



# LTL Tool Tower Solutions

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apfel

Factory equipment that fits



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Tool Tower Solutions  
by Apfel



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## LTL tool tower solutions save time, space and money

Thanks to their complete utilization of available room heights and the unique tray system of 25 mm grid spacing, Apfel tool towers provide maximum stock capacities with minimum footprints.

With our state-of-the-art technology you store a myriad of goods at minimum space requirements to increase the efficiency of your company's facilities.

Our fully automated high-bay warehouse offers numerous benefits to facilitate the daily work in your business premises. By avoiding unnecessary movements, it makes an investment that pays for itself after only a short time.

Reduce your personnel expenses and eliminate non-productive operation time searching for and rearranging stored items. With our "goods-to-person" principle there is no need to haul your items laboriously. They reach you with just the press of a button.

When it comes to terms of safety, the tool tower can stand up to any comparison with conventional storing methods. Operational accidents are virtually eliminated with no longer needed ladders or forklifts and falling objects are a thing of the past. Furthermore, the improved ergonomics preserves the health of your employees.



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### Benefit: time saving

Items are automatically delivered to the operator, eliminating wasted walk and search time.



### Benefit: height utilization

The 25 mm incremental tray storage of all items reclaims up to 85% of otherwise wasted floor space.



### Benefit: ergonomics

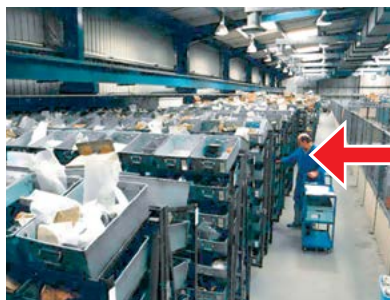
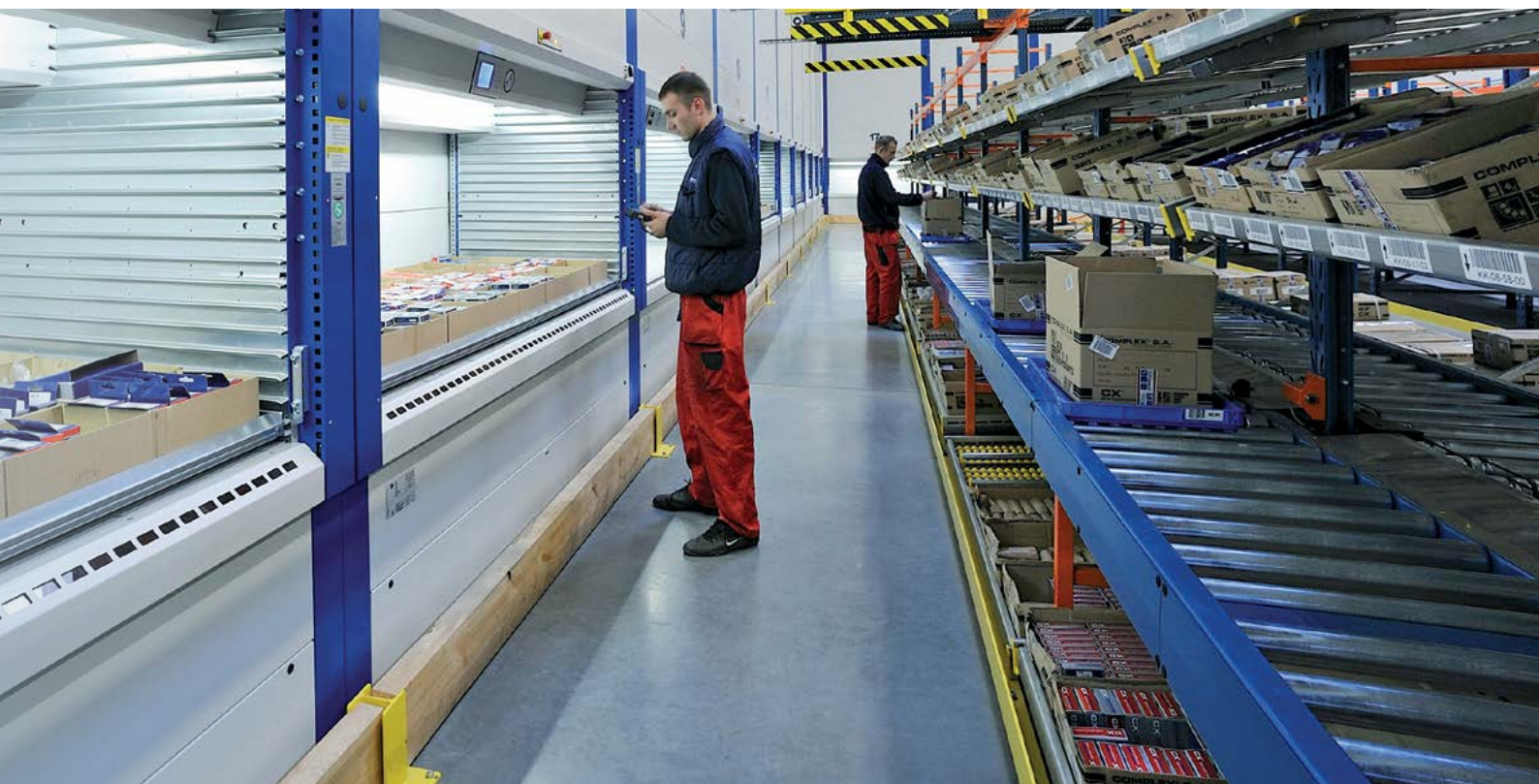
No need for employees to bend, reach oder climb for items. The LTL tool tower works on a "goods-to-person" principle, delivering items automatically to an ergonomically positioned access opening.

Trays can also be delivered to each user's specific working height.



Please contact us via phone, fax or e-mail.  
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### Benefit: security

Controlled access to specific trays tracks which user accessed which tray. The LTL is equipped with shutter doors for increased safety of operators and protection of the stored items. Noise levels are also considerably decreased.



### Benefit: flexibility

Each tray can be programmed according to operating parameters. Further options include slow speeds for fragile goods, storage of frequently required goods close to the "golden zone", access rights for trays, storage of trays with different weight capacities in one single unit, and much more.



### Benefit: modularity

Modular design allows for heights to be changed quickly and inexpensively to meet changing facilities or workflow.



Get all basic data such as weight, storage capacity, space occupancy, etc. calculated and edited through our configurator. We gladly arrange your individual tray layout for optimised utilisation and maximum efficiency.





Please check your floor load capacity!

## The storage principle

The modular LTL tool tower is an enclosed system in which the trays are stored vertically in the front and rear of the unit.

The extractor device located in the centre of the tower delivers the trays with the stored items automatically to the access opening at the push of a button.

With each tray movement the internal management system monitors the actual weight and the loading height by different sensors to guarantee the perfect storage position and to prevent the overloading of the individual tray or the whole device.

Thanks to this intelligent technology, different height objects can be effectively stored in one device, from the smallest screw to the bulkiest workpiece.

For maximum protection of the stored goods and the operators, each device is equipped with a number of security elements.



Automatically driven shutter doors for increased safety and protection of stock plus decreased noise levels



The extractor device delivers the requested tray to the access opening or its storage location at fast speeds.



The height sensors check the actual loading level of the tray automatically by each tray movement.



The integrated safety light curtain prevents personal injury and machine damage caused by operating errors.



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## LTL – the fully equipped tool tower solution by Apfel

Even the basic versions of our LTL tool tower solutions offer a number of technical features that other suppliers only provide as optionals against surcharge.

Inspection windows in the shutter doors and in both side panels give you full visual control of the moving and placement procedures.

The all around maintenance flaps mounted underneath the top cover, the extra high front drawer as well as the additional service door on the rear of the tool tower enable easy access during the installation and maintenance in case of breakdown.

