strength class C20/25 is required, with a minimum thickness of 180mm

As stated previously; the area where the stackers are to be installed must be even and flat to prevent the need for excessive shimming under the stacker posts. A tolerance of up to 10mm is acceptable. Shimming required for anything greater than this will incur additional costs.

It is critically important that the pit depth can not be less than the specified depth of the model type being used. As stated above, if the pit is up to 10mm deeper, then we can shim this to suit. Anything greater than 10mm will incur additional costs.

Expansion joints, etc., In the concrete floor must be a minimum of 300mm from the main post fixing points and hydraulic ram fixing plates. If expansion joints are to be used, please consult with Phoenix Car Stackers for a plan of these locations.

Safety / Convenience

There is an automatic mechanical locking system activated at all times while the platforms are being raised or lowered. This includes an additional "chain break" system, for added security.

24 or 240 Volt AC mechanical lock release solenoid is automatically engaged during the lowering of the platforms.

User friendly "smooth" finish platform surface is standard.

Superior engineering means that no fixing to the building walls or ceiling is required, thus eliminating the potential for noise or vibrations transferring through the building.

In accordance with ISO 3864 the client or builder must provide 100mm wide yellow-black markings on the floor at a distance of 500mm from the front edge of the stacker platform.

Certifications & Standards

TUV 2006/42/EC compliant. TUV is the most authoritative certification available in the world.

EN 14010 compliant. Making the equipment compliant and available for sale in Europe.

Meets and exceeds the Australian Standards 5124:2017

The DP-1+2 2.1 Phoenix Car Stackers equipment is TUV certified. TUV certification is the most prestigious certification that can be achieved by car stacking equipment.

Lighting

Adequate lighting within the car stacker area is to be supplied by the owner or builder. The location of any lighting fixtures within the car stacker area needs to be discussed with Phoenix Car Stackers early in the planning process, as the incorrect location could have an affect on the vehicle heights able to park in the stackers upper levels.

Electrical

A separately isolated 25-amp, 3 phase 440 volt (N +E) power supply is required for each Electrical Switch Cabinet. There is one Electrical Switch Cabinet required for each DP-1+2 system. The location must be discussed with Phoenix Car Stackers prior to the order being placed.

The provision of the power supply(s) to the agreed to location(s) is by the client or builder. All subsequent electrical work is carried out by the installer.

Should any electrical conduits be required to be concealed or "cut-in", this is to be provided for by the client or builder. Please discuss with your Phoenix Car Stackers consultant prior to the construction of any walls, building columns, etc.

The Power Pack(s) are 4.0kW and one is required for each system.

In accordance with the Australian Electrical Standards, each car stacker must be connected to the building earthed equipotential bonding.

Temperature

The equipment is design to operate safely and effectively in a temperature range of -5 to +40 Degrees Celsius. If these ranges are likely to be exceeded, please discuss with your Phoenix Car Stackers Pty Ltd consultant to see what measures can be put into place.

Barriers or Railings

If there are walkways or passages directly adjacent to the sides or rear of the stackers, then a barrier, preventing access to the stacker area, must be provided by the client or builder and this barrier must comply to the relevant Standard in height and construction type.

We do not recommend the use of railings attached to the platforms of our stackers. It is in our expert opinion that these tend to be restrictive to the users, both for when they are are either parking in or parking out of the car stacker, but also for for when they are entering or exiting their vehicles when on the car stacker platform. Please consult with Phoenix Car Stackers for alternatives to the use of these barriers or railings.

Fire Protection

All mandatory fire prevention and safety requirements are to be provided by the client or the builder. Phoenix Car Stackers are happy to assist where possible and within our capabilities.

Should sprinklers be required, then the placement of piping and sprinkler heads can affect the operation of the stackers, as well as the height and/or width of the vehicles able to park in the stackers. Therefore, please consult with Phoenix Car Stackers as early as possible in the planning process for our assistance with these locations.

