

Sergei Mikhailov
1235 4th St NW
Washington, DC 20001

December 1, 2014

Summary

This is a letter in opposition to the following relief requested by the applicant

- 1 Variance from Section 775 5 (side yard) for a side not providing required width (9th St Property)
- 2 Variance from Section 2101 1 (number of required parking spaces) to provide zero parking spaces with a requirement of 22 (9th St Property)
- 3 Variance from Section 776 3 (court width) for two open courts not providing the minimum required widths (M Street Property)
- 4 Variance from Section 2604 2 to provide a lot occupancy of 89% on the ground floor when the maximum allowed is 75% (M St Property)
- 5 Special exception under Section 2120 6 (required parking spaces for historic resources) to provide zero parking spaces with a requirement of 39 (M St Property)

In preparation of this letter, I reviewed other relevant BZA cases, in particular BZA Case # 18638, the Church St Micro Development Project. I am encouraged that the board came very close, 3-2, to rejecting the initial 100% parking variance. The applicant in that case also dropped their request for the lot area occupancy variance. This project, unlike Church St project is an order of magnitude larger - 125 micro units vs 38. In this context, the request for a 100% parking variance/special exception seems brazen. This project also does not display any of the exceptional circumstances that were attributed to the previous case: the lots are significantly wider (60+ feet vs 37.5), and deeper (~140 feet and ~230 feet vs 90 feet), which makes construction of an underground garage straightforward. The additional 20+ feet of width, in particular, crosses the threshold where invoking lot narrowness is no longer viable. The applicant's lot sizes are extremely generous, vacant or largely vacant, and are bounded by alleys on two sides (9th St lot) and 2.5 sides (M St lot). These three characteristics allow the applicant much greater flexibility on how to design the new structures to comply with the already very generous matter of right allowances provided under C-2-A. For all these reasons, there is no valid reason, as I hope to prove in the following sections, that the applicant should be granted the requested variances/special exceptions.

Eligibility for Inclusionary Zoning

I request that the Board reviews if the applicant is eligible for Inclusionary Zoning. Based on proposed plans, the project is a single room occupancy development. Per DCMR 2224.2(d), IZ regulations do not apply to "Rooming houses, boarding houses, community-based residential facilities, or single room occupancy developments".

Administrative Discretion to Enforce the Loading Facility Requirement.

I request that the board reviews whether the Zoning Administrator or the Board has administrative discretion to enforce the loading facility requirement in this case. The applicant intends to use these two buildings as one project with 125 apartments. The enclosed bridge

Board of Zoning Adjustment
District of Columbia
CASE NO.18852
EXHIBIT NO.43

which the developer insisted on at the objection of the Staff Report in the Historic Preservation Office is designed to connect the two buildings primarily because all the common facilities are only available in the M St building. The 9th St building, as currently proposed, cannot exist without the sibling M St building. At 125 units, the combined development is 2.5 times the number of units (50), which normally trigger requirements for loading facilities. Yet, to avoid providing a loading facility the developer strategically (opportunistically?) uses the fact that the two lots are legally separate to claim exemption on the M St lot, while the 9th St building, by itself, is just 6 units short of requiring a loading facility.

At times, ZA has authority to flag questionable compliance with zoning regulation when the black letter of the law is followed, yet practical implementation feels wrong. This is one such case and I hope it gets further scrutiny.

At the very least, this type of opportunistic compliance with zoning regulations shows lack of any concern for being a responsible neighbor and bares clear the applicant's intention short term focus on profit optimization achieved by maxing out all matter of right uses coupled with pursuit for variances of questionable need and further burdening of the public alleyways and street as the only means of providing loading and temporary parking capacity for their very large development.

Rear Yard Requirement Question

When reviewing the applicant's proposal, I noticed that they say that each property is required to provide a 15' rear yard and that they provide a 15' rear yard. Yet, from the proposed plat I do not see where the 15' rear yards are provided. 9th St lot only appears to have a rear yard of 12', while the M St lot does not have a rear yard at all. I request that the Board reviews this discrepancy.

9th St Property Variances

The applicant does not meet the burden of proof required for area variances for the 9th St Property.

The Property is Not Affected by an Exceptional Situation or Condition

The applicant failed to show that there is an exceptional condition affecting the property. They list several factors about the lot and then jump to conclusion that there is a "culmination of factors". Yet, the factors they list are **favorable**, and make the lot easier to develop.

- At over 60 feet, the lot is wider than most lots in the square and is an extremely generous width for DC as a whole. The lot is almost a perfect rectangle with a length of 139 feet in the sense that its length is twice the width. Most lots in the DC are more narrow, when compared to their length (18 or 20 feet wide for a depth of 80+ feet). Thus, the assertion that the lot has a "narrow width for a lot with such an area" is demonstratively false. The more square nature of the lot is a favorable characteristic since it allows for more design options.
- That "northern line jogs north" is also a positive characteristic since it only provides more width to the rear of the lot. Since typically the rear is used for parking/loading, more width allows for better maneuverability.
- Being bounded by two alleys is another favorably characteristic since this allows the applicant to put windows, thus create bedrooms, along the entire south property line -

something that most lots cannot do. If the applicant tries to make the case that having an alley on two sides is itself unique, this is not the case as there are several lots in the same square that are bounded by an alley on more than one side.

- That the southern bounding alley is “only 10 feet wide” is not a detriment. It provides sufficient one directional driving option and is still probably preferable to there being another lot.
- “close proximity to another parcel being developed simultaneously” is a mere statement of fact and is neither favorable nor unfavorable characteristic, which has no bearing as it relates to an exceptional condition.
- Applicant’s claim on page 7, Section A of their Statement that “the exceptional situation or condition standard goes to the property, not just the land”, will not apply to the 9th St Property since the lot is vacant. With this vacant lot, the applicant has a blank slate with no exceptional, exacerbating or challenging conditions and thus it would be unwarranted for the BZA to grant any area variances.

Lack of exceptional situation or condition in itself is sufficient for a denial of the two area variances. For sake of completeness, let’s rebut the applicants claims in the remaining two prongs.

Parking Variance: Strict Application of the Zoning Regulation Would Not Result in a Practical Difficulty.

By applicant’s own admission a compliant underground garage can be constructed on the subject property. Whether garage “efficiently” accommodates cars is irrelevant as far as the off-street parking requirement is concerned. Throughout the city, new projects always excavate deep underground to provide the required parking spaces. Treating this project any differently would be unfair to other projects. In the BZA Case # 18638, the Church St Micro Development Project, paragraph 21 of the order cited an unmanageable ramp grade as a reason why constructing an underground garage would pose practical difficulty. This is not the case here since the lot is significantly wider which makes it feasible to construct a compliant underground garage.

The applicant presents no evidence to prove practical difficulty, they merely state that it will “add an unnecessary cost to the Project”. It appears that the applicant considers compliance with zoning regulations “unnecessary”

The applicant also failed to consider other ways to construct a parking garage that would be more efficient: 1) Using a car elevator, and 2) Using an automated parking system.

Car Elevator

- **Utilizing a car elevator, the applicant can provide the required 22 parking spaces on one underground parking level.**
- A Car Elevator makes movement of cars between garage levels very efficient since it requires a small rectangular footprint.
- No space is wasted on internal ramps to ascend/descent within the garage.
- At over 60 feet wide, each level of underground parking can accommodate a double driving isle with 90 degree parking on both side, which would require 20+19+19 or 58 feet.
- With parking space 9 feet wide, each 9 feet of lot length provide 2 parking spaces. Thus, 99 feet dedicated to underground parking will provide the

required 22 spaces. The lot is 139 feet long. The remaining 40 feet is sufficient to comply with various setback requirements and also to provide 20 feet of maneuvering space in front of the elevators.

- Even if my back of the envelope math is a bit off, a second level will trivially accommodate the shortage not provided by P1. Using a car elevator, there will never be a need to excavate three levels deep as suggested by the applicant.

Automated Parking Garage

- To achieve an even higher density of car storage, an automated parking garage can be used. A few projects in Washington, DC, already installed various configurations of automated parking garages. Most notable is the Camden Grand Parc Apartment complex at 910 15th St NW, Washington, DC 20005¹ and 460 New York Ave NW².
- Automated parking garages can come in many configurations. Some can be installed in a space as narrow as 17'6" ³. Thus, in the most narrow configuration, an automated garage can be installed on most DC lots with rear access to an alley.
- In the preceding Church St BZA case, where the available space behind the three contributing town homes was 38x42, the 19 required parking spaces could have been provided on 5 levels, with 4 levels per car. Also note that one level inside an automated garage requires less excavation since cars are stacked more closely vertically and there are no floor systems between levels.

It is important to point out that while discussion above was about implementing underground garage, nothing precludes the applicant from providing some parking capacity above ground inside the building structure. Above ground parking is even more cheaper per car stall, admittedly it comes at the price of losing rentable units, thus it was assumed that the applicant will focus on underground parking.

Parking Variance: Substantial detriment to the Public Good and Affect on the Zone Plan

My biggest concern about the Transportation Analysis is that the applicant was allowed to reduce the trip generation number by 90%. This yielded numbers that were below a threshold that would require a full traffic impact study, see last page of Attachment A to the Transportation Analysis, "TDM Reduction 90%" - "Non-Auto Mode Splits/TDM for residential use is based on no on-site parking and a lease provision that will restrict tenants from obtaining a Residential Parking Permit take a 90% deduction."

When I spoke with Jonathan Rogers, a development reviewer from DDOT, I asked him how the 90% reduction was rationalized. Why 90% and not 75%? Presumably 90% should be based on a study or otherwise be an accepted industry standard. He said that DDOT felt that

1

http://www.multifamilyexecutive.com/property-management/apartment-trends/auto-motives-trends-in-parking-at-multifamily-properties_o

² <http://districtsource.com/2014/04/parking-novelty-460-new-york-avenue/>

³ <http://www.wohr-parking.co.uk/index.php/products/> Navigate to MultiParker 740. The narrowest configuration, just under 18 feet, assumes one row of parked cars with the a parallel row for the moving mechanism.

90% was reasonable without citing any concrete study. If, in fact, there is no study to back the generous 90% reduction, this is of great concern. Essentially DDOT allowed the applicant to make assertions without any factual basis. The concept of adding RPP restriction in an attempt to influence people's driving behavior is relatively new. I request that the board reviews if any projects that use RPP restrictions have been delivered and if DDOT has conducted any before and after studies around those occupied properties.

There are also political and practical problems in betting too much on RPP restrictions.

- Creating two types of populations, one that is eligible for RPP and the other one that is not - essentially pitting them against each other considering how contentious the issue of parking is - may not prove to be a good long term solution. Eventually the City Council may step in and invalidate these provisions, yet there will be no way to undo the variances.
- The RPP restriction does not prevent other ways in which a resident may get a parking sticker. The URL in the footnote lists the various DMV parking programs⁴
 - The one that I can speak for from personal experience is the Visitor's Parking Permit for Guests of DC Residents. One can go to any police precinct, show a DC ID and get any zone sticker for 15 days. For a short term resident of this development going to a police station with a DC resident friend one every two weeks is a good value proposition, compared to paying for a private parking garage.
 - Another program that was brought up by an ANC commissioner at one of the meetings was the Reciprocity Permit for Temporary and Part Time Residents.
 - Lease provisions making obtaining RPP are unlikely to ever be enforced
 - Will the landlord ever consider evicting an otherwise rent paying tenant that obtained an RPP sticker?
 - To make landlord comply, the city must institute some type of an audit process and implement the necessary IT system at the DMV and all Police precincts, to enable verification of RPP restrictions real time. As a taxpayer, I am opposed to the city taking on additional responsibility and expenses unless developers that propose these "solutions" cover the full expense of implementation and ongoing maintenance, in perpetuity.
 - Assuming the landlord acted against his economic interest and wants to evict the rent paying tenant that illegally obtained the RPP, will any judge allow eviction based on this lease provision?
 - Eviction process in Washington, DC can take several months. All this time the residents of the project will continue parking in the RPP zones using their illegally obtained RPP sticker and displacing legitimate RPP holders.