A lowered minimum output height of 733 mm allows the individually adjustable ergonomic working position of the trays.

all around  
maintenance flaps

500 mm  
cover plates

short  
delivery  
times

stabilizing  
cross struts

Available  
in heights  
from 2.5 m  
to 12 m  
in any  
500 mm  
increment

## The benefits of the Apfel LTL tool tower solutions



All around maintenance flaps underneath the top cover for easy access to the front, rear and both lateral parts of the device



Pre-equiipped for all mounting positions of the control display: in an external housing on the left or right as well as integrated in the frontplate

RAL 9010

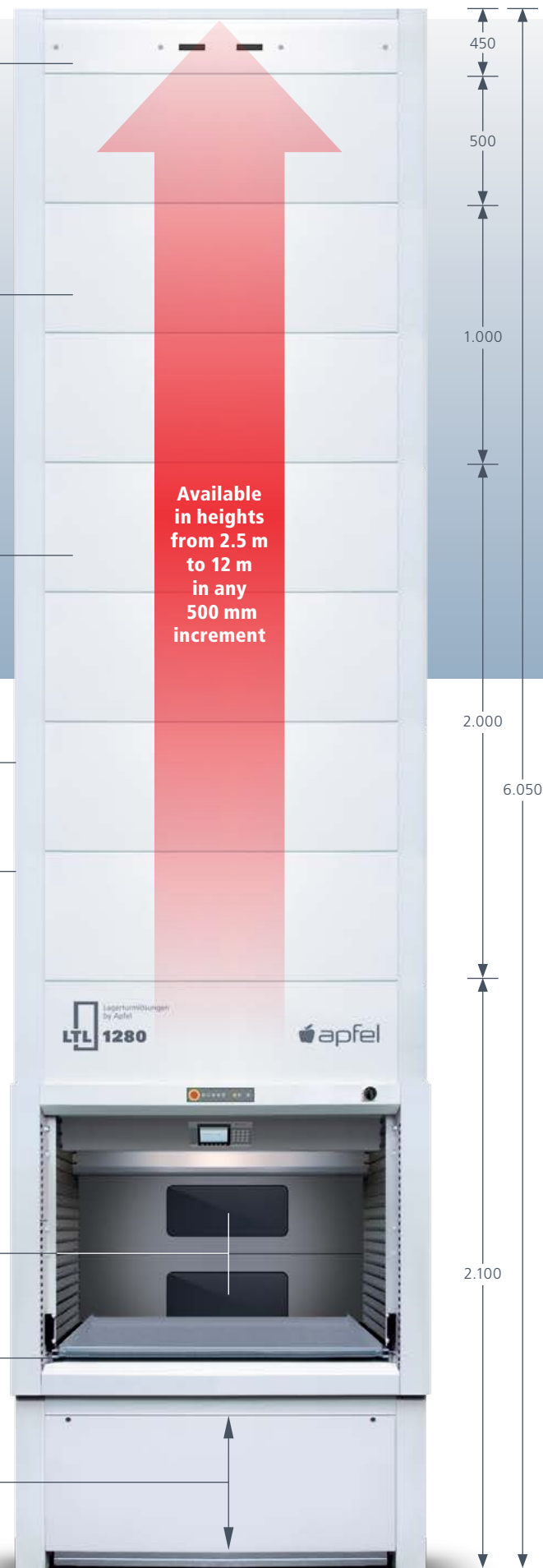
Overall height up  
to 12 m without  
wall mounting  
due to 2.000 mm  
frame components

Max.  
66t  
total weight

shutter doors  
with windows

ergonomic output  
height of 733 mm  
instead of 833 mm

extended front  
drawer height



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## Advanced options due to the superior technology of Apfel

Based on their modular structure and their construction with detachable panels LTL tool towers can be easily installed with little effort and expense in almost every location.

Integrated cross struts ensure the safe setup of self-supporting devices up to 12 m of height.

Just a few centimeters of distance to the ceiling is enough for installation, therefore every last inch of space is utilized. Even special mounting conditions with limited space does not present a problem.

The tower's back and side can be placed directly against the wall. Nevertheless the safe and unrestricted access to all mechanical components and stored goods, even in the case of a breakdown, remains possible.

## LTL fitting situations for optimal space utilisation



The additional service door on the back provides easy access to the rear mechanical parts.



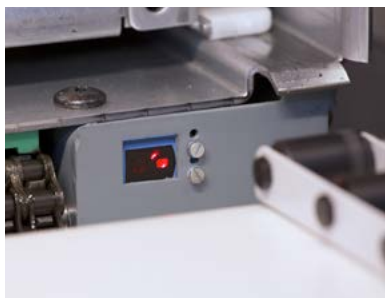
The inspection windows on both sides of the tower allow external control of trays and extractor device.



The modular frame components of 2.000, 1.000 or 500 mm length facilitate an easy height increase



The integrated inspection windows of the shutter doors offer the view on the movement of tray and extractor device.



The built-in retro-reflective sensor for the tray detection saves maintenance costs and lowers installation effort.



Integrated in the front drawer's control unit, the electrical socket provides easy grid access for servicing equipment.



Get all basic data such as weight, storage capacity, space occupancy, etc. calculated and edited through our configurator. We gladly arrange your individual tray layout for optimised utilisation and maximum efficiency.

Lagerturmlösungen  
by Apfel  
**LTL 2480**

apfel



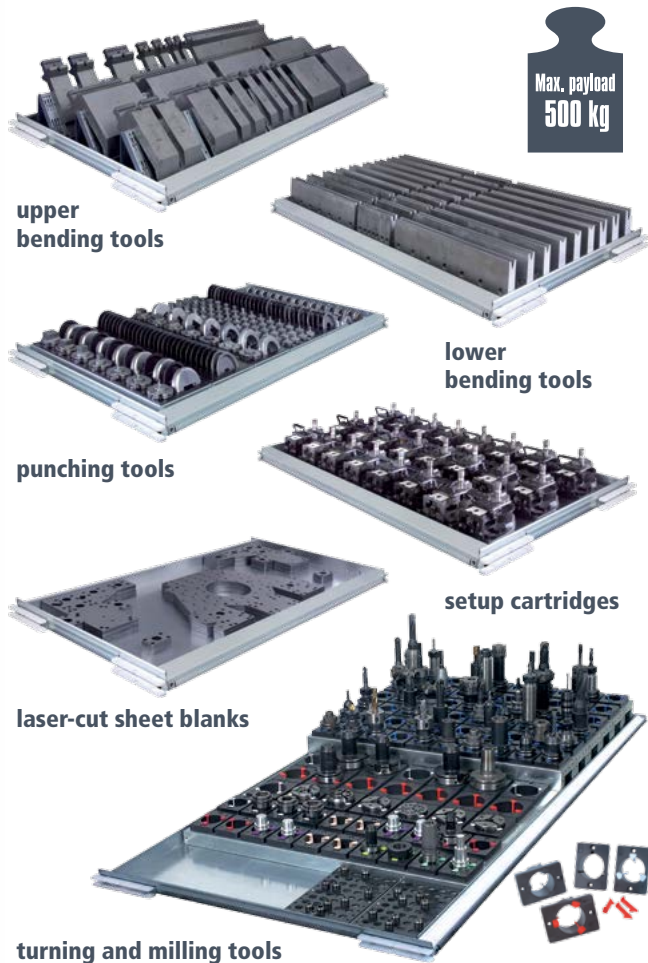
Tool Tower Solutions  
by Apfel



## Easy tray removal with the retractable pull-out rack

With our optional pull-out rack you easily remove whole trays including the loaded goods of the tool tower.

All LTL tool tower versions can be optionally equipped with slide rollers for the mounting of the rack.



## The transport cart for safe tray removal



With our special transport cart you easily move the tray with its load to and from the tool tower. Thanks to the slide rollers integrated in all LTL versions you are able to pull out the tray from the access opening and secure it to the cart to maneuver your goods in a safe and manageable way.

The easy-to-handle carts with adjustable working height are available for all tray sizes and feature four swivel castors with brakes for a trouble-free handling.



Get all basic data such as weight, storage capacity, space occupancy, etc. calculated and edited through our configurator. We gladly arrange your individual tray layout for optimised utilisation and maximum efficiency.

10.000  
9.500  
9.000  
8.500  
8.000  
7.500  
7.000  
6.500  
6.000  
5.500

Our starter  
model with  
just 3,65m<sup>2</sup>  
floor space

## LTL 1260 – heavy loads on the smallest of floor spaces

On its trays with a payload of 500 kg and a usable area of 0,76 m<sup>2</sup> the tool tower LTL 1260 stores large amounts of tools, high stacks of raw materials as well as all kinds of heavy goods.

The tray depth of 610 mm enables easy and ergonomic access to all stored items. Optional hoists are available to allow the safe and trouble-free displacement of heavyweight workpieces or materials by crane or forklift.

The automatically controlled filling height, the monitored weight of the individual tray and the complete charge of the device ensure the maximum safety of movement and storage.

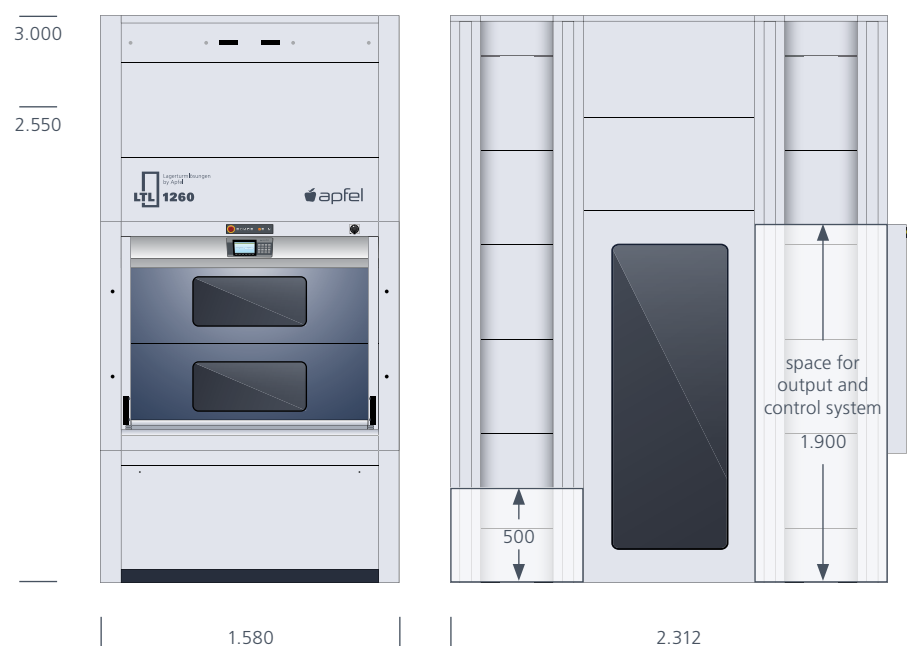
Due to their completely modular construction the tool towers are available in heights from 3 m to over 10 m in any 500 mm increment.

