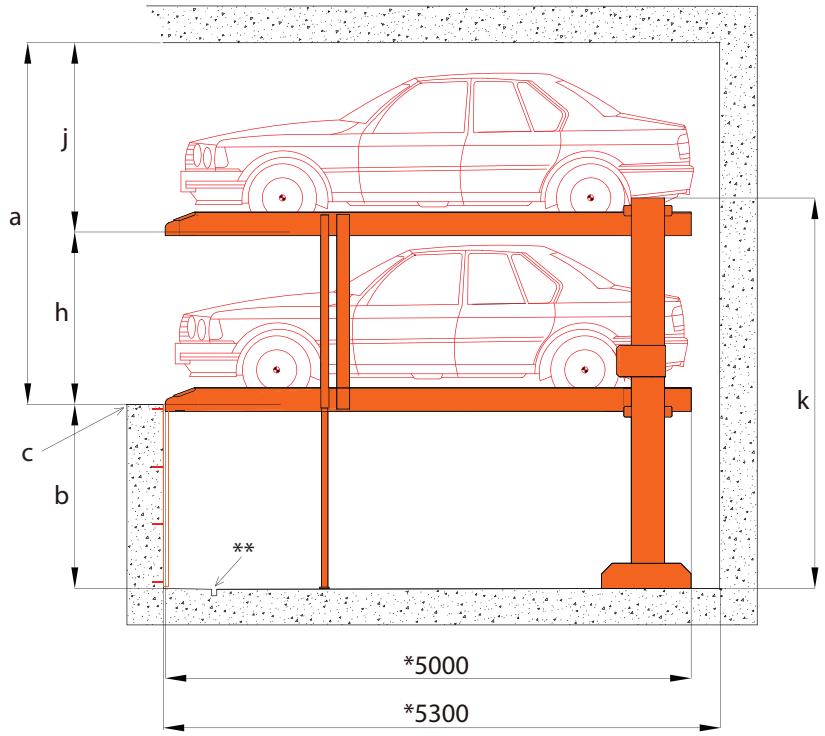
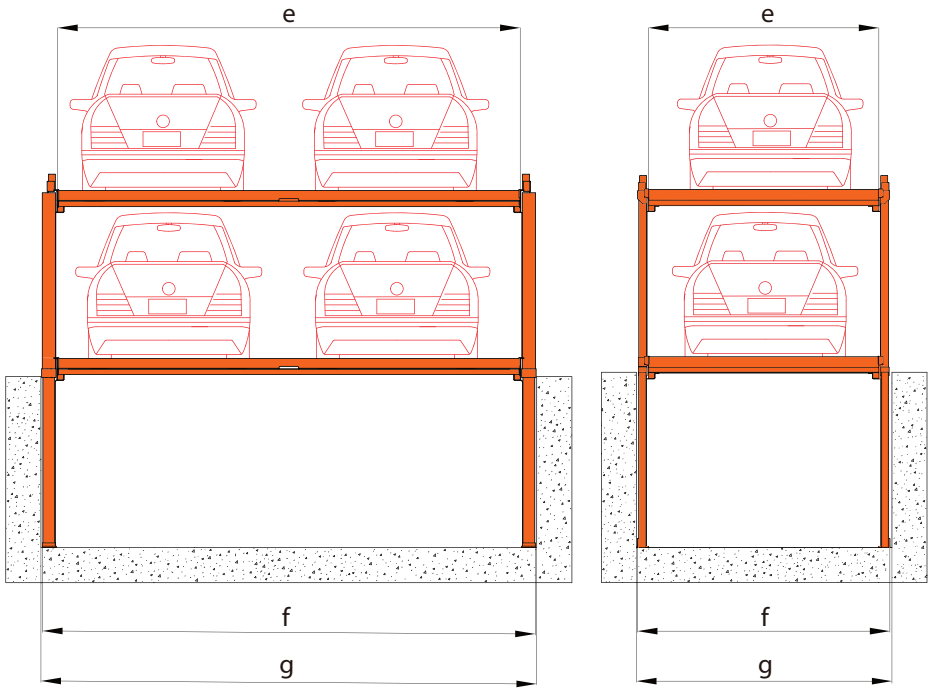
Product Data Sheet

VP2ST 2.7





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

Maximum load capacity: 2,700kg per parking space. There is a lesser load capacity model available: - the VP2ST 2.1 which has a load capacity of 2,100kg per parking space.