With all the concerns about RPP restrictions, and the complex regulatory environment it requires to function properly, it seems that the only entity that benefits is the developer who for the time being convinces everyone that this is a viable solution and is able to realize significant project savings by not providing parking at everyone else's expense. If this

⁴ <http://dmv.dc.gov/service/parking-permits-and-reciprocity-stickers>

experiment fails, the developer may already no longer be associated with the project to deal with the negative consequences

Outside of the impracticality of the RPP restrictions solution, there are other car usage scenarios that the applicant cannot restrict, which will have effect on the available parking:

- “Domino effect” on available parking Any car is allowed to park in a residential zone for up to 2 hours Thus, a resident of this project, who normally keeps his car overnight in a garage parks in the residential zone during the evening upon returning from work Legitimate RPP holders will not be able to find parking where they are used to and thus drive to the next block until parking is found
- There are no restriction to parking on Sundays
- The building is bound to attract additional traffic in the form of visitors to the residents, home deliveries, employees & contractors of the building, and employees & customers of the retail establishment

By not even attempting to provide parking the applicant completely and utterly dumps the burden on the city’s infrastructure at great expense to the neighborhood.

Lastly, it is important to point out that currently both lots are used as open air parking lots. While I make no claims to their esthetic appeal, on a typical Monday, December 1 2014, the 9th S lot was full with over 10 vehicles, while the M St lot was completely filled with close to 40 cars as seen on the images in Appendix A The development of these lots will eliminate these two parking lots, which are obviously heavily used These 50 cars will have to be absorbed either into the immediate residential parking zones or into nearby parking garages, thus reducing capacity in the immediate vicinity I have not seen the applicant’s survey of available garage space that offers monthly rates, but they must account for the guaranteed reduction of up to 50 monthly parking spaces and the effect of this reduction on the potential needs for garage parking of the residents of this project Specifically, how further away will they be expected to look for parking

Side Yard Variance: Strict Application of the Zoning Regulation Would Not Result in a Practical Difficulty.

Side Yard/Lot Occupancy/Court Size are different sides of the same coin with respect to maximizing internal unit density - the primary concern of the applicant. While I am not opposed to widening the 9th St Alley as the applicant proposed, in light of other choices made by the applicant that are detrimental to the neighborhood, I view the overall request for area variances negatively Essentially, the applicant has enough width to provide two rooms within the width of the building, with 6 feet remaining unused The applicant dedicates these “easy to spare” 6 feet toward meeting the lot occupancy requirement (at the expense of complying with side yard requirements), to avoid increasing the back yard (which already appears non-compliant due the width of only 12’) If the applicant did not provide the side yard, rear yard would have to be significantly increased to meet lot occupancy thus sacrificing the stack of units in the building rear

The applicant failed to demonstrate practical difficulty because other conforming building designs, possibly consisting of fewer units, were not considered The need for pedestrians to walk through the alley is also self-imposed by current design If the applicant were to put a more attractive lobby from the 9th St entrance, the need to walk through the alley can be minimized

Side Yard Variance: Substantial detriment to the Public Good and Affect on the Zone Plan

Granting the side yard variance for the building building would allow the developer to significantly increase the internal unit capacity at the expense of compliance. The capacity increase, in turn, leads to increased demand for alley capacity, loading zone capacity, and parking. The applicant failed to provide any amenities that would offset the increased demand. Instead the challenges of dealing with increased capacity are deferred to the neighbors and the city as a whole resulting in substantial detriment to public good.

If the lot occupancy was achieved by increasing the rear yard, it could have been sufficiently large to provide some loading capacity or for above ground stopping/parking for project residents or retail visitors. When the project is complete, the need for stopping/temporary parking for visitors, retail patrons, deliveries, etc will be significant. By way of anecdotal evidence, I walked to La Colombe Coffee shop on December 1, 2014 which is across the alley from the rear of the M St lot. While I was there, two cars pulled over and parked behind the garage while the drivers went into the coffee shop. Extrapolate this example to the demand for temporary stopping/parking that will be generated by a complex with 125 units and a retail establishment. Developer provides nothing to address this future demand, instead focusing on further increasing density of units.

As discussed earlier, this example calls into question the generous 90% deduction for trip generation calculation. In this case, two car trips were generated for two cups of coffee.



M St Property

Parking Special Exception

Parking can be provided on the remaining area of the lot excluding the historic garage.

The applicant clearly fails the special exception test since parking can be provided in the remaining area of the lot, without even touching the historic garage to cause it any damage or risk its integrity. Excluding the footprint of the historic garage, the remaining space of the M St lot is larger than the entirety of the 9th St lot. This lot is also wider. Cars can enter the lot from all three alley locations, providing the applicant great design flexibility. All arguments stated in the previous section, pertaining to 9th St Property, how the underground or above ground garage can be implemented apply here.

No proof of significant architectural or structural difficulty in maintaining historic integrity of the garage.

The applicant presented no proof that providing parking will result in "significant architectural or structural difficulty in maintaining the historic integrity and appearance of the historic resource". The applicant merely states that "underground parking is not possible

because the Applicant cannot excavate under the historic garage without a high risk of damaging it ” This statement is provided without any proof from a structural engineer and is counter to reality 1) historic buildings are very frequently excavated under and underpinned by regular homeowner, not even sophisticated investors, and 2) some historic buildings are even moved It is very hard to believe that there is anything special about this garage

Appendix B provides some examples of historic buildings being moved for projects a few blocks away from this applicant's location One is for a boutique hotel on North Side of New York Ave, between 5th and 4th st, the other is for the AAMC headquarters on NY ave, between 7th and 6th St

The applicant's case does not require any moving, it merely requires excavation and underpinning Underpinning is a much simpler process than moving and is conducted very frequently in historic neighborhoods throughout the city when homeowners “dig out” their basements to achieve higher ceiling heights DCRA routinely approves underpinning permits in historic districts where contributing properties are underpinned I personally obtained permit # B1308414 for underpinning of 1233 4th St NW, Washington, DC 20001 which is a contributing house in the Mt Vernon Square Historic District during construction of my house at 1235 4th St. There is nothing more unique about the Blagden alley garage structure and it can be trivially underpinned by any qualified contractor

Applicant requires a variance of the off-street parking requirement.

Because the applicant does not meet the requirements for special exception, and because the size of the contributing historic structure is negligible with respect to overall lot size and the size of the addition the applicant proposed, the applicant should seek a variance from off street parking requirement if they insist on providing 0 parking spaces, when 39 are required

As far as the possible variance, the discussion on why the lot has no exceptional situation is below, while all arguments made in the 9th St lot section fully apply here

The Property is Not Affected by an Exceptional Situation or Condition

All points made in the argument against 9th St property earlier in this report apply here The applicant merely lists several facts about the property and unconvincingly concludes that they “combine to create exceptional condition of this property” Again, most facts are either favorable or neutral, but in no way detrimental The objective is not just to prove that the property is unique, but that its uniqueness is what makes it difficult to comply with regulation The fact that the property is unique in a favorable way does not satisfy the first prong

- “The historic garage's location at the property's rear makes it an unusual condition for constructing an addition to a building that must be retained ” This is standard practise in any historic neighborhood of DC the historic buildings are generally retained with new additions built on the remaining sections of the lot
- “The garage is one story, but it is build to the north, west, and east lot lines ” Is a mere statement of fact with no bearing
- The claim to lot's narrowness is demonstratively false, just like for the 9th St property The width to length ratio for this lot is $69/233 = 29$ A typical DC lot is $18/100$ for a much lower ratio of 18
- Being bounded by an alley on three sides is a very favorable condition for reasons discussed earlier Additionally, Lot 136 in the same square is also bounded by a historic alley on three sides, so the condition is not unique

- Lastly, the applicant references a previous BZA decision #17403 I was only able to find a very brief order on this case with no supporting documentation The order did not go into discussion of any fact, just merely listed the prongs of the variance test and stated that they were met Based on the points above, I don't see how this lot is affected by any exceptional situations Also, the last page of the order states the applicant shall have the flexibility to "3) decrease the number of parking spaces to the minimum number required by Chapter 21 of DCMR" Perhaps because the previous project was more reasonable in its request, as indicated by them offering to provide more than required number of parking spaces, the BZA weighed the options and concluded that granting an area variance was, on balance, justified

Lot Occupancy Variance: Strict Application of the Zoning Regulation Would Not Result in a Practical Difficulty.

Applicant's argument on the practical difficulty of compliance with the required lot occupancy is unconvincing They don't explain why it is "not practical to shrink the footprint of the first floor on the new structure without shrinking the footprint of the rest of the new structure" Designs where upper floors overhang the first are very common In fact, most loading docks are design in this exact way, where the space is open on the ground level to accommodate incoming/outgoing vehicles, while the rest of the structure overhangs the loading facility to claim back the lost lot space

By attempting to comply with the lot occupancy and creating a structure that does not take up nearly the entire land area on the first floor, particularly in the section of the lot where the 9th street alley comes in contact with the M St lot, the occupant could provide locations for loading facilities and possible entrances to the underground parking garage

The first floor of the new structure where it comes in contact with the old garage can be made narrower to comply with the lot occupancy requirement It appears that the applicant has not considered other uses/designs which would comply with zoning regulations and failed to show practical difficulty

Lot Occupancy Variance: Substantial detriment to the Public Good and Affect on the Zone Plan

The detriment to the public good comes from the fact that the applicant is determined to use more of the lot area than is allowed in order to maximize internal unit density, while simultaneously not providing parking/loading facilities which can be provided in the area that would have been available if the applicant simply complied with regulations See previous sections on discussion how the applicant does not at all propose to solve the alley congestion problems that the project is guaranteed to create, all to the detriment to the public good

Court Width Variance: Strict Application of the Zoning Regulation Would Not Result in a Practical Difficulty.

The applicant's claim of practical difficulty is based on an assumption that they must have a double loaded corridor and that without one there is "loss of efficiency" There is no matter of right claim to a double sided corridor or efficient internal design The concept of "efficiency" by itself has no significance in BZA deliberations, unless it is logically connected to practical difficulty The applicant failed to consider other uses/building designs that would be compliant and failed to show practical difficulty of not having a double sided corridor

Lastly, existing M St lot currently has an ad-hoc loading facility in a form of a large rectangular opening on West side of the lot, as seen in first picture in Appendix A. This opening is frequently used by delivery trucks to pull over and not block the alley. Proposed development will eliminate this, thus further exacerbating the situation.

Court Width Variance: Substantial detriment to the Public Good and Affect on the Zone Plan

Similar to arguments advanced in previous sections, granting court width variance for the building as proposed, would essentially double building unit capacity. The capacity increase, in turn, leads to increased demand for alley capacity, loading zone capacity, and parking. The applicant failed to provide any amenities that would offset the increased demand. Instead the challenges of dealing with increased capacity are deferred to the neighbors and the city as a whole resulting in substantial detriment to public good.

In conclusion, and in anticipation of the pro forma statements the applicant will submit, I request that the board reviews those with scrutiny. The general impression from this application is that the applicant overpaid for the underlying lots and is now seeking what in essence is a bailout from the BZA. Thus, the suggested practical difficulty was created at the closing of the lot purchase transaction, likely will applicant's strategy all along being to seek extensive variances to make the project work. I request that the BZA gives this a great consideration.