### Example calculations of the total storage space at 300 mm tray distance (upper bending tools)

<b>LTL 1260/3000</b>	3.000 mm height (11 trays of 0,76 m <sup>2</sup> ) = <b>total storage space 8,36 m<sup>2</sup></b>	storage space : floor space <b>2,29 : 1</b>
<b>LTL 1260/5000</b>	5.000 mm height (25 trays of 0,76 m <sup>2</sup> ) = <b>total storage space 19,00 m<sup>2</sup></b>	storage space : floor space <b>5,21 : 1</b>
<b>LTL 1260/10000</b>	10.000 mm height (58 trays of 0,76 m <sup>2</sup> ) = <b>total storage space 44,08 m<sup>2</sup></b>	storage space : floor space <b>12,08 : 1</b>

### Example calculations of the total storage space at 150 mm tray distance (lower bending tools)

<b>LTL 1260/3000</b>	3.000 mm height (23 trays of 0,76 m <sup>2</sup> ) = <b>total storage space 17,48 m<sup>2</sup></b>	storage space : floor space <b>4,79 : 1</b>
<b>LTL 1260/5000</b>	5.000 mm height (50 trays of 0,76 m <sup>2</sup> ) = <b>total storage space 38,00 m<sup>2</sup></b>	storage space : floor space <b>10,41 : 1</b>
<b>LTL 1260/10000</b>	10.000 mm height (116 trays of 0,76 m <sup>2</sup> ) = <b>total storage space 88,16 m<sup>2</sup></b>	storage space : floor space <b>24,15 : 1</b>



Max.  
**66t**  
total weight

Please check  
your floor  
load capacity!

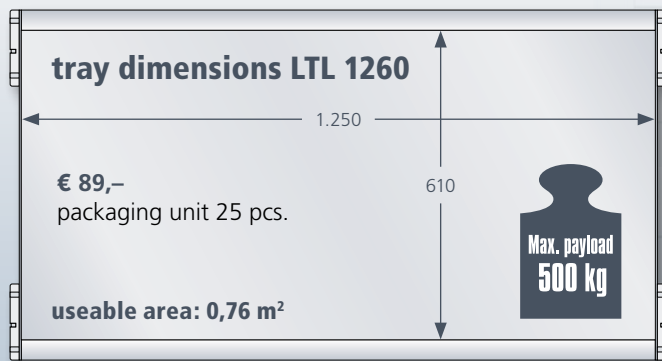
floor space:  
1.580 x 2.312 mm  
(3,65 m<sup>2</sup>)

starting from  
**29.500,-**  
height extension  
**1.980,-**  
per meter



Please contact us via phone, fax or e-mail.  
For any request or order you are welcome to send us a photo via your smartphone.





LTL tool tower solutions are available at short notice in the following colors:

 white RAL 9010

**Available  
in heights  
from 2.5 m  
to 12 m  
in any  
500 mm  
increment**

## Maximum storage capacity for your upper and lower bending tools

Equipped with our tool carriers (see pages 29 - 30) the LTL 1260 stores huge amounts of upper and lower bending tools on a floor space of only around 3,6 m<sup>2</sup> with a front width of just 1.580 mm.

### Example calculations

3.000 mm height

11 trays of approx. 3,6 m upper bending tools  
or 23 trays of approx. 11 m lower bending tools

**Total storage capacity**

**approx. 39 m upper bending tools**

**or approx. 253 m lower bending tools**

5.000 mm height

25 trays of approx. 3,6 m upper bending tools  
or 50 trays of approx. 11 m lower bending tools

**Total storage capacity**

**approx. 90 m upper bending tools**

**or approx. 550 m lower bending tools**

10.000 mm height

58 trays of approx. 3,6 m upper bending tools  
or 116 trays of approx. 11 m lower bending tools

**Total storage capacity**

**approx. 208 m upper bending tools**

**or approx. 1.276 m lower bending tools**

The example calculations are based on a tray to tray distance of at least 300 mm for upper bending tools and at least 150 mm for lower bending tools.



Get all basic data such as weight, storage capacity, space occupancy, etc. calculated and edited through our configurator. We gladly arrange your individual tray layout for optimised utilisation and maximum efficiency.

10.000  
9.500  
9.000  
8.500  
8.000  
7.500  
7.000  
6.500  
6.000  
5.500

Our  
bestseller  
with 1.580 mm  
front width

## LTL 1280 – maximum storage capacity at minimum front width

Thanks to its efficient use of room height even in limited space conditions, the Apfel tool tower offers an immense storage capacity and a level of operating comfort that cannot be reached by any conventional technology.

The trays with a payload of 500 kg and a usable space of approx. 1 m<sup>2</sup> create numerous possibilities for the safe and material-friendly storage of many heavy goods in just one single enclosure.

In automated production processes with a high rate of handling tools, raw materials or semi-finished parts the LTL 1280 suits perfectly as an intelligent storage device for various industrial and technical applications.

Due to their completely modular construction the tool towers are available in heights from 3 m to over 10 m in any 500 mm increment.

### Example calculations of the total storage space at a tray to tray distance of 100 mm

<b>LTL 1280/3000</b>	3.000 mm height (35 trays of 1,01 m <sup>2</sup> ) = <b>total storage space 35,35 m<sup>2</sup></b>	storage space : floor space <b>7,67 : 1</b>
<b>LTL 1280/4000</b>	4.000 mm height (55 trays of 1,01 m <sup>2</sup> ) = <b>total storage space 55,55 m<sup>2</sup></b>	storage space : floor space <b>12,05 : 1</b>
<b>LTL 1280/5000</b>	5.000 mm height (75 trays of 1,01 m <sup>2</sup> ) = <b>total storage space 75,75 m<sup>2</sup></b>	storage space : floor space <b>16,43 : 1</b>
<b>LTL 1280/6000</b>	6.000 mm height (95 trays of 1,01 m <sup>2</sup> ) = <b>total storage space 95,95 m<sup>2</sup></b>	storage space : floor space <b>20,81 : 1</b>
<b>LTL 1280/7000</b>	7.000 mm height (115 trays of 1,01 m <sup>2</sup> ) = <b>total storage space 116,15 m<sup>2</sup></b>	storage space : floor space <b>25,20 : 1</b>
<b>LTL 1280/8000</b>	8.000 mm height (135 trays of 1,01 m <sup>2</sup> ) = <b>total storage space 136,35 m<sup>2</sup></b>	storage space : floor space <b>29,58 : 1</b>
<b>LTL 1280/9000</b>	9.000 mm height (155 trays of 1,01 m <sup>2</sup> ) = <b>total storage space 156,55 m<sup>2</sup></b>	storage space : floor space <b>33,96 : 1</b>
<b>LTL 1280/10000</b>	10.000 mm height (175 trays of 1,01 m <sup>2</sup> ) = <b>total storage space 176,75 m<sup>2</sup></b>	storage space : floor space <b>38,34 : 1</b>



Max.  
**66t**  
total weight

Please check  
your floor  
load capacity!

floor space:  
1.580 x 2.921 mm  
(4,61 m<sup>2</sup>)

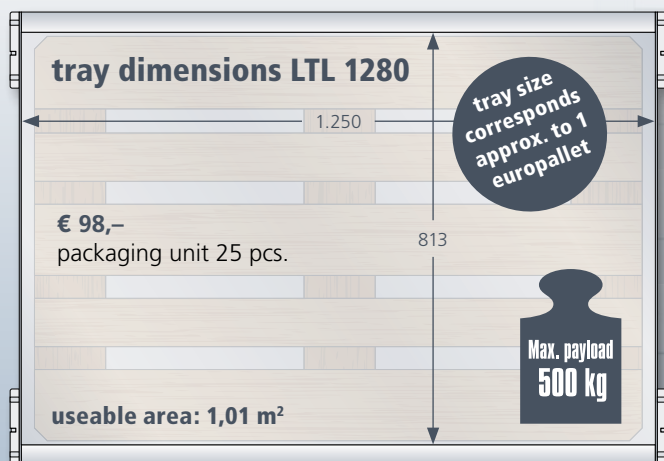
minimum  
output height  
733

starting from  
**29.500,-**  
height extension  
**1.980,-**  
per meter



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LTL tool tower solutions are available at short notice in the following colors:

 white RAL 9010

Available in heights from 2.5 m to 12 m in any 500 mm increment

## Maximum storage capacity for your turning and milling tools

Equipped with our tool carriers (see pages 24 - 27) the LTL 1280 stores huge amounts of turning and milling tools on a floor space of only around 4,6 m² and a front width of just 1.580 mm.