All dimensions shown and/or discussed in this Product Data Sheet are 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 highly recommend that individual platform widths of 2500mm to 2700mm are installed for the single units and 5000mm to 5400mm for the double units.

Any combination of single width stackers and double width stackers can be created. Please see page two for the space requirements for installations with building columns inside of the pits or with building columns outside of the pits or with no building columns at all.

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 this page should be noted prior to making any commitments.

a = The available clear soffit height.

b = Pit depth. Minimum depth is 1750mm and increases in 100mm increments.

c = A maximum decline of 5% or incline of 10% to this only, as low vehicles may clash with the platform.

e = Clear platform width.

f = Maximum width of the stacker.

g = Minimum pit width.

h = 1616mm when the pit depth (b) equals 1750mm;
1716mm when the pit depth (b) equals 1850mm;
1816mm when the pit depth (b) equals 1950mm;
1916mm when the pit depth (b) equals 2050mm;
2016mm when the pit depth (b) equals 2150mm;
2106mm when the pit depth (b) equals 2250mm.
The maximum vehicle height is 50mm less than h.

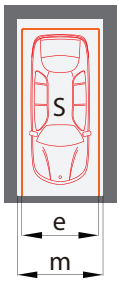
j = The total of h plus 120mm, minus a.

k = 3712mm when the pit depth (b) equals 1750mm;
3812mm when the pit depth (b) equals 1850mm;
3912mm when the pit depth (b) equals 1950mm;
4012mm when the pit depth (b) equals 2050mm;
4112mm when the pit depth (b) equals 2150mm;
4212mm when the pit depth (b) equals 2250mm.

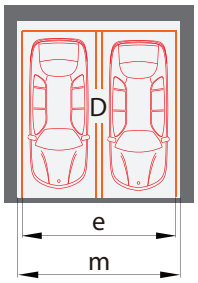
* This is the standard version length dimensions. For parking larger vehicles, we recommend that the premium version is used. This premium version has an additional 100mm in platform lengths (5100mm) and subsequently requires the pit length to also be increased by 100mm to 5400mm.

** 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.

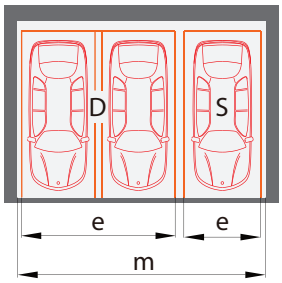
Installations with no building columns



Space Needed m	Platform Width e
2370	2100
2470	2200
2570	2300
2670	2400
2770	2500
2870	2600
2970	2700



Space Needed m	Platform Width e
4470	4200
4670	4400
4870	4600
5070	4800
5270	5000
5470	5200
5670	5400



Space Needed m	Platform Width e
6840	4200 + 2100
7140	4400 + 2200
7440	4600 + 2300
7740	4800 + 2400
8040	5000 + 2500
8340	5200 + 2600
8640	5400 + 2700

D = Double Unit (4 parking spaces)
S = Single Unit (2 parking spaces)

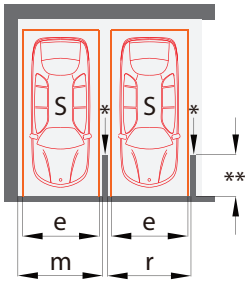
Addition platform widths are available for the double units, for all installation types listed on this page. These widths are 4300mm, 4500mm, 4700mm, 4900mm, 5100mm and 5300mm. Simply add or subtract the 100mm to another model to make your calculation.

There is no restriction on using the combinations listed on this page. For example; you may wish to combine a double unit that has 4800mm platforms with a single unit with 2600mm platforms.