Appendix A



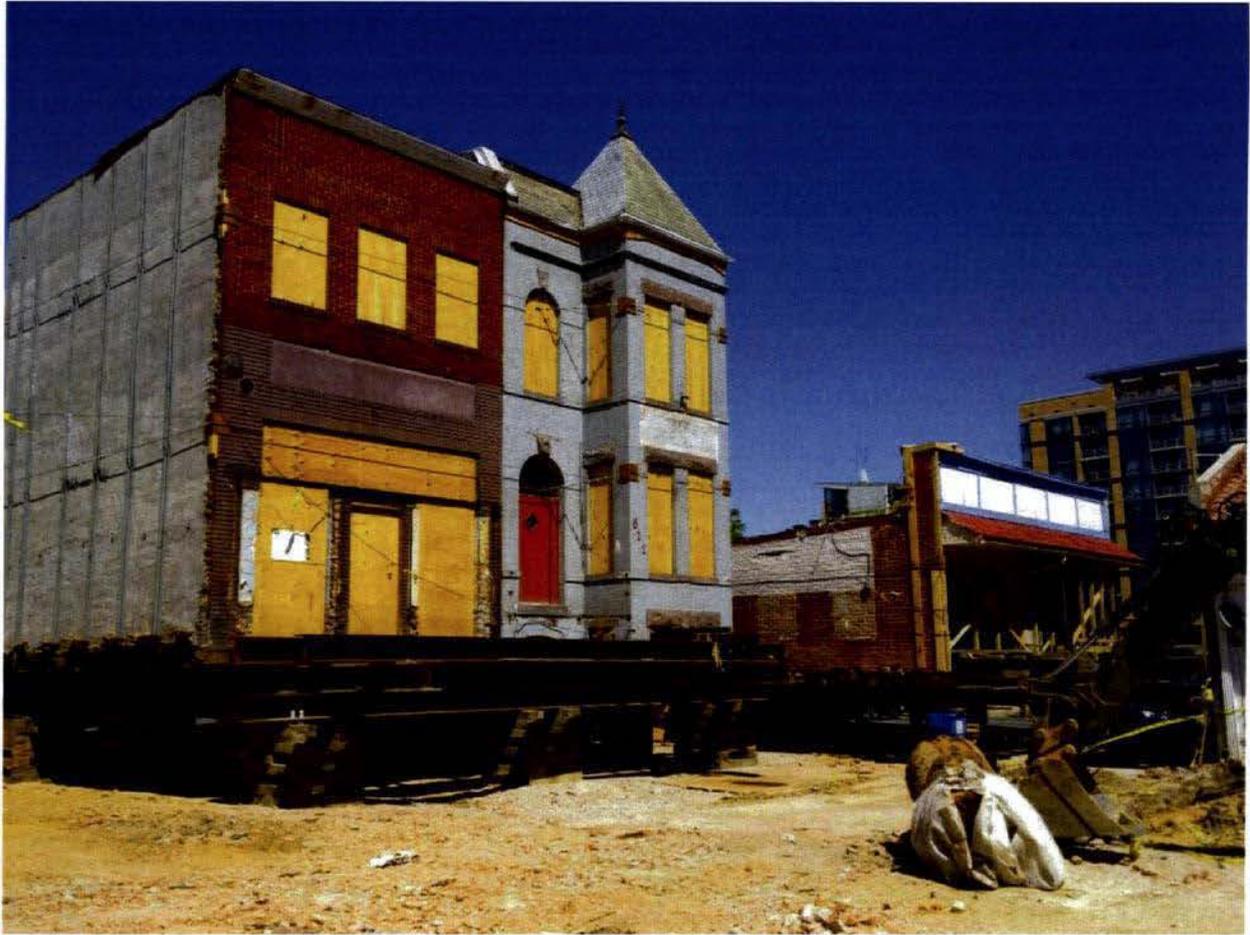
M St lot open air parking garage will close to 40 cars that will be eliminated.

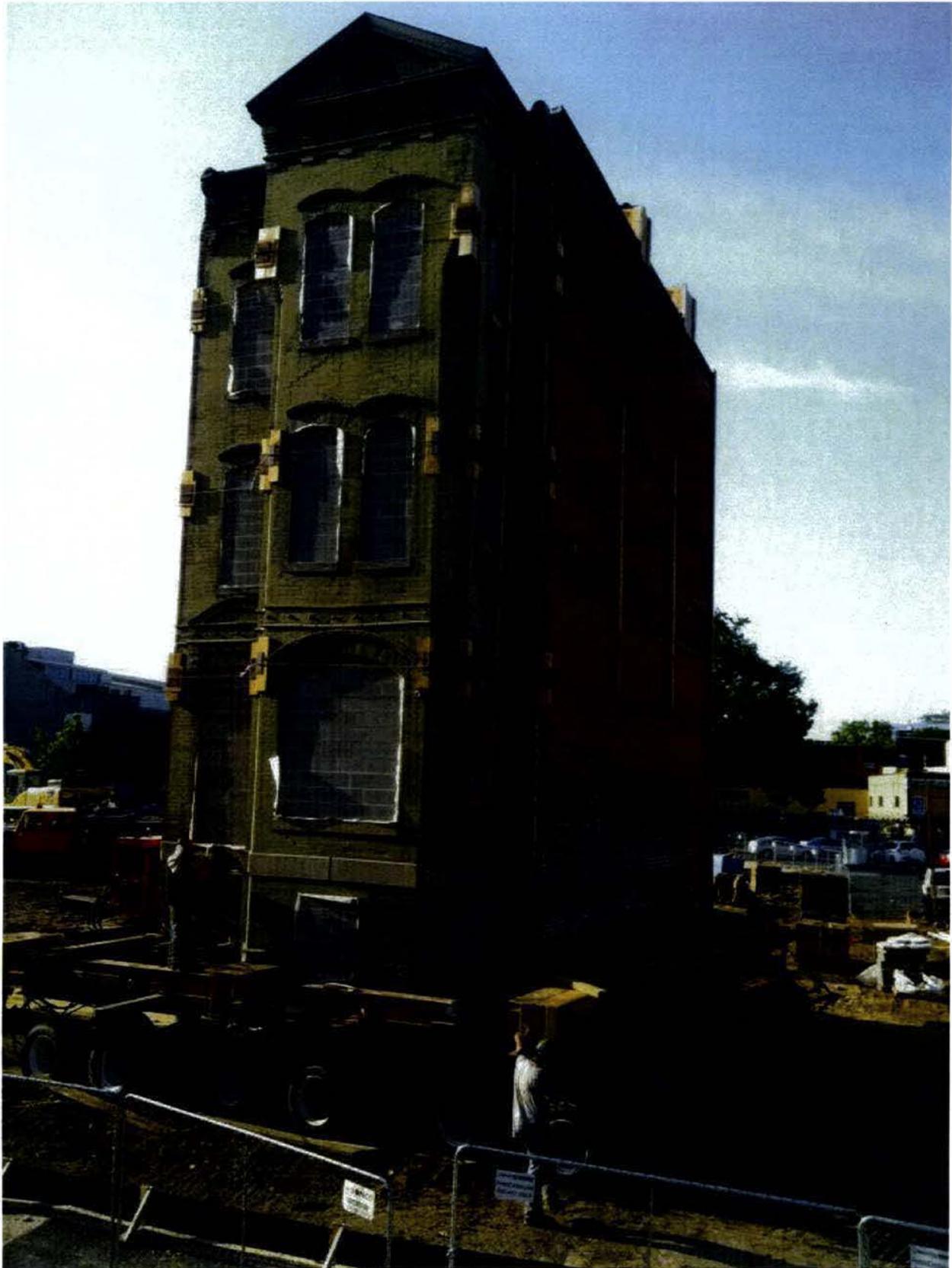


9th St lot open air parking garage that will be eliminated.

Appendix B
Examples of Historic Buildings being moved.











Multiparker 740

Bitte beachten Sie die separaten Technischen Hinweise! | Please observe the separate Technical Notes!



Der Multiparker 740 ist insbesondere für schmale und lange Grundrisse geeignet. Die vollautomatischen Hochregaltechnik bietet raumsparende Parklösungen.

- Als Turm- und/oder Schachtversion zum Parken auf 1 bis 8 Ebenen
- Automatisches Parksystem zum Parken von 10 bis über 100 Autos
- Variable Systemlänge möglich
- Mehrreihige Anordnungsmöglichkeiten bis zu 3 Parkreihen nebeneinander
- Sehr anpassungsfähig an individuelle Projektanforderungen
- Sicher für den Nutzer und Fahrzeug (keine engen Rampen, dunkle Treppenhäuser, keine Beschädigungen durch Parkkarambolagen oder Diebstahl)
- Übergabestationen können flexibel angeordnet werden
- Schnelle Zugriffszeiten
- Keine raumintensiven Rampen und Fahrgassen erforderlich
- Keine aufwendige Beleuchtung, Belüftung notwendig
- Unterschiedliche Fahrzeughöhen möglich, z.B. für Vans, SUVs
- Standardmäßig für Fahrzeuggewicht bis zu 2,5 t, höhere Belastung nach Rücksprache mit WÖHR möglich
- Vielseitige Bedienungsmöglichkeiten: vom Transponderchip bis hin zur Funkfernsteuerung
- Geeignet als öffentliches Parkhaus
- Folgt der Idee von "Green Parking"

The Multiparker 740 is particularly suited to narrow and long floor plan areas and features a fully automatic space saving high rack storage parking arrangement.

- As tower and/or pit version provided up to 8 parking levels
- Automatically operated parking systems for 10 to more than 100 cars
- Variable system length available
- Multiple row arrangement with up to 3 parking rows behind each other
- Well adaptable to individual project requirements
- Safe for user and cars (no narrow ramps, dark stairs, no damage caused by theft or vandalism)
- Customizable arrangement of transfer area
- Fast access times
- No ramps and driving lanes
- No costly illumination and ventilation necessary
- Different car heights possible, e.g. Vans, SUVs
- For car weight up to 2.5 t, higher loads are possible after consultation with WÖHR
- Easy operation with several control options, e.g. transponder chip or remote control
- Suitable for public parking
- Following the idea of "Green Parking"

Multiparker 740 | Schacht-System für 1–8 Parkebenen mit Wänden oder Stützen zwischen den Stellplätzen Shaft system for 1–8 parking levels with walls or columns between the parking spaces

■ Parksystem für 1–8 Parkebenen als Schachtvariante

■ Längenausdehnung variabel bis zu 80 m

■ Anordnung des Übergabebereichs direkt über dem Regalbediengerät oder im Bereich der Stellplätze über einem separaten Vertikalförderer (siehe unten)

■ Fahrzeughöhe variabel durch unterschiedlich hohe Parkebenen

■ Mehrreihige Anordnung möglich (siehe Seite 4)

■ Integrierte Drehvorrichtung möglich

■ Parking system for 1–8 parking levels as shaft variant

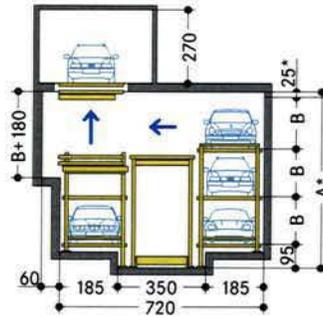
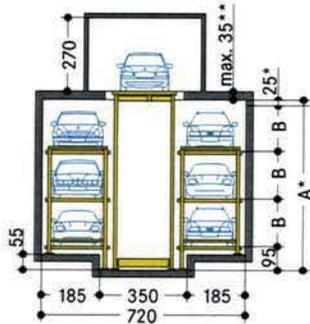
■ Linear expansion variable up to 80 m

■ Arrangement of transfer area directly above the storage and retrieval unit or in the parking zone above a separate vertical lift (see below)

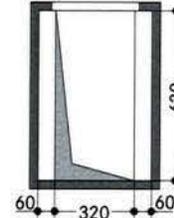
■ Vehicles of various height can be parked thanks to parking levels of various height

■ Multi-row arrangement (see page 4)

■ Integrated turning device is possible

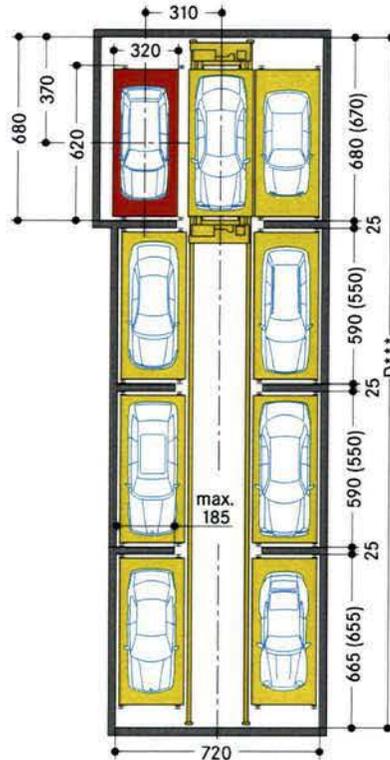
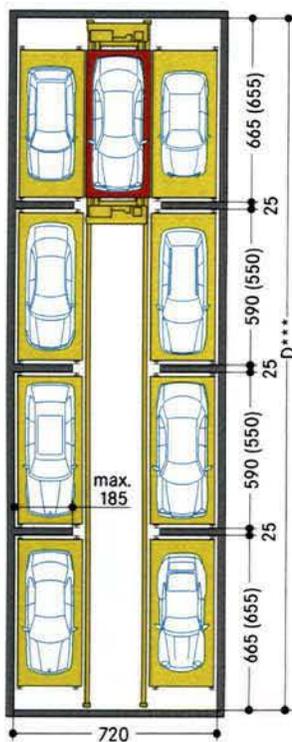


Übergabebereich (Maße ohne Drehvorrichtung)
Transfer area (dimensions without turning device)



Für die Steuerung muss in der Nähe des Übergabebereichs ein Raum (mind. Länge 240 cm x Breite 160 cm x Höhe 220 cm) zur Verfügung stehen.