### Example calculations

3.000 mm height = 12 trays of 100 tools  
**Total storage capacity max. 1.200 tools**

4.000 mm height = 19 trays of 100 tools  
**Total storage capacity max. 1.900 tools**

5.000 mm height = 25 trays of 100 tools  
**Total storage capacity max. 2.500 tools**

6.000 mm height = 32 trays of 100 tools  
**Total storage capacity max. 3.200 tools**

7.000 mm height = 38 trays of 100 tools  
**Total storage capacity max. 3.800 tools**

8.000 mm height = 45 trays of 100 tools  
**Total storage capacity max. 4.500 tools**

9.000 mm height = 52 trays of 100 tools  
**Total storage capacity max. 5.200 tools**

10.000 mm height = 58 trays of 100 tools  
**Total storage capacity max. 5.800 tools**

The example calculations are based on a placement of SK 40 tools with a tray to tray distance of at least 300 mm.



Get all basic data such as weight, storage capacity, space occupancy, etc. calculated and edited through our configurator. We gladly arrange your individual tray layout for optimised utilisation and maximum efficiency.

↑  
10.000  
9.500  
9.000  
8.500  
8.000  
7.500  
7.000  
6.500  
6.000  
5.500

## LTL 2460 dimensions and storage capacity



### LTL 2460 – optimal overview of many items on just one tray

Thanks to the direct access of its trays with 2.450 mm and the small depth of 610 mm the LTL 2460 suits perfectly for the automated storage of large amount of various small items.

Whether in the spare parts shipment, the tool output or the logistic centre – wherever it is necessary to reach thousands of articles in different quantities and dimensions, the LTL 2460 is the ideally sized tool tower.

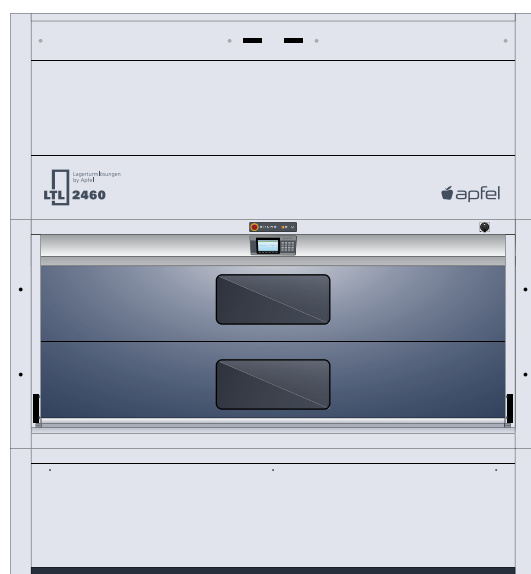
Due to their completely modular construction the tool towers are available in heights from 3 m to over 10 m in any 500 mm increment.

Our large selection of professional equipment components offers the most possibilities for safe, proper and material-friendly storage of your entire warehouse stock.

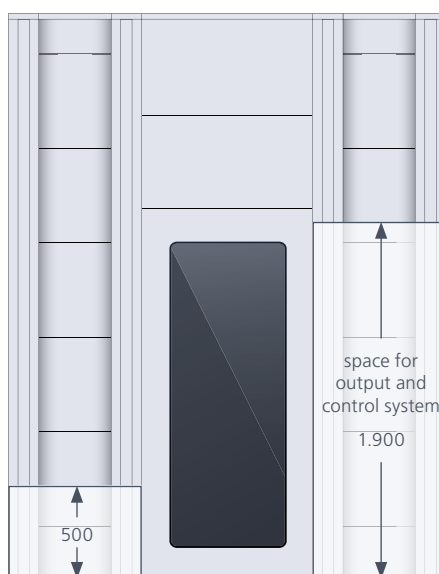
### Example calculations of the total storage space at a tray to tray distance of 200 mm

5.000	<b>LTL 2460/3000</b>	3.000 mm height (18 trays of 1,49 m <sup>2</sup> ) = <b>total storage space 26,82 m<sup>2</sup></b>	storage space : floor space <b>4,17 : 1</b>
	<b>LTL 2460/4000</b>	4.000 mm height (28 trays of 1,49 m <sup>2</sup> ) = <b>total storage space 41,72 m<sup>2</sup></b>	storage space : floor space <b>6,49 : 1</b>
4.500	<b>LTL 2460/5000</b>	5.000 mm height (38 trays of 1,49 m <sup>2</sup> ) = <b>total storage space 56,62 m<sup>2</sup></b>	storage space : floor space <b>8,81 : 1</b>
	<b>LTL 2460/6000</b>	6.000 mm height (48 trays of 1,49 m <sup>2</sup> ) = <b>total storage space 71,52 m<sup>2</sup></b>	storage space : floor space <b>11,12 : 1</b>
4.000	<b>LTL 2460/7000</b>	7.000 mm height (58 trays of 1,49 m <sup>2</sup> ) = <b>total storage space 86,42 m<sup>2</sup></b>	storage space : floor space <b>13,44 : 1</b>
	<b>LTL 2460/8000</b>	8.000 mm height (68 trays of 1,49 m <sup>2</sup> ) = <b>total storage space 101,32 m<sup>2</sup></b>	storage space : floor space <b>15,76 : 1</b>
3.500	<b>LTL 2460/9000</b>	9.000 mm height (78 trays of 1,49 m <sup>2</sup> ) = <b>total storage space 116,22 m<sup>2</sup></b>	storage space : floor space <b>18,07 : 1</b>
	<b>LTL 2460/10000</b>	10.000 mm height (88 trays of 1,49 m <sup>2</sup> ) = <b>total storage space 131,12 m<sup>2</sup></b>	storage space : floor space <b>20,39 : 1</b>

3.000  
2.550



2.780



2.312



Please check your floor load capacity!

floor space:  
2.780 x 2.312 mm  
(6,42 m<sup>2</sup>)

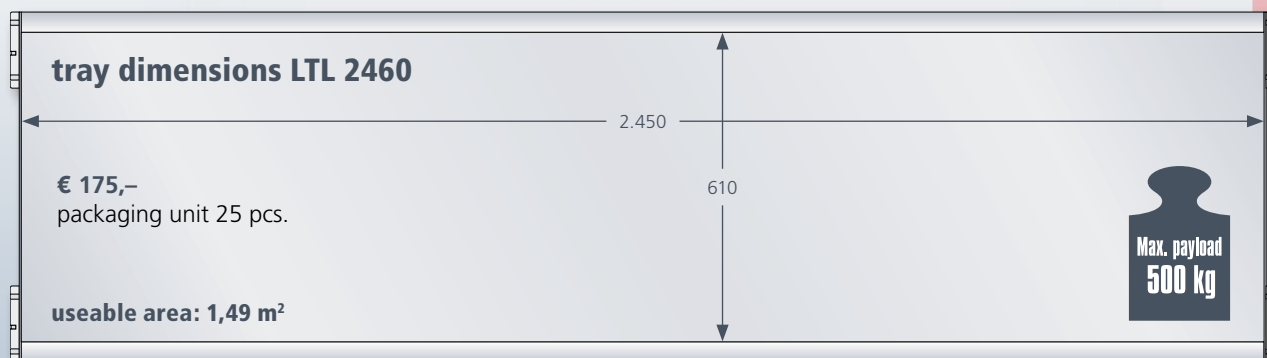
minimum output height

733



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 white RAL 9010

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in any  
500 mm  
increment

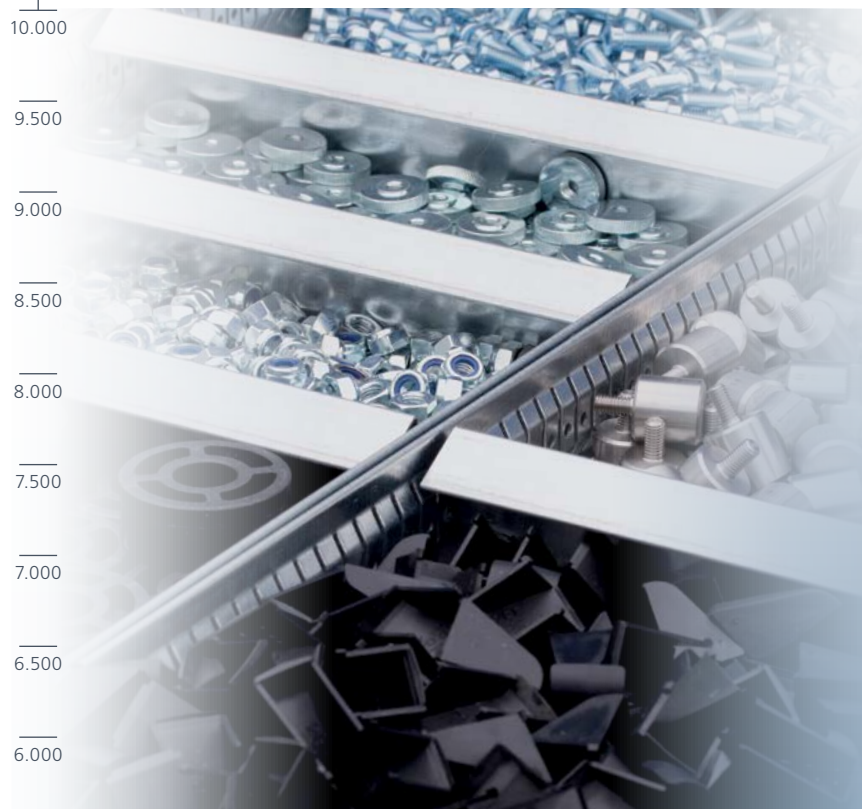
starting from  
**29.500,-**  
height extension  
**1.980,-**  
per meter



Get all basic data such as weight, storage capacity, space occupancy, etc. calculated and edited through our configurator.  
We gladly arrange your individual tray layout for optimised utilisation and maximum efficiency.