Surface & Materials Protection

All surfaces are either fully galvanized or Akzo Nobel powder-coated.

Fixings are either fully galvanized to the EN 14010 standard or nickle plated.

Operation

Manual operation is by a Key Pad. Additional to this, an automated operation is available, enabling the stacker to be operated by the user using a remote fob, meaning that they do not need to leave their vehicle to call their parking space.

Emergency Stop Button is provided on the manual key pad.

Forward or reverse parking is allowed.

Depending upon the configuration and number of parking spaces, the average operating time is approximately 50 seconds. In approximately a third of cases, there is no wait time at all for the packing space to be made available.

Maintenance

Depending upon the installation location, it is usually a requirement of local authorities (WorkSafe, council, etc) that the equipment is regularly serviced and maintained. Phoenix Car Stackers Maintenance Pty Ltd offers bi-annual servicing as part of a Service & Maintenance Agreement.

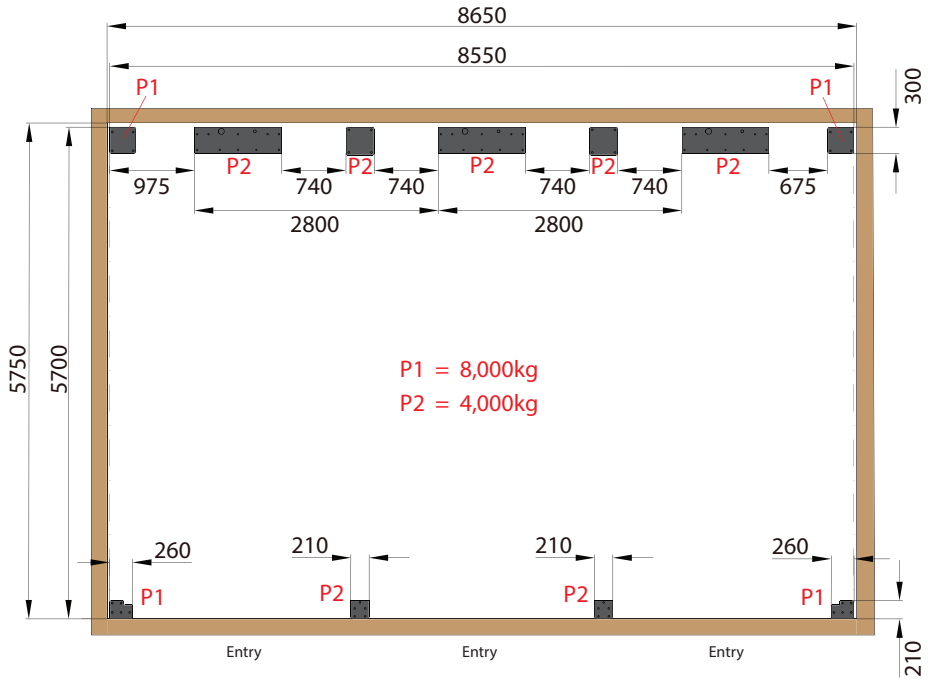
General cleaning should be periodically carried out by the user, particularly where oil or other vehicle fluids are spilled onto the stacker surfaces. These fluids may cause the break-down of the galvanization or powder-coating treatments.

As part of the above periodical cleaning precess by the user, they should also note condition of the pit. Should the pit become damp or wet, then there may be an issue with drainage and this must be reported, ensuring that corrosion does not become a factor.

Dimensions

All dimensions in this Product Data Sheet as shown as the minimum and are to be read as being in millimetres, where not expressly shown.

Static Loads & Placements



The static loads are calculated by assuming that the car stacker is fully loaded with vehicles of the maximum weight allowable.

If there are water-proofing measures in place, then the installation can be done using chemical anchors exclusively. This needs to be discussed prior to order and/or installation commences.

The above example is a three grid Premium system, with 2600mm platforms.
Static Load Drawings of all other configurations are available on our web site: -
www.phoenixcarstackers.com.au

Electrical Schematic