For the control unit, space (at least length 240 cm x width 160 cm x height 220 cm) must be available near the transfer area.



() Maße in Klammern gelten bei nur einer Parkebene
() Dimensions in brackets for one parking level only.

- * Ab 3 Parkebenen wird für die Deckenführung des Regalbediengerätes eine zusätzliche Höhe von 25 cm benötigt.
- ** Wird die Deckenstärke größer als 35 cm, muss die Unterfahrt (Maß 55 cm) um denselben Unterschied vergrößert werden, z.B. Deckenstärke 60 cm = Unterfahrt 80 cm.
- *** Alle angegebenen Maße der Länge D sind nur ein Beispiel und sind abhängig von der Breite und Anzahl der evtl. benötigten Wandscheiben.
- * For guiding rail on top of the storage and retrieval unit dimension A includes: 25 cm for systems from 3 parking levels
- ** If ceiling thickness is more than 35 cm, the clearance (55 cm) must be extended by the same difference, e.g. ceiling thickness 60cm = clearance 80 cm.
- *** All specified dimensions of length D are examples only and depend on the width and number of partitions walls.

Parkebenen Parking levels	Maß A für 160 cm hohe Pkw Dimension A for 160 cm high cars	Maß A mit 1 Parkebene für 200 cm hohe Pkw Dimension A with 1 parking level for 200 cm high cars
1	268	308
2	441	481
3	639	679
4	812	852
5	985	1025
6	1158	1198
7	1331	1371
max. 8	1504	1544

Pkw-Höhe Car height	Maß B Dimension B
160	173
200	213

Maße in cm
Dimensions in cm

Stellplätze pro Ebene Parking spaces per level	1 Parkebene Rasterbreite 550 cm 1 parking level grid width 550 cm	ab 2 Parkebenen Rasterbreite 590 cm 2 and more parking levels grid width 590 cm
	Länge D*** Length D***	Länge D*** Length D***
6	1925	1985
8	2500	2600
10	3075	3215
12	3650	3830
14	4225	4445
16	4800	5060
18	5375	5675
20	5950	6290

Stellplatzanzahl verringert sich je nach Anzahl und Anordnung des Übergabebereichs.

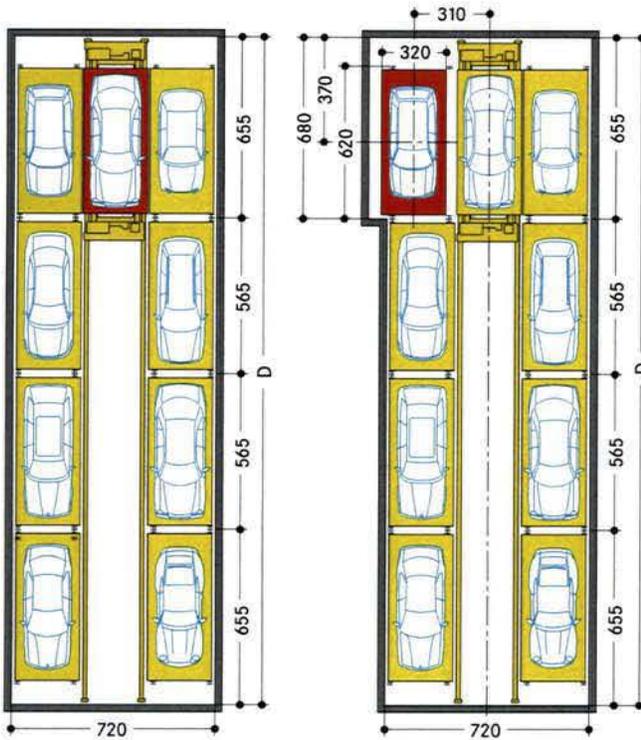
The number of parking spaces depends on number and arrangements of transfer areas.

Wartungszugang und Schaltschrank | Maintenance access and switch cabinet

Ein Wartungszugang zur Anlage und ein Schaltschrankraum (mind. 2 x 5 m) sind notwendig (Rücksprache mit WÖHR erforderlich).

Maintenance access as well a room for the switch cabinet (min. 2 x 5 m) is required (please check with WÖHR).

Multiparker 740 | Schacht-System für 1-8 Parkebenen ohne Wände oder Stützen zwischen den Stellplätzen Shaft system for 1-8 parking levels without walls or columns between the parking spaces

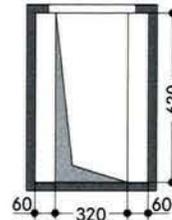


Stellplätze pro Ebene Parking spaces per level	ab 2 Parkebenen Rasterbreite 565 cm 2 and more parking levels grid width 565 cm
6	1900
8	2465
10	3030
12	3595
14	4160
16	4725
18	5290
20	5855

Maße in cm
Dimensions in cm

Stellplatzanzahl verringert sich je nach Anzahl und Anordnung des Übergabebereichs.
The number of parking spaces depends on number and arrangements of transfer areas.

Übergabebereich (Maße ohne Drehvorrichtung)
Transfer area (dimensions without turning device)



Für die Steuerung muss in der Nähe des Übergabebereichs ein Raum (mind. Länge 240 cm x Breite 160 cm x Höhe 220 cm) zur Verfügung stehen.
For the control unit, space (at least length 240 cm x width 160 cm x height 220 cm) must be available near the transfer area.

Multiparker 740 | Turm-System und Schacht/Turm-System für 4-8 Parkebenen Tower system and Shaft/Tower system for 4-8 parking levels

- Parksystem für 4-8 Parkebenen als Turm-/Schachtvariante
- Längenausdehnung variabel bis zu 80 m (siehe Maß D auf Seite 2 und oben)
- Anordnung des Übergabebereichs im Bereich der Stellplätze (siehe unten)
- Fahrzeughöhe variabel durch unterschiedlich hohe Parkebenen
- Mehrreihige Anordnung möglich (siehe unten)
- Integrierte Drehvorrichtung möglich

- Parking system for 4-8 parking levels as shaft/tower variant
- Linear expansion variable up to 80 m (see dimension D on page 2 and on top)
- Arrangement of transfer area in the parking zone (see below)
- Vehicles of various height can be parked thanks to parking levels of various height
- Multi-row arrangement (see below)
- Integrated turning device is possible

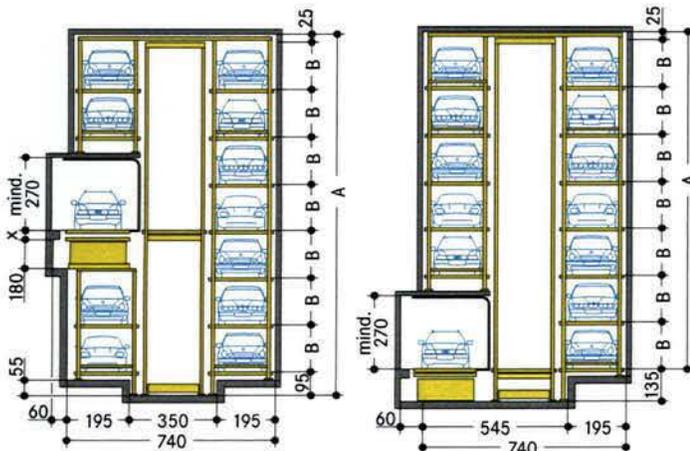


Tabelle für Längenmaße siehe Seite 2.
Table for dimensions in length see page 2.

Tabelle für Längenmaße siehe Seite 3.
Table for dimensions in length see page 3.

Pkw-Höhe Car height	Maß B Dimension B
160	173
200	213

Maße in cm
Dimensions in cm

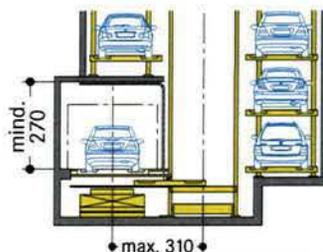
Turm-Schacht-System Tower/Shaft system		
Parkebenen Parking levels	Maß A für 160 cm hohe Pkw Dimension A for 160 cm high cars	Maß A mit 2 Parkebenen für 200 cm hohe Pkw Dimension A with 2 parking levels for 200 cm high cars
4	812	892
5	985	1065
6	1158	1238
7	1331	1411
max. 8	1504	1584

Turm-System Tower system		
Parkebenen Parking levels	Maß A für 160 cm hohe Pkw Dimension A for 160 cm high cars	Maß A mit 2 Parkebenen für 200 cm hohe Pkw Dimension A with 2 parking levels for 200 cm high cars
4	717	797
5	890	970
6	1063	1143
7	1236	1316
max. 8	1409	1489

Übergabebereich seitlich vom Regalbediengerät
Transfer area lateral to the storage and retrieval unit

Schematische Darstellung des Palettenwechsels im seitlichen Übergabebereich. Bitte fordern Sie weitere Details an!

A new pallet is provided in the transfer area while the vertical lift is still moving the car upwards. Please contact WÖHR for more details!



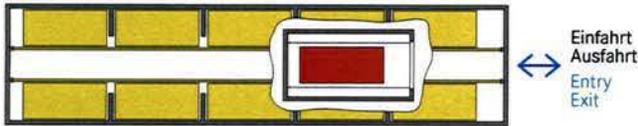
Steuerung

Für die Steuerung muss in der Nähe des Übergabebereichs ein Raum (mind. Länge 240 cm x Breite 160 cm x Höhe 220 cm) zur Verfügung stehen.

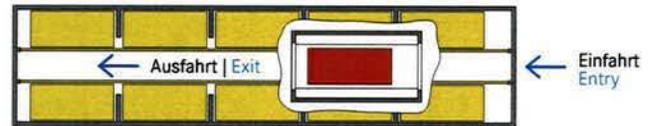
Control unit

For the control unit, space (at least length 240 cm x width 160 cm x height 220 cm) must be available near the transfer area.

■ **Anordnung Übergabebereich direkt über dem Regalbediengerät | Transfer area directly above the storage and retrieval unit**

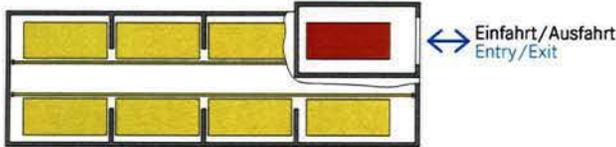


Übergabebereich mittig angeordnet. Ein- und Ausfahrt aus einer Richtung.
Central arrangement of transfer area. Entry and exit from one direction.

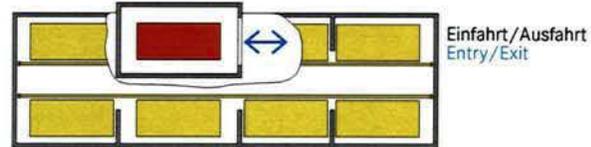


Durchfahrbarer Übergabebereich mit Einfahrt vorne und Ausfahrt nach hinten.
Drive-through transfer area, with entry and rear exit.

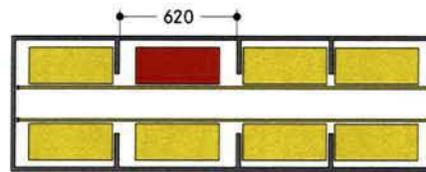
■ **Anordnung Lift oder Übergabebereich seitlich vom Regalbediengerät | Lift or transfer area lateral to the storage and retrieval unit**



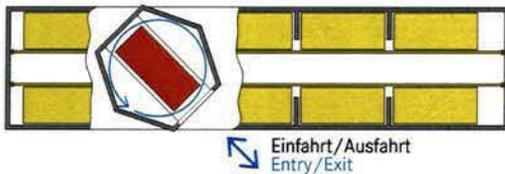
Übergabebereich stirnseitig auf einer Seite angeordnet, mit Ein- und Ausfahrt aus einer Richtung.
Transfer area arranged frontal on one side, with entry and exit from one direction.