LTL 2480  
dimensions and storage capacity



## LTL 2480 – nearly 2 m<sup>2</sup> useable area on just one single tray

Access your entire warehouse stock in a fast, fully automated and well arranged way.

With its total front width of 2.780 mm the LTL 2480 houses vast amounts of the most varied articles on trays with a useable area that approximately matches two europallets.

Even with the basic unit of 3.000 mm height you multiply your storage area to more than a fourfold of your floor space.

With an increasing structure height, space saving becomes more and more effective. Depending on the equipment components and its arrangement it can even reach up to 95%.

Due to their completely modular construction the tool towers are available in heights from 3 m to over 10 m in any 500 mm increment.

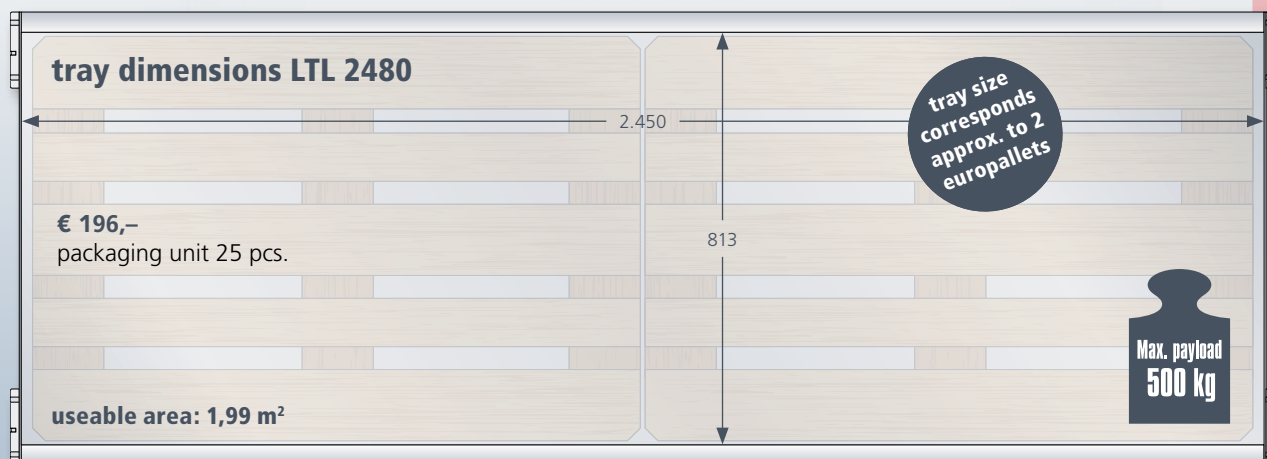
### Example calculations of the total storage space at a tray to tray distance of 200 mm

5.000	<b>LTL 2480/3000</b>	3.000 mm height (18 trays of 1,99 m <sup>2</sup> ) = <b>total storage space 35,82 m<sup>2</sup></b>	storage space : floor space <b>4,41 : 1</b>
	<b>LTL 2480/4000</b>	4.000 mm height (28 trays of 1,99 m <sup>2</sup> ) = <b>total storage space 55,72 m<sup>2</sup></b>	storage space : floor space <b>6,86 : 1</b>
4.500	<b>LTL 2480/5000</b>	5.000 mm height (38 trays of 1,99 m <sup>2</sup> ) = <b>total storage space 75,62 m<sup>2</sup></b>	storage space : floor space <b>9,31 : 1</b>
	<b>LTL 2480/6000</b>	6.000 mm height (48 trays of 1,99 m <sup>2</sup> ) = <b>total storage space 95,52 m<sup>2</sup></b>	storage space : floor space <b>11,76 : 1</b>
4.000	<b>LTL 2480/7000</b>	7.000 mm height (58 trays of 1,99 m <sup>2</sup> ) = <b>total storage space 115,42 m<sup>2</sup></b>	storage space : floor space <b>14,21 : 1</b>
	<b>LTL 2480/8000</b>	8.000 mm height (68 trays of 1,99 m <sup>2</sup> ) = <b>total storage space 135,32 m<sup>2</sup></b>	storage space : floor space <b>16,67 : 1</b>
3.500	<b>LTL 2480/9000</b>	9.000 mm height (78 trays of 1,99 m <sup>2</sup> ) = <b>total storage space 155,22 m<sup>2</sup></b>	storage space : floor space <b>19,12 : 1</b>
	<b>LTL 2480/10000</b>	10.000 mm height (88 trays of 1,99 m <sup>2</sup> ) = <b>total storage space 175,12 m<sup>2</sup></b>	storage space : floor space <b>21,57 : 1</b>



Please contact us via phone, fax or e-mail.  
For any request or order you are welcome to send us a photo via your smartphone.





LTL tool tower solutions are available at short notice in the following colors:

white RAL 9010

Available in heights from 2.5 m to 12 m in any 500 mm increment

starting from  
**29.500,-**  
height extension  
**1.980,-**  
per meter



Get all basic data such as weight, storage capacity, space occupancy, etc. calculated and edited through our configurator. We gladly arrange your individual tray layout for optimised utilisation and maximum efficiency.

## LTL – the storage system for universal use

The LTL tool tower offers even greater flexibility thanks to various options available pre or post installation.

It can be resized, moved and altered to meet changing business, facility and application requirements.

The system can be installed in the direct vicinity of a production line in order to increase productivity and reduce floor space requirements.

The high-precision control of the trays enables the LTL to be used as an intelligent storing and handling system with buffer functions for a fully automated robot-based production.

Our barcode scanners, optical guidance systems or hardware interfaces ensure trouble-free integration into your individual warehouse management software or ERP system.

For an optimum use of space the tool tower can even connect several floors or be installed outside the building with pass-through access.



## Optional hoist and transport devices

To improve the handling of heavy and bulky goods which require the aid of lifting gear, the full tray extraction device facilitates to completely pull out the entire tray.

Therefore the goods can easily be picked up from each direction by crane, transpallet or forklift to be transferred or moved for further use.

For optimal adaptation to your operational requirements, manual, automatic, permanently installed or retractable versions of extraction devices are available depending on type and frequency of use.



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For any request or order you are welcome to send us a photo via your smartphone.





## Perfect adaption to the building situation

Vertical lift modules can go through several floors with up to six access openings placed on the front or rear side of the unit. A mezzanine floor can be installed to enable operation on several levels at the same time (with loading at one level or side and retrieval at the other).

The automatic, high-precision tray runner makes the LTL tool tower solution a complete storing system for a fully automated robot-based production chain.

To increase the existing facility capacity, LTL tool tower solutions can be installed outside the building and skilfully walled in with a pass-through access.



Get all basic data such as weight, storage capacity, space occupancy, etc. calculated and edited through our configurator. We gladly arrange your individual tray layout for optimised utilisation and maximum efficiency.





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## Enhance the possibilities of your lift system and put your individual and efficient warehouse strategy into practice – Apfel components for flexible tray configuration and optimum storage density.



Whether in the spare parts shipment, the tool output or the logistic centre – Apfel components arrange for maximum utilisation of space, suitable tray loading, and, therefore, optimal operation procedures.

Expand your warehouse capacity and shorten your access times with individual division and operating-adapted combination of your different stored goods.

Tool holders with precise fitted and screwed plastic adapters store cutting tools of all shank types.

With our screw-fastened divider plate frames you stockpile biggest amounts of packaged or bulk materials.

Snap-fastened slot grid frames with length and crosswise dividers allow a virtually step-free space segmentation.

With storage boxes in many different sizes, stow away your picking goods and small parts clearly structured and transport safe.

Use all the storage possibilities of your lift system to load your trays in an efficient and sustainable order to reduce access times!



With our specially designed equipment components you store the largest amounts of the most varying goods arranged clearly and needs-oriented.

Our solutions ensure the best possible utilisation of your capacities and allow considerable savings and facilitations in the handling of your stored goods.

### The main advantages at a glance

- **safe and material-friendly storage of goods**
- **increased warehouse capacity due to highly dense storage**
- **flexible adaptation to individual storage purposes**



Get all basic data such as weight, storage capacity, space occupancy, etc. calculated and edited through our configurator. We gladly arrange your individual tray layout for optimised utilisation and maximum efficiency.





Please contact us via phone, fax or e-mail.  
For any request or order you are welcome to send us a photo via your smartphone.