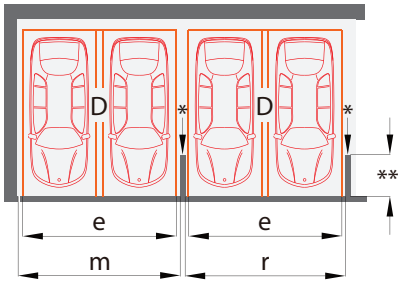
We highly recommend the use of the widest possible platforms. This is more important for parking spaces adjacent to walls or obstructions.

All dimensions shown and/or discussed in this Product Data Sheet are in mm.

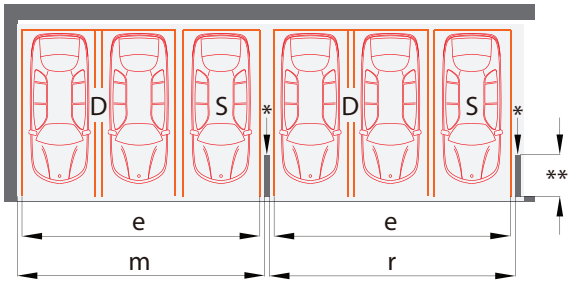
Installations with building columns inside of the pit.



Space Needed m	r	Platform Width e
2295	2220	2100
2395	2320	2200
2495	2420	2300
2595	2520	2400
2695	2620	2500
2795	2720	2600
2895	2820	2700



Space Needed m	r	Platform Width e
4395	4320	4200
4595	4520	4400
4795	4720	4600
4995	4920	4800
5195	5120	5000
5395	5320	5200
5595	5520	5400



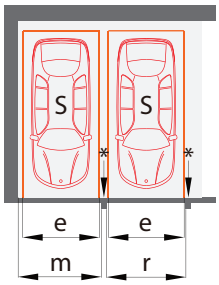
Space Needed m	r	Platform Width e
6765	6690	4200 + 2100
7065	6990	4400 + 2200
7365	7290	4600 + 2300
7665	7590	4800 + 2400
7965	7890	5000 + 2500
8265	8190	5200 + 2600
8565	8490	5400 + 2700

* For calculation purposes only, assumes that the column width is 150mm

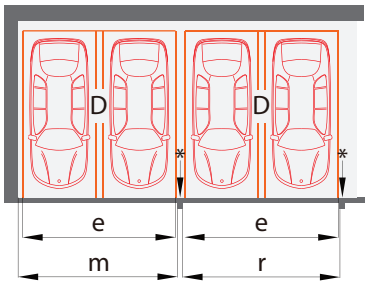
** The maximum column length allowable is 1250mm.

If the optional safety locks are to be used, please add 40mm to the "m" and 75mm to the "r" figures.

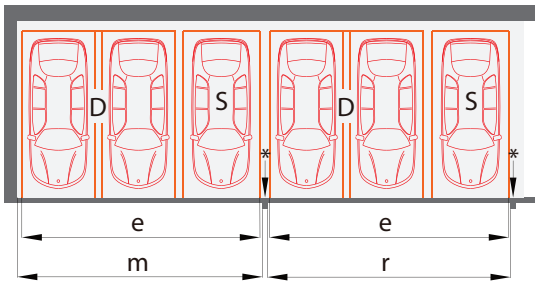
Installations with building columns outside of the pit.



Space Needed m	r	Platform Width e
2270	2120	2100
2370	2220	2200
2470	2320	2300
2570	2420	2400
2670	2520	2500
2770	2620	2600
2870	2720	2700



Space Needed m	r	Platform Width e
4370	4270	4200
4570	4470	4400
4770	4670	4600
4970	4870	4800
5170	5070	5000
5370	5270	5200
5570	5470	5400



Space Needed m	r	Platform Width e
6740	6640	4200 + 2100
7040	6940	4400 + 2200
7340	7240	4600 + 2300
7640	7540	4800 + 2400
7940	7840	5000 + 2500
8240	8140	5200 + 2600
8540	8440	5400 + 2700

* For calculation purposes only, assumes that the column width is 200mm. As the columns are not inside the pit, there is no restriction on the length.

No additional space is needed for the optional safety locks.