Die Position des Übergabebereichs ist über jedem Stellplatz möglich.
Transfer area can be arranged above any parking space.

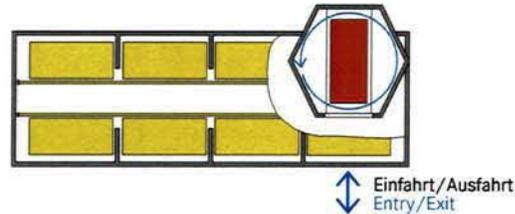


■ **Drehvorrichtung | Turning device**

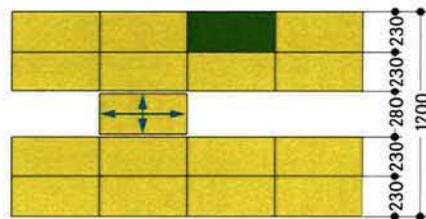
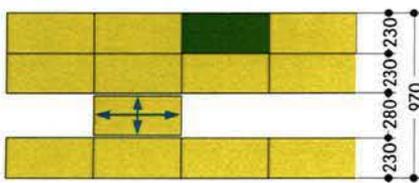


Durch eine Drehvorrichtung im Übergabebereich kann die Zufahrt in einem beliebigen Winkel angeordnet werden.
So stellen auch enge Zu- und Abfahrtswege kein Problem dar.

By use of a turning device inside the transfer area, access is possible at any angle. Thus, narrow driveways are no problem.



■ **Systemvarianten - Mehrreihige Anordnungen | Different variants - Multi-row arrangement**



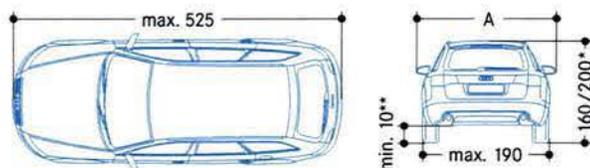
Durch die Möglichkeit einer mehrreihigen Anordnung beim Multiparker können vorhandener Raum bzw. Grundstücksfläche optimal ausgenutzt und speziell bei der Schachtvariante Tiefbaukosten eingespart werden.

Durch einen Leerplatz (grün) im System können die Fahrzeuge so umsortiert werden, dass ein Ein- und Ausparken in der zweiten Reihe möglich wird.

The multi-row arrangement allows an optimum utilisation of the available space and/or land area and saves civil engineering costs, particularly with the shaft variant.

An empty space (green) in the system allows to rearrange the cars in such a way that in-parking and out-parking in the second row becomes possible.

■ **Max. Fahrzeugabmessungen | Max. car dimensions**



Palettenbreite Pallet width	Maß A Dimension A
220	210
230	220

Fahrzeuggewicht max. 2500 kg, Radlast max. 625 kg.

Die hier genannten Fahrzeugmaße gelten für die angegebenen Einbaumaße. Andere Fahrzeugabmessungen sind bei entsprechenden Änderungen der Baumaße möglich.

Car weight max. 2500 kg, wheel load max. 625 kg.

These car dimensions are valid for the building dimensions as mentioned. If building dimensions are adjusted, other car dimensions are possible.

* Höhe über alles (Pkw mit Dachgepäckträgern, Dachreling, Antennen etc. dürfen die angegebene Höhe nicht überschreiten).

* Overall height (cars with roof racks, roof rails, antennas etc. should not exceed the mentioned overall height).

** Bodfreiheit

** Clearance underneath the gear case

Multiparker 710/720/730

Bitte beachten Sie die separaten Technischen Hinweise! | Please observe the separate Technical Notes!



Der Multiparker nutzt clever die vorhandene Fläche und bietet Parkraum in verschiedenen Varianten.

- Als Turm- und/oder Schachtversion
- Automatisches Parksystem zum Parken von 10 bis über 100 Autos
- Variable Systemlänge möglich
- Mehrreihige Anordnungsmöglichkeiten bis zu 2 Parkreihen hintereinander
- Sehr anpassungsfähig an individuelle Projektanforderungen
- Sicher für den Nutzer und Fahrzeug (keine engen Rampen, dunkle Treppenhäuser, keine Beschädigungen durch Parkkambolagen oder Diebstahl)
- Übergabestationen können flexibel angeordnet werden
- Sehr schnelle Zugriffszeiten aufgrund des Palettenschnellwechselsystems
- Keine raumintensiven Rampen und Fahrgassen erforderlich
- Keine aufwendige Beleuchtung, Belüftung notwendig
- Unterschiedliche Fahrzeughöhen möglich, z.B. für Vans, SUVs
- Standardmäßig für Fahrzeuggewicht bis zu 2,5 t, höhere Belastung nach Rücksprache mit WÖHR möglich
- Vielseitige Bedienungsmöglichkeiten: vom Transponderchip bis hin zur Funkfernsteuerung
- Geeignet für Wohn- und Geschäftshäuser und als öffentliches Parkhaus
- Folgt der Idee von "Green Parking"

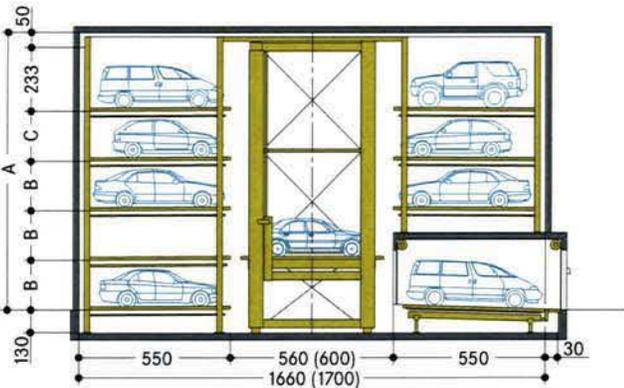
The Multiparker utilizes clever and smart the available surface and provides parking space with different variants.

- As tower and/or pit version
- Automatically operated parking systems for 10 to more than 100 cars
- Variable system length available
- Multiple row arrangement with up to 2 parking rows behind each other
- Well adaptable to individual project requirements
- Safe for user and cars (no narrow ramps, dark stairs, no damage caused by theft or vandalism)
- Customizable arrangement of transfer area
- Very fast access time by use of a quick-change pallet system
- No ramps and driving lanes
- No costly illumination and ventilation necessary
- Different car heights possible, e.g. Vans, SUVs
- For car weight up to 2.5 t, higher loads are possible after consultation with WÖHR
- Easy operation with several control options, e.g. transponder chip or remote control
- Suitable for apartment- and office buildings and for public parking
- Following the idea of "Green Parking"

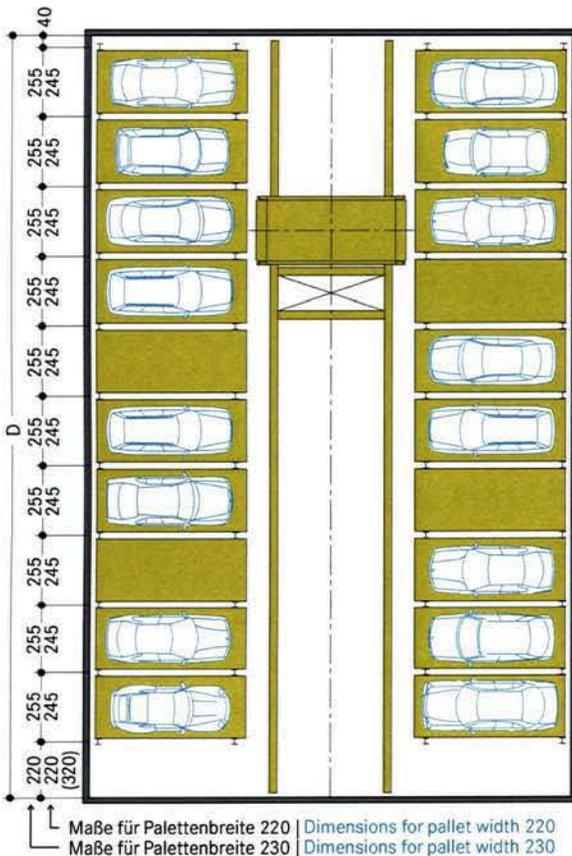
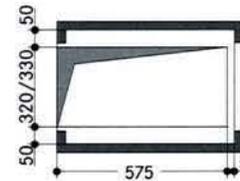
Multiparker 710 | Turm-System für 2-8 Parkebenen | Tower system for 2-8 parking levels

- Parksystem für 2-8 Parkebenen Turmvariante
- Längenausdehnung variabel (siehe Maß D auf unten stehender Tabelle)
- Anordnung des Übergabebereichs variabel (siehe Seite 8)
- Fahrzeughöhe variabel durch unterschiedlich hohe Parkebenen
- Mehrreihige Anordnung möglich (siehe Seite 8)
- Pallettschnellwechselsystem = kurze Zugriffszeiten
- Integrierte Drehvorrichtung möglich (Option)

- Parking system for 2-8 parking levels as tower variant
- Linear expansion variable (see dimension D on table below)
- Variable arrangement of transfer area (see page 8)
- Vehicles of various height can be parked thanks to parking levels of various height
- Multi-row arrangement (see page 8)
- Quick-change pallet system = short access times
- Integrated turning device possible (option)



Übergabebereich (Maße ohne Drehvorrichtung)
Transfer area (dimensions without turning device)



Parkebenen Parking levels	Maß A für 160 cm hohe Pkw mit 1 Parkebene für 200 cm hohe Pkw Dimension A for 160 cm high cars with 1 parking level for 200 cm high cars
2	476
3	669
4	862
5	1075
6	1268
7	1461
8	1654

Pkw-Höhe Car height	Maß B Dimension B	Maß C Dimension C
160	193	213
200	233	253

Stellplätze pro Ebene* Parking spaces per level*	Palettenbreite 230 Rasterbreite 255 cm Pallet width 230 grid width 255 cm	Palettenbreite 220 Rasterbreite 245 cm Pallet width 220 grid width 245 cm
	Länge D Length D	Länge D Length D
12	1790	1730
14	2045	1975
16	2300	2220
18	2555	2465
20	2810	2710
22	3065	2955
24	3320	3200
26	3555	3445
28	3830	3690
30	4085	3935
32	4340	4180
34	4595	4425
36	4850	4670
38	5105	4915
40	5360	5160

* Stellplatzanzahl verringert sich je nach Anzahl und Anordnung des Übergabebereichs

* The number of parking spaces depends on number and arrangement of transfer areas

Maße in cm
Dimensions in cm

() Maße in Klammern beziehen sich auf ein Regalbediengerät mit Drehvorrichtung.

() Dimensions in brackets for storage and retrieval unit with turning device

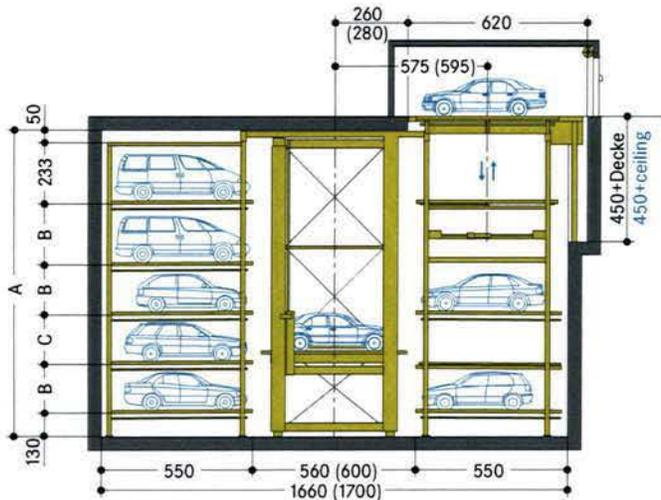
Für die Steuerung muss in der Nähe des Übergabebereichs ein Raum (mind. Länge 240 cm x Breite 160 cm x Höhe 220 cm) zur Verfügung stehen.