## The perfect system for the professional, space-saving storage of cutting tools

The unique Apfel storage system stocks all common milling and turning tools in specially designed tool carriers of galvanised steel that are equipped with plastic holders and reduction hooks.

Available in different heights and lengths the tool carriers match to maximize use of space of your facility's warehouse capacity.



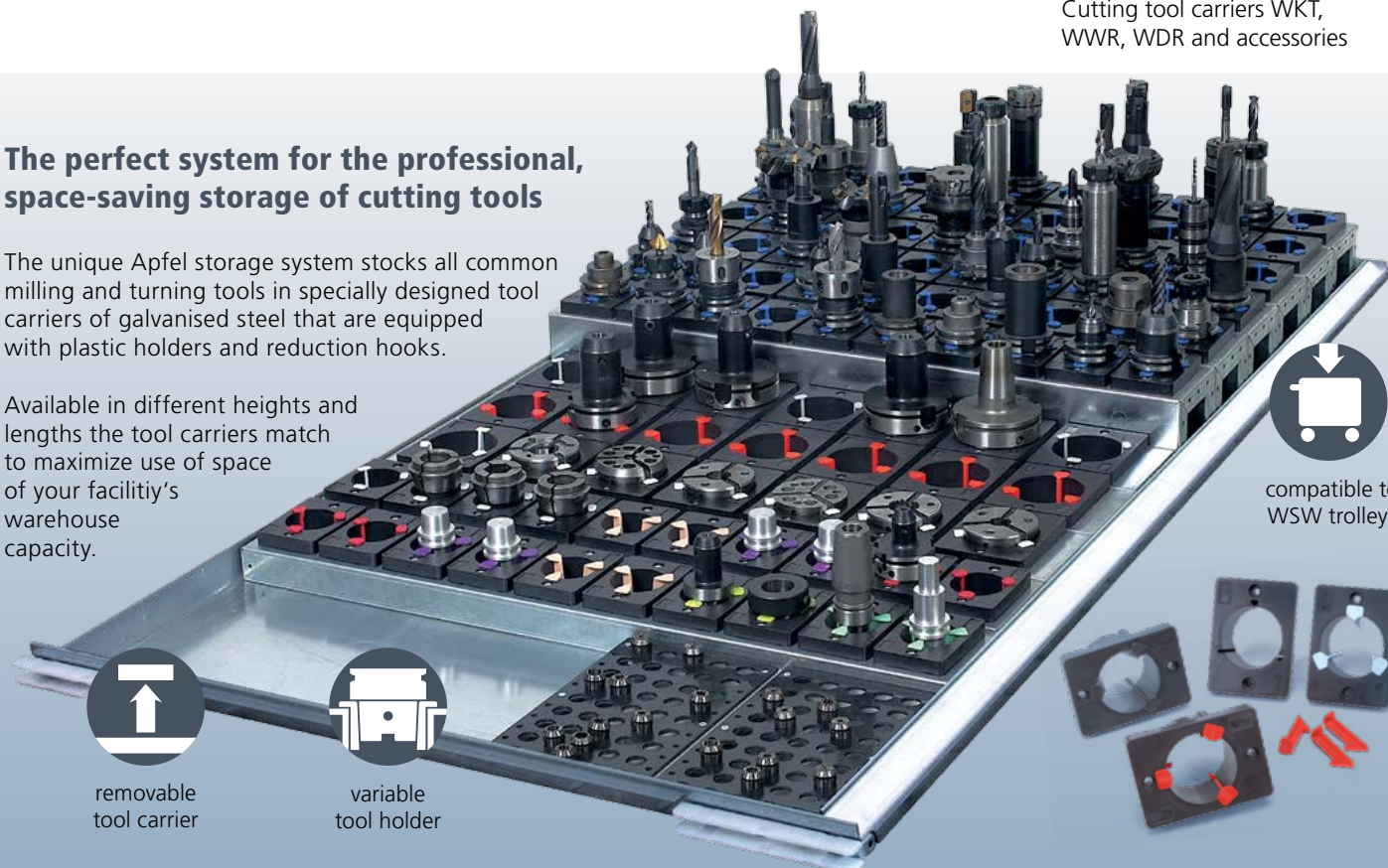
removable  
tool carrier



variable  
tool holder



compatible to  
WSW trolleys



## The well-arranged, material-friendly and proper system to store and transport your tools



**WSW 800**

The WSW workshop trolley with its compatible equipment transports your tools safely and gently to wherever they are needed (see also page 23).

The exact fit in the holders provides a precise, clean and material-friendly handling of all common types of milling and turning tools.

The screwed in tool carriers are equipped with coloured reduction hooks for each tool type such as SK, HSK, VDI, ABS or Capto.

The construction allows the individual setup of tool holders and reduction hooks. Therefore more than 20 types of tools can be stored by use of different hook combinations in just two reception diameters (56 and 70 mm).

For the storage of collets and particular tools we provide a vast range of specially engineered accessories.



Tool carriers with differently  
configured hook combinations



































Get all basic data such as weight, storage capacity, space occupancy, etc. calculated and edited through our configurator. We gladly arrange your individual tray layout for optimised utilisation and maximum efficiency.



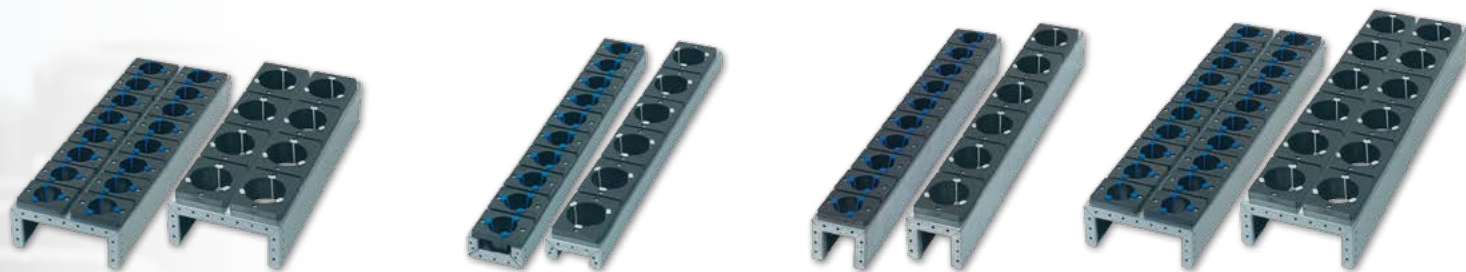
## Apfel tool carriers – the clever system for well-arranged and material-friendly storage



tool carrier		WKT 600		WWR 600	
dimensions		595 l x 118 w x 50 h		595 l x 118 w x 100 h	
	HSK 40 	8 tools	_____ pcs. WKT 050 118 595 011	8 tools	_____ pcs. WWR 100 118 595 011
	HSK 50 	8 tools	_____ pcs. WKT 050 118 595 012	8 tools	_____ pcs. WWR 100 118 595 012
	HSK 63 	8 tools	_____ pcs. WKT 050 118 595 013	8 tools	_____ pcs. WWR 100 118 595 013
	HSK 63-F 	8 tools	_____ pcs. WKT 050 118 595 014	8 tools	_____ pcs. WWR 100 118 595 014
	HSK 80 	4 tools	_____ pcs. WKT 050 118 595 015	4 tools	_____ pcs. WWR 100 118 595 015
	HSK 100 	4 tools	_____ pcs. WKT 050 118 595 016	4 tools	_____ pcs. WWR 100 118 595 016
	SK 30 	8 tools*	_____ pcs. WKT 050 118 595 021	8 tools	_____ pcs. WWR 100 118 595 021
	SK 40 	8 tools*	_____ pcs. WKT 050 118 595 022	8 tools	_____ pcs. WWR 100 118 595 022
	SK 50 	4 tools*	_____ pcs. WKT 050 118 595 023	4 tools*	_____ pcs. WWR 100 118 595 023
	Capto C3 	8 tools*	_____ pcs. WKT 050 118 595 031	8 tools	_____ pcs. WWR 100 118 595 031
	Capto C4 	8 tools*	_____ pcs. WKT 050 118 595 032	8 tools	_____ pcs. WWR 100 118 595 032
	Capto C5 	8 tools*	_____ pcs. WKT 050 118 595 033	8 tools	_____ pcs. WWR 100 118 595 033
	Capto C6 	8 tools*	_____ pcs. WKT 050 118 595 034	8 tools	_____ pcs. WWR 100 118 595 034
	Capto C8 	4 tools*	_____ pcs. WKT 050 118 595 035	4 tools	_____ pcs. WWR 100 118 595 035
	VDI 20 	8 tools*	_____ pcs. WKT 050 118 595 041	8 tools	_____ pcs. WWR 100 118 595 041
	VDI 25 	8 tools*	_____ pcs. WKT 050 118 595 042	8 tools	_____ pcs. WWR 100 118 595 042
	VDI 30 	8 tools*	_____ pcs. WKT 050 118 595 043	8 tools	_____ pcs. WWR 100 118 595 043
	VDI 40 	8 tools*	_____ pcs. WKT 050 118 595 044	8 tools	_____ pcs. WWR 100 118 595 044
	VDI 50 	8 tools*	_____ pcs. WKT 050 118 595 045	8 tools*	_____ pcs. WWR 100 118 595 0445
	VDI 60 	4 tools*	_____ pcs. WKT 050 118 595 046	4 tools*	_____ pcs. WWR 100 118 595 0446
	ABS 50 	8 tools*	_____ pcs. WKT 050 118 595 051	8 tools	_____ pcs. WWR 100 118 595 051
	ABS 63 	8 tools*	_____ pcs. WKT 050 118 595 052	8 tools	_____ pcs. WWR 100 118 595 052
	ABS 80 	8 tools*	_____ pcs. WKT 050 118 595 053	4 tools	_____ pcs. WWR 100 118 595 053
	UTS 63 	8 tools*	_____ pcs. WKT 050 118 595 061	8 tools	_____ pcs. WWR 100 118 595 061
	UTS 80 	4 tools*	_____ pcs. WKT 050 118 595 062	4 tools	_____ pcs. WWR 100 118 595 062
	173 E 	8 tools*	_____ pcs. WKT 050 118 595 071	8 tools	_____ pcs. WWR 100 118 595 071
price		61,00		64,00	