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 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). For external installations, pit drainage is mandatory. 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

If the stacker(s) are to be installed in an outdoor location, then weather protection must be used for the power-pack/motor assemblies, the electrical switch cabinets and the user control panels. This must be discussed with your Phoenix Car Stacker consultant, prior to ordering.

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 2mm is acceptable. Shimming required for anything greater than this 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

Automatic mechanical locking system is fully activated at all times when the platform is being raised. In special circumstances this locking system is not used.

24 or 240 Volt AC mechanical lock release solenoid is automatically engaged during the lowering of the platforms. In special circumstances this lock release solenoid is not used.

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 VP2ST 2.7 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 32-amp, 3 phase 440 volt (N +E) power supply is required for each Power Pack. The number of Power Packs required can vary. The final number of Power Packs needed and their 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 is available in three power sizes - 5.5kW, 7.5kW or 11.5kW.

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

Key Switch activated. Two keys per parking space are provided.

Individually coded keys are also available upon request.

Emergency Stop Button.

Forward or reverse parking is allowed.

Lifting speed is less than 50 seconds.

Lowering speed is less than 35 seconds.

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.

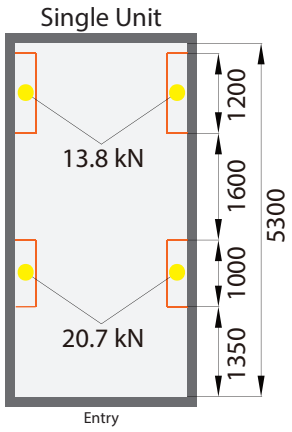
General cleaning should be periodically carried out by the user, particularly where oil or other vehicle fluids are spilled onto the stacker surfaces. These fluids may cause the break-down of the galvanization or powder-coating treatments.

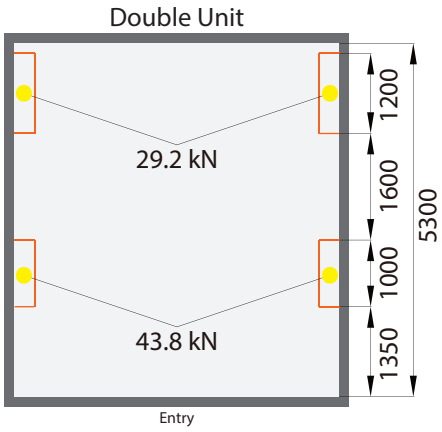
As part of the above periodical cleaning precess by the user, they should also note condition of the pit. Should the pit become damp or wet, then there may be an issue with drainage and this must be reported, ensuring that corrosion does not become a factor.

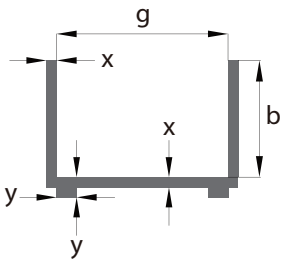
Dimensions

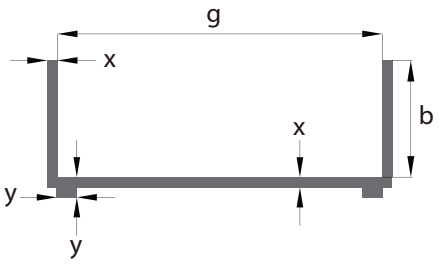
All dimensions in this Product Data Sheet as shown as the minimum and are to be read as being in millimetres, where not expressly shown.

Static Loads & Placements









The static loads are calculated by assuming that the car stacker is fully loaded with vehicles of the maximum weight allowable. That is; 5,400kg for the Single Unit and 10,800kg for the Double Unit.

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.

b = Pit depth. Minimum depth is 1750mm and increases in 100mm increments.

g = Pit width - Variable, depending upon the required configurations and platform widths you intend to use. For exact width locations of the load points, please consult with Phoenix Car Stackers.

x = 150mm - The minimum thickness of the concrete walls and pit floor. The concrete grade/strength class is C20/25.

y = 300mm - The minimum thickness and width of the load bearing points. The concrete grade/strength class is C20/25.