For the control unit, space (at least length 240 cm x width 160 cm x height 220 cm) must be available near the transfer area.

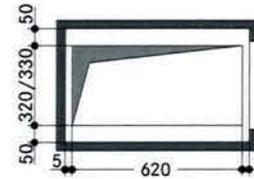
Multiparker 710 | Schacht-System für 2-8 Parkebenen | Shaft system for 2-8 parking levels

- Parksystem für 2-8 Parkebenen Schachtvariante
- Längenausdehnung variabel (siehe Maß D auf unten stehender Tabelle)
- Anordnung des Übergabebereichs variabel (siehe Seite 8)
- Fahrzeughöhe variabel durch unterschiedlich hohe Parkebenen
- Mehrreihige Anordnung möglich (siehe Seite 8)
- Pallettschnellwechselsystem = kurze Zugriffszeiten
- Integrierte Drehvorrichtung möglich (Option)

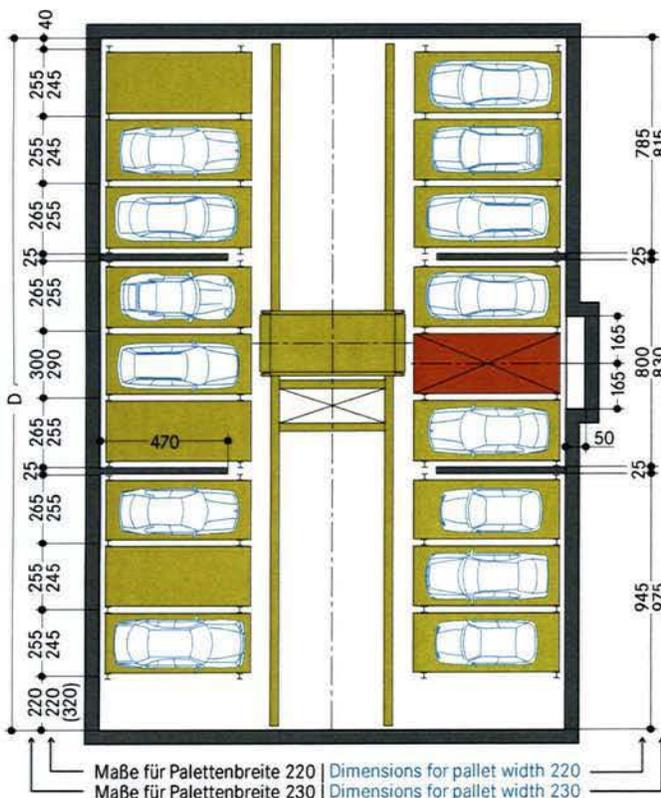
- Parking system for 2-8 parking levels as shaft variant
- Linear expansion variable (see dimension D on table below)
- Variable arrangement of transfer area (see page 8)
- Vehicles of various height can be parked thanks to parking levels of various height
- Multi-row arrangement (see page 8)
- Quick-change pallet system = short access times
- Integrated turning device possible (option)



Übergabebereich (Maße ohne Drehvorrichtung)
Transfer area (dimensions without turning device)



Parkebenen Parking levels	Maß A für 160 cm hohe Pkw mit 1 Parkebene für 200 cm hohe Pkw Dimension A for 160 cm high cars with 1 parking level for 200 cm high cars
2	606
3	799
4	992
5	1205
6	1398
7	1591
8	1784



Pkw-Höhe Car height	Maß B Dimension B	Maß C Dimension C
160	193	213
200	233	253

Stellplätze pro Ebene* Parking spaces per level*	Palettenbreite 230 Rasterbreite 255 cm Pallet width 230 grid width 255 cm	Palettenbreite 220 Rasterbreite 245 cm Pallet width 220 grid width 245 cm
	Länge D** Length D**	Länge D** Length D**
12	1880	1820
14	2180	2110
16	2435	2355
18	2690	2600
20	2990	2890
22	3245	3135
24	3500	3380
26	3800	3670
28	4055	3915
30	4310	4160
32	4610	4450
34	4865	4695
36	5120	4940
38	5420	5230
40	5675	5475
42	5930	5720

() Maße in Klammern beziehen sich auf ein Regalbediengerät mit Drehvorrichtung.

() Dimensions in brackets for storage and retrieval unit with turning device

Für die Steuerung muss in der Nähe des Übergabebereichs ein Raum (mind. Länge 240 cm x Breite 160 cm x Höhe 220 cm) zur Verfügung stehen.

For the control unit, space (at least length 240 cm x width 160 cm x height 220 cm) must be available near the transfer area.

* Stellplatzanzahl verringert sich je nach Anzahl und Anordnung der Vertikalförderer

** Alle angegebenen Maße der Länge D sind nur ein Beispiel und sind abhängig von der Breite und Anzahl der benötigten Wandscheiben

* The number of parking spaces depends on number and arrangement of lifts

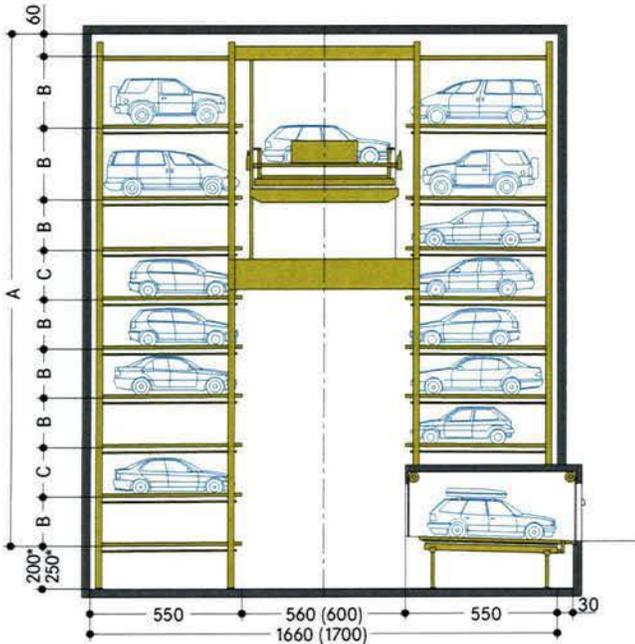
** All specified dimensions of length D are examples only and depend on width and number of partitions walls

Maße in cm
Dimensions in cm

Multiparker 720 | Turm-System für 4–20 Parkebenen | Tower system for 4–20 parking levels

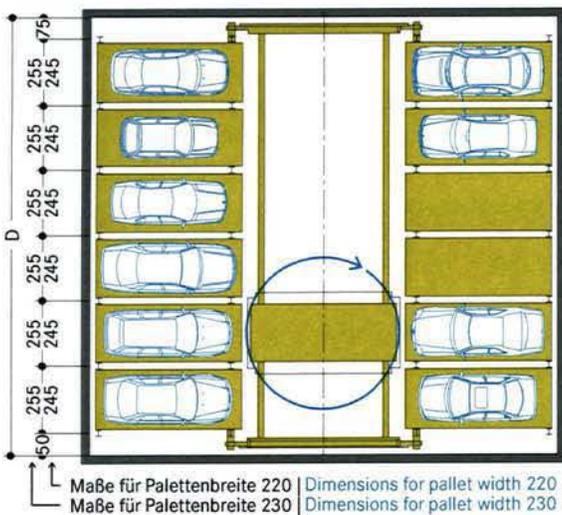
- Parksystem für 4–20 Parkebenen Turmvariante
- Längenausdehnung begrenzt auf max. 6 Stellplätze je Reihe
- Anordnung des Übergabebereichs variabel (siehe Seite 8)
- Fahrzeughöhe variabel durch unterschiedlich hohe Parkebenen
- Mehrreihige Anordnung möglich (siehe Seite 8)
- Pallettschnellwechselsystem = kurze Zugriffszeiten
- Integrierte Drehvorrichtung möglich (Option)

- Parking system for 4–20 parking levels as tower variant
- Linear expansion limited to max. 6 parking bays per row
- Variable arrangement of transfer area (see page 8)
- Vehicles of various height can be parked thanks to parking levels of various height
- Multi-row arrangement (see page 8)
- Quick-change pallet system = short access times
- Integrated turning device possible (option)



- * Maß 200 cm gilt für 6 bzw. 8 Stellplätze je Ebene
Maß 250 cm gilt für 10 bzw. 12 Stellplätzen je Ebene
- * Dimension 200 cm apply to 6 or 8 parking spaces per level
Dimension 250 cm apply to 10 or 12 parking spaces per level

- () Maße in Klammern beziehen sich auf ein Regalbediengerät mit Drehvorrichtung.
- () Dimensions in brackets for storage and retrieval unit with turning device

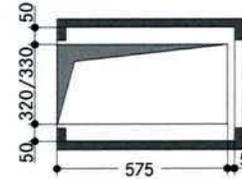


Maße für Palettenbreite 220 | Dimensions for pallet width 220
Maße für Palettenbreite 230 | Dimensions for pallet width 230

Für die Steuerung muss in der Nähe des Übergabebereichs ein Raum (mind. Länge 240 cm x Breite 160 cm x Höhe 220 cm) zur Verfügung stehen.

For the control unit, space (at least length 240 cm x width 160 cm x height 220 cm) must be available near the transfer area.

Übergabebereich (Maße ohne Drehvorrichtung)
Transfer area (dimensions without turning device)



Parkebenen Parking levels	Maß A für 160 cm hohe Pkw Dimension A for 160 cm high cars	Maß A mit 2 Parkebenen für 200 cm hohe Pkw Dimension A with 2 parking levels for 200 cm high cars
4	832	912
5	1045	1125
6	1238	1318
7	1431	1511
8	1624	1704
9	1817	1897
10	2030	2110
11	2223	2303
12	2416	2496
13	2609	2689
14	2802	2882
15	3015	3095
16	3208	3288
17	3401	3481
18	3594	3674
19	3787	3867
20	4000	4080

Pkw-Höhe Car height	Maß B Dimension B	Maß C Dimension C
160	193	213
200	233	253

Stellplätze pro Ebene** Parking spaces per level**	Palettenbreite 230 Rasterbreite 255 cm Pallet width 230 grid width 255 cm Länge D Length D	Palettenbreite 220 Rasterbreite 245 cm Pallet width 220 grid width 245 cm Länge D Length D
6	890	860
8	1145	1105
10	1400	1350
max. 12	1655	1595

** Stellplatzanzahl verringert sich je nach Anzahl und Anordnung des Übergabebereichs

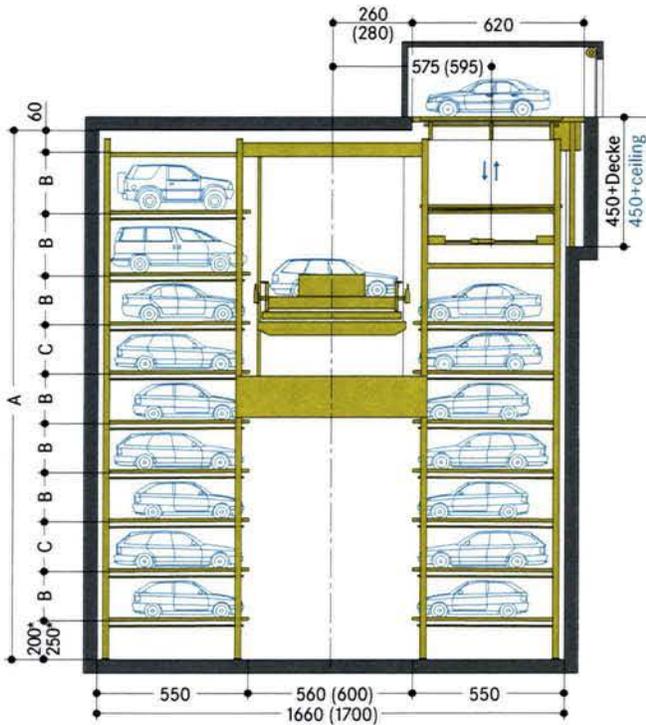
** The number of parking spaces depends on number and arrangement of transfer areas