WDR 600		WKT 810		WWR 810		WDR 810	
595 l x 236 w x 100 h		810 l x 118 w x 50 h		810 l x 118 w x 100 h		810 l x 236 w x 100 h	
16 tools	_____ pcs. WDR 100 236 595 011	10 tools	_____ pcs. WKT 050 118 810 011	10 tools	_____ pcs. WWR 100 118 810 011	20 tools	_____ pcs. WDR 100 236 810 011
16 tools	_____ pcs. WDR 100 236 595 012	10 tools	_____ pcs. WKT 050 118 810 012	10 tools	_____ pcs. WWR 100 118 810 012	20 tools	_____ pcs. WDR 100 236 810 012
16 tools	_____ pcs. WDR 100 236 595 013	10 tools	_____ pcs. WKT 050 118 810 013	10 tools	_____ pcs. WWR 100 118 810 013	20 tools	_____ pcs. WDR 100 236 810 013
16 tools	_____ pcs. WDR 100 236 595 014	10 tools	_____ pcs. WKT 050 118 810 014	10 tools	_____ pcs. WWR 100 118 810 014	20 tools	_____ pcs. WDR 100 236 810 014
8 tools	_____ pcs. WDR 100 236 595 015	6 tools	_____ pcs. WKT 050 118 810 015	6 tools	_____ pcs. WWR 100 118 810 015	12 tools	_____ pcs. WDR 100 236 810 015
8 tools	_____ pcs. WDR 100 236 595 016	6 tools	_____ pcs. WKT 050 118 810 016	6 tools	_____ pcs. WWR 100 118 810 016	12 tools	_____ pcs. WDR 100 236 810 016
16 tools	_____ pcs. WDR 100 236 595 021	10 tools*	_____ pcs. WKT 050 118 810 021	10 tools	_____ pcs. WWR 100 118 810 021	20 tools	_____ pcs. WDR 100 236 810 021
16 tools	_____ pcs. WDR 100 236 595 022	10 tools*	_____ pcs. WKT 050 118 810 022	10 tools	_____ pcs. WWR 100 118 810 022	20 tools	_____ pcs. WDR 100 236 810 022
8 tools*	_____ pcs. WDR 100 236 595 023	6 tools*	_____ pcs. WKT 050 118 810 023	6 tools*	_____ pcs. WWR 100 118 810 023	12 tools*	_____ pcs. WDR 100 236 810 023
16 tools	_____ pcs. WDR 100 236 595 031	10 tools*	_____ pcs. WKT 050 118 810 031	10 tools	_____ pcs. WWR 100 118 810 031	20 tools	_____ pcs. WDR 100 236 810 031
16 tools	_____ pcs. WDR 100 236 595 032	10 tools*	_____ pcs. WKT 050 118 810 032	10 tools	_____ pcs. WWR 100 118 810 032	20 tools	_____ pcs. WDR 100 236 810 032
16 tools	_____ pcs. WDR 100 236 595 033	10 tools*	_____ pcs. WKT 050 118 810 033	10 tools	_____ pcs. WWR 100 118 810 033	20 tools	_____ pcs. WDR 100 236 810 033
16 tools	_____ pcs. WDR 100 236 595 034	10 tools*	_____ pcs. WKT 050 118 810 034	10 tools	_____ pcs. WWR 100 118 810 034	20 tools	_____ pcs. WDR 100 236 810 034
8 tools	_____ pcs. WDR 100 236 595 035	6 tools*	_____ pcs. WKT 050 118 810 035	6 tools	_____ pcs. WWR 100 118 810 035	12 tools	_____ pcs. WDR 100 236 810 035
16 tools	_____ pcs. WDR 100 236 595 041	10 tools*	_____ pcs. WKT 050 118 810 041	10 tools	_____ pcs. WWR 100 118 810 041	20 tools	_____ pcs. WDR 100 236 810 041
16 tools	_____ pcs. WDR 100 236 595 042	10 tools*	_____ pcs. WKT 050 118 810 042	10 tools	_____ pcs. WWR 100 118 810 042	20 tools	_____ pcs. WDR 100 236 810 042
16 tools	_____ pcs. WDR 100 236 595 043	10 tools*	_____ pcs. WKT 050 118 810 043	10 tools	_____ pcs. WWR 100 118 810 043	20 tools	_____ pcs. WDR 100 236 810 043
16 tools	_____ pcs. WDR 100 236 595 044	10 tools*	_____ pcs. WKT 050 118 810 044	10 tools	_____ pcs. WWR 100 118 810 044	20 tools	_____ pcs. WDR 100 236 810 044
16 tools*	_____ pcs. WDR 100 236 595 045	10 tools*	_____ pcs. WKT 050 118 810 045	10 tools*	_____ pcs. WWR 100 118 810 045	20 tools*	_____ pcs. WDR 100 236 810 045
8 tools*	_____ pcs. WDR 100 236 595 046	6 tools*	_____ pcs. WKT 050 118 810 046	6 tools*	_____ pcs. WWR 100 118 810 046	12 tools*	_____ pcs. WDR 100 236 810 046
16 tools	_____ pcs. WDR 100 236 595 051	10 tools*	_____ pcs. WKT 050 118 810 051	10 tools	_____ pcs. WWR 100 118 810 051	20 tools	_____ pcs. WDR 100 236 810 051
16 tools	_____ pcs. WDR 100 236 595 052	10 tools*	_____ pcs. WKT 050 118 810 052	10 tools	_____ pcs. WWR 100 118 810 052	20 tools	_____ pcs. WDR 100 236 810 052
8 tools	_____ pcs. WDR 100 236 595 053	10 tools*	_____ pcs. WKT 050 118 810 053	6 tools	_____ pcs. WWR 100 118 810 053	12 tools	_____ pcs. WDR 100 236 810 053
16 tools	_____ pcs. WDR 100 236 595 061	10 tools*	_____ pcs. WKT 050 118 810 061	10 tools	_____ pcs. WWR 100 118 810 061	20 tools	_____ pcs. WDR 100 236 810 061
8 tools	_____ pcs. WDR 100 236 595 062	6 tools*	_____ pcs. WKT 050 118 810 062	6 tools	_____ pcs. WWR 100 118 810 062	12 tools	_____ pcs. WDR 100 236 810 062
16 tools	_____ pcs. WDR 100 236 595 071	10 tools*	_____ pcs. WKT 050 118 810 071	10 tools	_____ pcs. WWR 100 118 810 071	20 tools	_____ pcs. WDR 100 236 810 071
92,00		65,00		69,00		98,00	

\* to be used only with attachments or heightening



TRUMPF  
0W200/S  
45  
84.00° R1.00  
H=200.00  
800kN/m  
824479  
LASERdur

TRUMPF  
0W210/S  
45  
28.00° R1.00  
H=240.00  
400kN/m  
824672  
LASERdur

TRUMPF  
0W200/K  
35  
86.00° R1.00  
H=120.00  
800kN/m  
824468  
LASERdur



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## The perfect system for the safe and well-arranged storage of all types of bending tools

The Apfel bending tool holders are optimally matched to the tooling of Trumpf press brakes to ensure a storage with maximum safety and material protection.

For a secure fit and problem-free handling the tool holders are sloped and equipped with dividers that can easily be adjusted without the use of any tools. Thanks to their special design they suit all Trumpf bending tools.

Arrange your individual tooling kits exactly according to your needs without compromising operating comfort, accessibility and safety at work.



compatible to  
WSW trolleys



suits all Trumpf  
bending tools



adjustable  
dividers

Also  
available for  
Wilson Tool,  
Salvagnini,  
Amada etc.

## Compatible equipment for maximum safety at work



### WSW 583

Inwardly sloped shelves with a middle partition ensure the safe transport of your bending tools. The integrated drawer of the WSW workshop trolley keeps your measuring devices dust free and perfectly complements to your press brake.