Maße in cm
Dimensions in cm

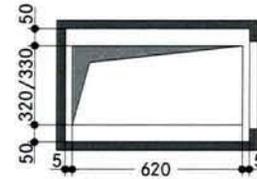
Multiparker 720 | Schacht-System | Shaft system

- Längenausdehnung begrenzt auf max. 6 Stellplätze je Reihe
- Anordnung des Übergabebereichs variabel (siehe Seite 8)
- Fahrzeughöhe variabel durch unterschiedlich hohe Parkebenen
- Mehrreihige Anordnung möglich (siehe Seite 8)
- Pallettschnellwechselsystem = kurze Zugriffszeiten
- Integrierte Drehvorrichtung möglich (Option)

- Linear expansion limited to max. 6 parking bays per row
- Variable arrangement of transfer area (see page 8)
- Vehicles of various height can be parked thanks to parking levels of various height
- Multi-row arrangement (see page 8)
- Quick-change pallet system = short access times
- Integrated turning device possible (option)



Übergabebereich (Maße ohne Drehvorrichtung)
Transfer area (dimensions without turning device)



- * Maß 200 cm gilt für 6 bzw. 8 Stellplätze je Ebene
Maß 250 cm gilt für 10 bzw. 12 Stellplätzen je Ebene
- * Dimension 200 cm apply to 6 or 8 parking spaces per level
Dimension 250 cm apply to 10 or 12 parking spaces per level

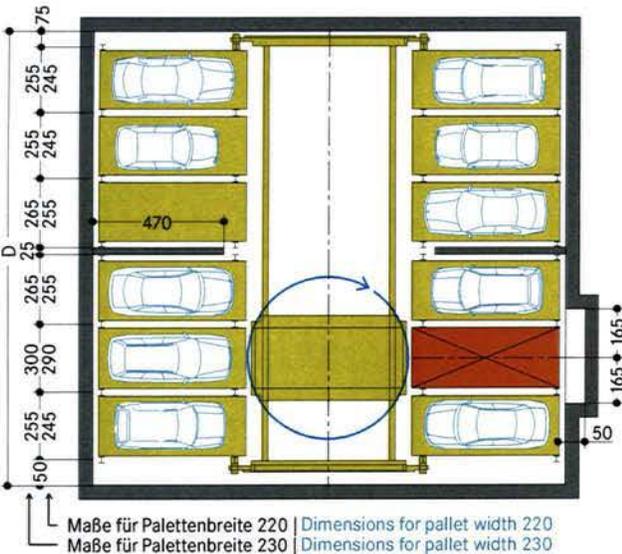
Parkebenen Parking levels	Maß A** für 160 cm hohe Pkw Dimension A** for 160 cm high cars	Maß A** mit 2 Parkebenen für 200 cm hohe Pkw Dimension A** with 2 parking levels for 200 cm high cars
1	453	-
2	646	726
3	839	919
4	1032	1112
5	1245	1325
6	1438	1518
7	1631	1711
8	1824	1904
9	2017	2097
10	2230	2310
11	2423	2503
12	2616	2696

** Alle Maße gelten für 6 bzw. 8 Stellplätze je Ebene und erhöhen sich um 50 cm bei 10 bzw. 12 Stellplätzen je Ebene.

** All mentioned dimensions apply to 6 or 8 parking spaces per level. If 10 or 12 parking spaces per level are planned, these dimensions are to be increased by 50 cm.

- () Maße in Klammern beziehen sich auf ein Regalbediengerät mit Drehvorrichtung.
- () Dimensions in brackets for storage and retrieval unit with turning device

Pkw-Höhe Car height	Maß B Dimension B	Maß C Dimension C
160	193	213
200	233	253



Stellplätze pro Ebene*** Parking spaces per level***	Palettenbreite 230 Pallet width 230	Palettenbreite 220 Pallet width 220
	Länge D**** Length D****	Länge D**** Length D****
6	935	905
8	1235	1195
10	1490	1440
max. 12	1745	1685

*** Stellplatzanzahl verringert sich je nach Anzahl und Anordnung des Übergabebereichs

**** Alle angegebenen Maße der Länge D sind nur ein Beispiel und sind abhängig von der Breite und Anzahl der benötigten Wandscheiben

*** The number of parking spaces depends on number and arrangement of transfer areas

**** All specified dimensions of length D are examples only and depend on width and number of partitions walls

Maße in cm
Dimensions in cm

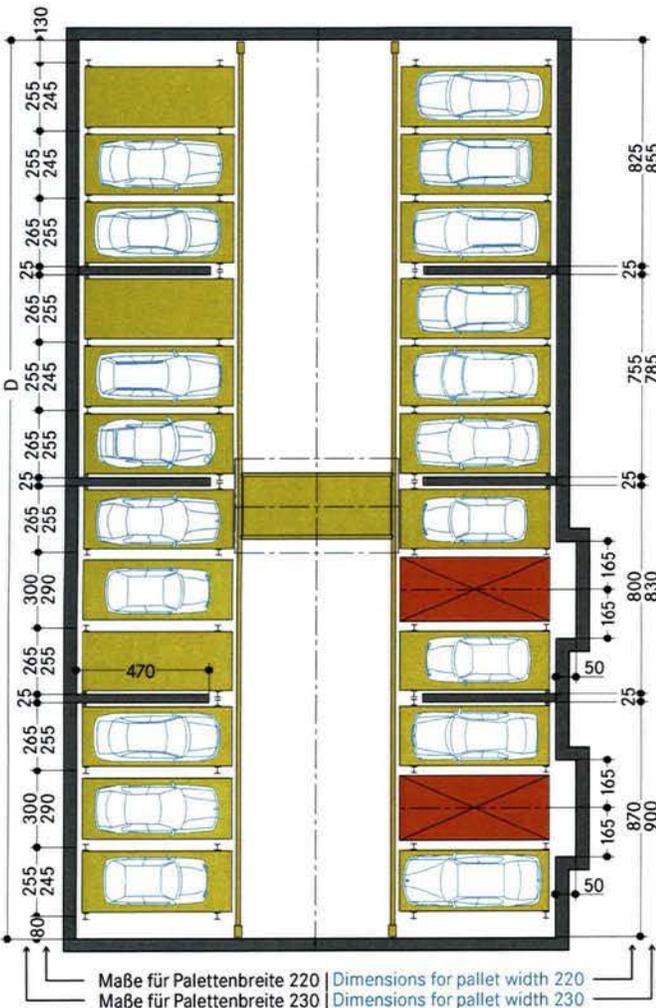
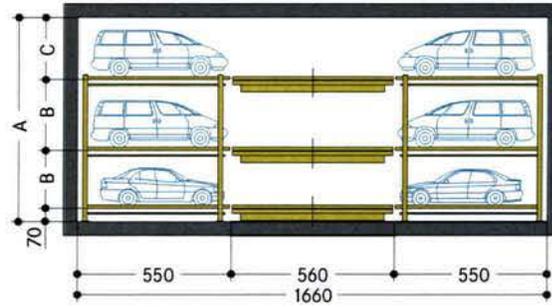
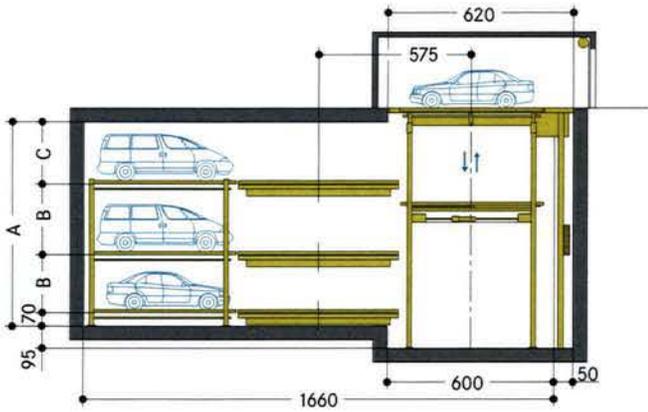
Für die Steuerung muss in der Nähe des Übergabebereichs ein Raum (mind. Länge 240 cm x Breite 160 cm x Höhe 220 cm) zur Verfügung stehen.

For the control unit, space (at least length 240 cm x width 160 cm x height 220 cm) must be available near the transfer area.

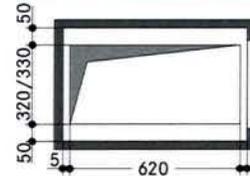
Multiparker 730 | Shuttle/Lift-System mit Stahlbau | Shuttle/Lift system with steel structure

- Parksystem für große Stellplatzanzahl bei gleichzeitig hohem Durchsatz
- In jeder Parkebene separat arbeitender Verteilwagen
- Jede Parkebene durch Vertikalförderer von der Ein-/Ausfahrtsebene aus erschlossen
- Längenausdehnung variabel (siehe Maß D auf untenstehender Tabelle)
- Fahrzeughöhe variabel durch unterschiedlich hohe Parkebenen
- Mehrreihige Anordnung möglich (siehe Seite 8)
- Pallettschnellwechselsystem = kurze Zugriffszeiten
- Integrierte Drehvorrichtung im Übergabebereich möglich (Option)

- Parking system for a high number of parking spaces and a high throughput
- Separate shuttle in each parking level
- Each parking level connected with entrance/exit level by lifting unit
- Linear expansion variable (see dimension D on table below)
- Vehicles of various height can be parked thanks to parking levels of various height
- Multi-row arrangement (see page 8)
- Quick-change pallet system = short access times
- Integrated turning device in the transfer area possible (option)



Übergabebereich (Maße ohne Drehvorrichtung)
Transfer area (dimensions without turning device)



Maße in cm
Dimensions in cm

Parkebenen Parking levels	Maß A für 160 cm hohe Pkw Dimension A for 160 cm high cars	Maß A mit 1 Parkebene für 200 cm hohe Pkw Dimension A with 2 parking levels for 200 cm high cars
2	465	505
3	690	730
4	915	955
5	1140	1180

Pkw-Höhe Car height	Maß B Dimension B	Maß C Dimension C
160	225	170
200	265	210

Stellplätze pro Ebene* Parking spaces per level*	Palettenbreite 230 Pallet width 230		Palettenbreite 220 Pallet width 220	
	Länge D** Length D**		Länge D** Length D**	
22	3495	3375		
24	3795	3665		
26	4050	3910		
28	4305	4155		
30	4605	4445		
32	4860	4690		
34	5115	4935		
36	5415	5235		
38	5670	5470		
40	5925	5715		
42	6225	6005		
44	6480	6250		
46	6735	6495		
48	7035	6785		
50	7290	7030		

* Stellplatzanzahl verringert sich je nach Anzahl und Anordnung des Vertikalförderers

** Alle angegebenen Maße der Länge D sind nur ein Beispiel und sind abhängig von der Breite, Anzahl der benötigten Wandscheiben und Anzahl der Vertikalförderer

* The number of parking spaces depends on number and arrangement of the lift

** All specified dimensions of length D are examples only and depend on width, number of partitions walls and number of lifts

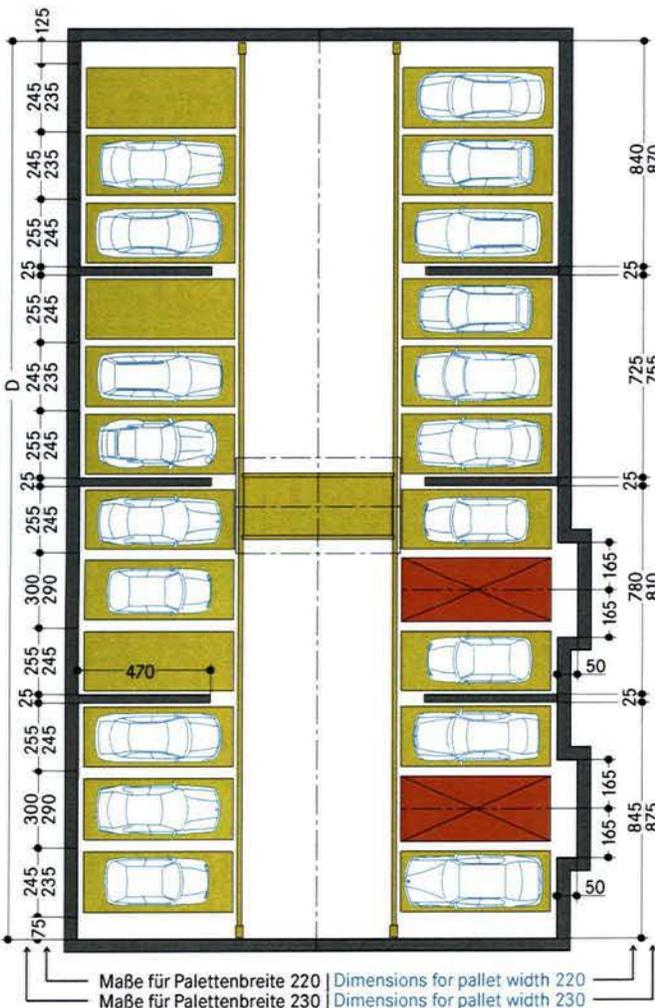
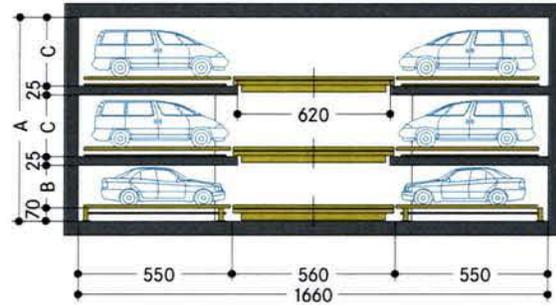
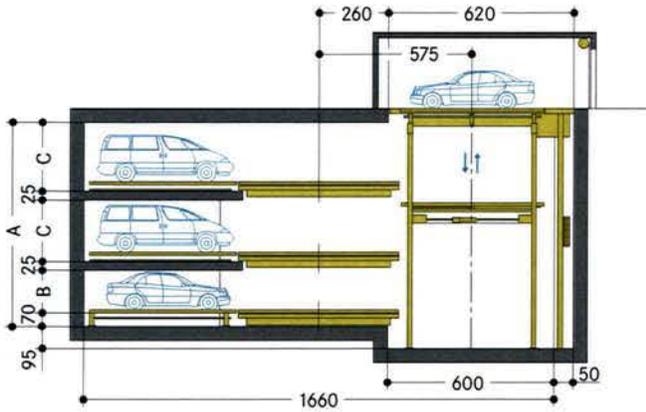
Für die Steuerung muss in der Nähe des Übergabebereichs ein Raum (mind. Länge 240 cm x Breite 160 cm x Höhe 220 cm) zur Verfügung stehen.

For the control unit, space (at least length 240 cm x width 160 cm x height 220 cm) must be available near the transfer area.

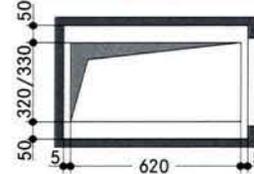
Multiparker 730 | Shuttle/Lift-System mit Betonzwischendecken | Shuttle/Lift system with intermediate ceiling

- Parksystem für große Stellplatzanzahl bei gleichzeitig hohem Durchsatz
- In jeder Parkebene separat arbeitender Verteilwagen
- Jede Parkebene durch Vertikalförderer von der Ein-/Ausfahrtsebene erschlossen
- Längenausdehnung variabel (siehe Maß D auf untenstehender Tabelle)
- Fahrzeughöhe variabel durch unterschiedlich hohe Parkebenen
- Mehrreihige Anordnung möglich (siehe Seite 8)
- Pallettenschnellwechselsystem = kurze Zugriffszeiten
- Integrierte Drehvorrichtung im Übergabebereich möglich (Option)

- Parking system for a high number of parking spaces and a high throughput
- Separate shuttle in each parking level
- Each parking level connected with entrance/exit level by lifting unit
- Linear expansion variable (see dimension D on table below)
- Vehicles of various height can be parked thanks to parking levels of various height
- Multi-row arrangement (see page 8)
- Quick-change pallet system = short access times
- Integrated turning device in the transfer area possible (option)



Übergabebereich (Maße ohne Drehvorrichtung)
Transfer area (dimensions without turning device)



Maße in cm
Dimensions in cm

Parkebenen Parking levels	Maß A für 160 cm hohe Pkw Dimension A for 160 cm high cars	Maß A mit 1 Parkebene für 200 cm hohe Pkw Dimension A with 2 parking levels for 200 cm high cars
2	471	511
3	704	744
4	937	977
5	1170	1210

Pkw-Höhe Car height	Maß B Dimension B	Maß C Dimension C
160	168	208
200	208	248

Stellplätze pro Ebene* Parking spaces per level*	Palettenbreite 230 Pallet width 230		Palettenbreite 220 Pallet width 220	
	Länge D** Length D**	Länge D** Length D**	Länge D** Length D**	Länge D** Length D**
22	3385	3265	3265	3145
24	3675	3545	3545	3425
26	3920	3780	3780	3660
28	4165	4015	4015	3895
30	4455	4295	4295	4175
32	4700	4530	4530	4410
34	4945	4765	4765	4645
36	5235	5045	5045	4925
38	5480	5280	5280	5160
40	5725	5515	5515	5395
42	6015	5795	5795	5675
44	6260	6030	6030	5910
46	6505	6265	6265	6145
48	6795	6545	6545	6425
50	7040	6780	6780	6660

Für die Steuerung muss in der Nähe des Übergabebereichs ein Raum (mind. Länge 240 cm x Breite 160 cm x Höhe 220 cm) zur Verfügung stehen.
For the control unit, space (at least length 240 cm x width 160 cm x height 220 cm) must be available near the transfer area.

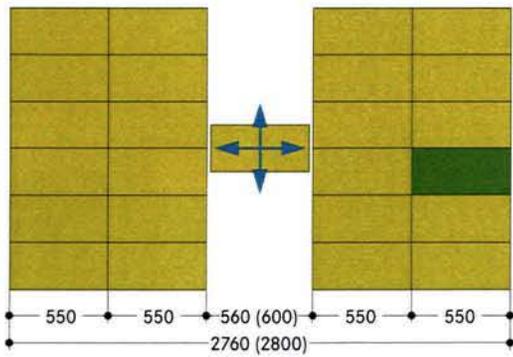
* Stellplatzanzahl verringert sich je nach Anzahl und Anordnung des Vertikalförderers

** Alle angegebenen Maße der Länge D sind nur ein Beispiel und sind abhängig von der Breite, Anzahl der benötigten Wandscheiben und Anzahl der Vertikalförderer

* The number of parking spaces depends on number and arrangement of the lift

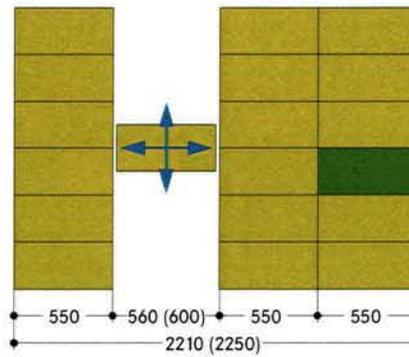
** All specified dimensions of length D are examples only and depend on width, number of partitions walls and number of lifts

Mehrfelhige Anordnung | Multi-row arrangement



Durch die Möglichkeit einer mehrreihigen Anordnung beim Multiparker kann vorhandener Raum bzw. Grundstücksfläche optimal ausgenutzt und speziell bei der Schachtvariante Tiefbaukosten eingespart werden.

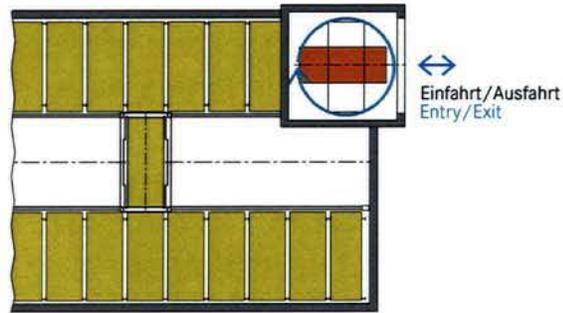
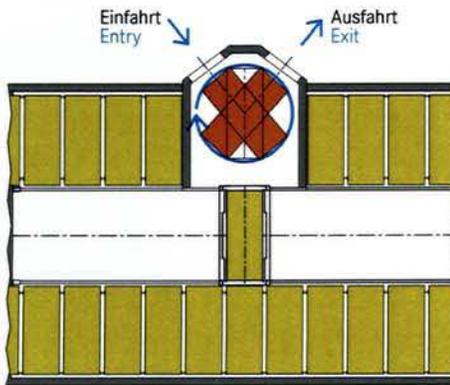
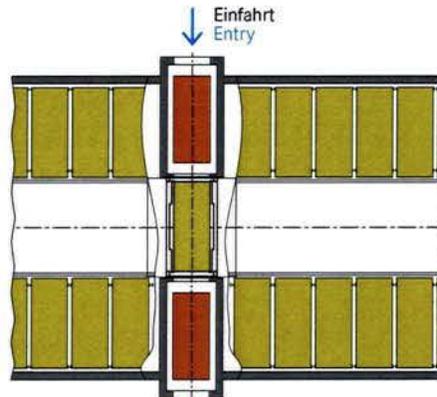
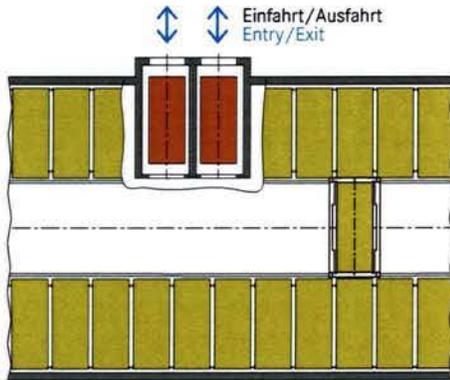
() Maße in Klammern beziehen sich auf ein Regalbediengerät mit Drehvorrichtung.



The multi-row arrangement allows an optimum utilisation of the available space and/or land area and saves civil engineering costs, particularly with the shaft variant.

() Dimensions in brackets for storage and retrieval unit with turning device

Anordnungsmöglichkeiten Übergabebereich | Possible arrangements of transfer area



Die Anordnung des Übergabebereichs ist sehr flexibel. Die optimale Anordnung ist immer in der Systemmitte, da die Zugriffszeiten dann am kürzesten sind. Je nach Bedarf und Nutzungsart kann die Anzahl der Übergabebereiche angepasst werden.

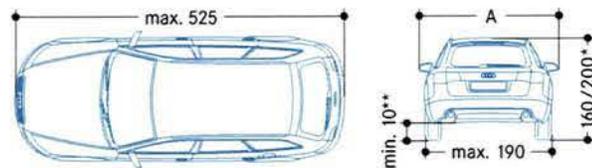
The arrangement of the transfer area is flexible. The optimum arrangement is always in the system center which has the shortest access times. Depending on the need and kind of utilisation, the number of the transfer areas can be adapted.

Wartungszugang und Schaltschrank | Maintenance access and switch cabinet

Ein Wartungszugang zur Anlage und ein Schaltschrankraum (mind. 2 x 5 m) sind notwendig (Rücksprache mit WÖHR erforderlich).

Maintenance access as well a room for the switch cabinet (min. 2 x 5 m) is required (please check with WÖHR).

Max. Fahrzeugabmessungen | Max. car dimensions



Palettenbreite Pallet width	Maß A Dimension A
220	210
230	220

Fahrzeuggewicht max. 2500 kg, Radlast max. 625 kg.

Die hier genannten Fahrzeugmaße gelten für die angegebenen Einbaumaße. Andere Fahrzeugabmessungen sind bei entsprechenden Änderungen der Baumaße möglich.

Car weight max. 2500 kg, wheel load max. 625 kg.

These car dimensions are valid for the building dimensions as mentioned. If building dimensions are adjusted, other car dimensions are possible.

* Höhe über alles (Pkw mit Dachgepäckträgern, Dachreling, Antennen etc. dürfen die angegebene Höhe nicht überschreiten).

* Overall height (cars with roof racks, roof rails, antennas etc. should not exceed the mentioned overall height).

** Bodenfreiheit

** Clearance underneath the gear case