With a robust drawer, mountable from both sides, a stainless steel handle bar, 2 swivel and 2 guided castors and a total payload of 400 kg, the Apfel trolley WSW amounts to the essential mobile aid in your production.

## tool holders for crosswise storage of lower bending tools in the LTL 1260



9 x  
1,25 m  
bending tools  
=  
11,25 m

Sound holders of galvanised steel with slot grids and tool-free adjustable dividers guarantee a secure fit and easy access

## tool holders for lengthwise storage of lower bending tools in the LTL 1260



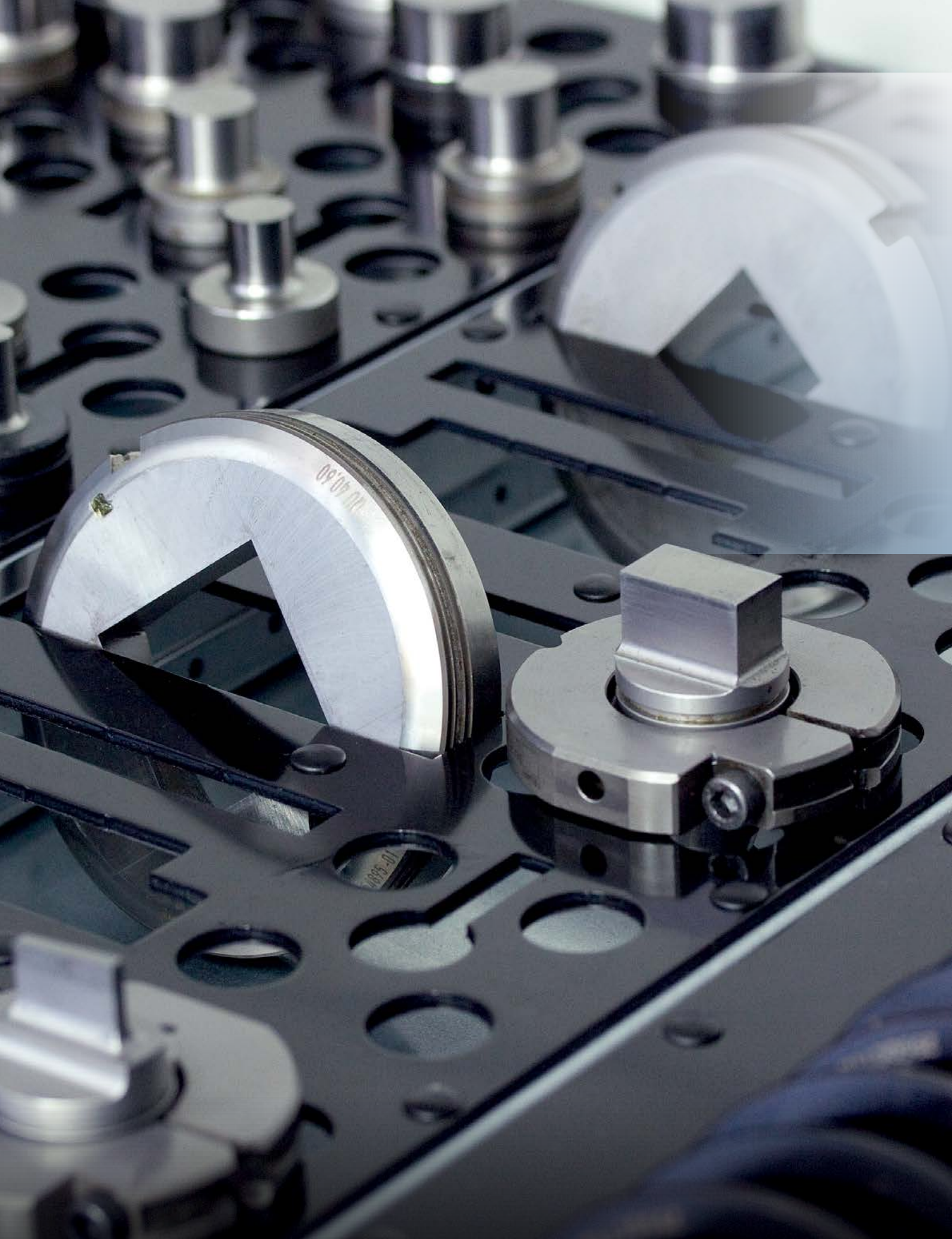
18 x  
0,6 m  
bending tools  
=  
10,8 m

To match more special applications we additionally offer tool holders with tool-free adjustable dividers for the lengthwise storage of all lower Trumpf bending tools.



Get all basic data such as weight, storage capacity, space occupancy, etc. calculated and edited through our configurator. We gladly arrange your individual tray layout for optimised utilisation and maximum efficiency.





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For any request or order you are welcome to send us a photo via your smartphone.



## The perfect system for the professional, safe and space-saving storage of all types of punching tools and setup cartridges

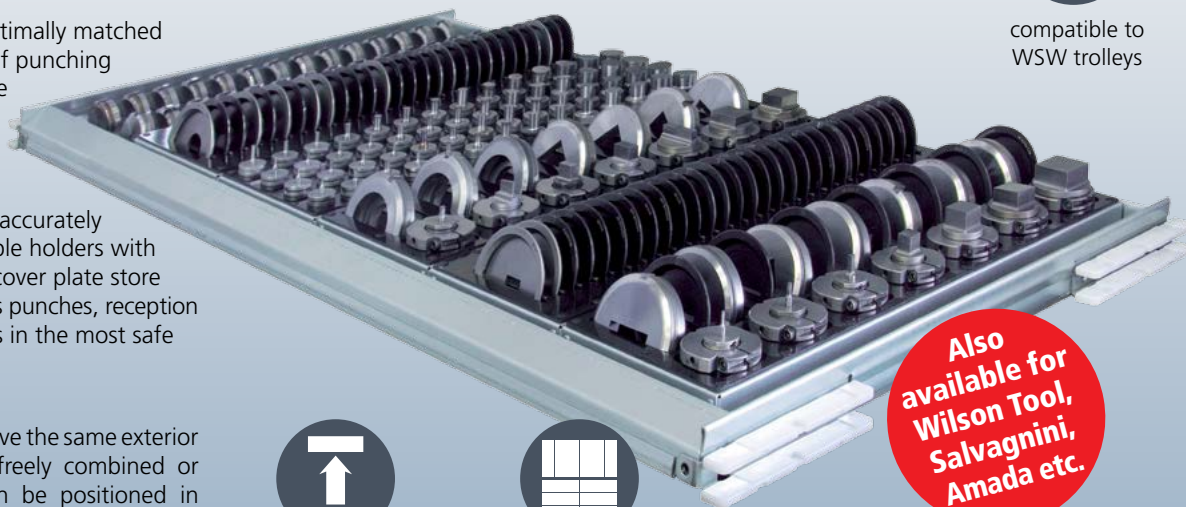
Our tool holders are optimally matched to the tooling of Trumpf punching machines to ensure safe storage with ultimate material protection.

Specially designed and accurately machined, our removable holders with tool-protecting plastic cover plate store all types of tools such as punches, reception rings, dies and strippers in the most safe and space-saving way.

The different holders have the same exterior dimensions to be freely combined or interchanged and even be positioned in crosswise or lengthwise direction.



compatible to  
WSW trolleys



removable  
tool carrier



for lengthwise and  
crosswise positioning

Also  
available for  
Wilson Tool,  
Salvagnini,  
Amada etc.

## The complete equipment for maximum use of space



### WSW 581

On the sloped tool retainers with integrated oil binding felt inlay the WSW transports up to 45 setup cartridges cleanly and safely to and from your punching machine.

With a robust drawer, mountable from both sides, a stainless steel handle bar, 2 swivel and 2 guided castors and a total payload of 400 kg, the Apfel trolley WSW amounts to the essential mobile aid in your production.

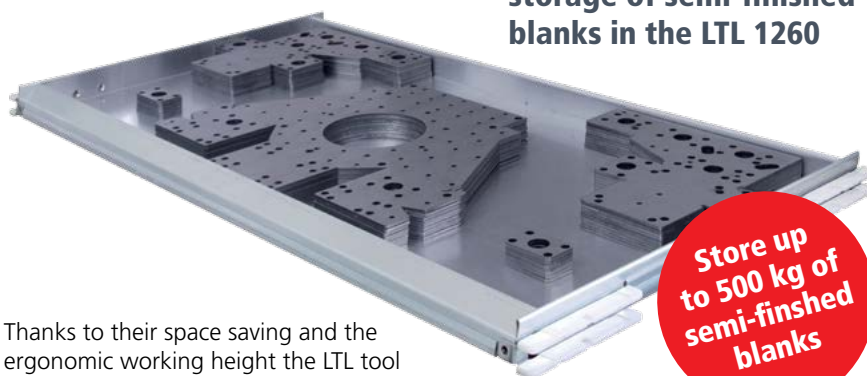
## tool carriers for the storage of Trumpf setup cartridges in the LTL 1260



The sloped tool holders with oil binding felt inlay for the well-arranged and clean storage of up to 24 unequipped or equipped setup cartridges per tray.

3 x  
8 setup  
cartridges  
=  
24 pcs.

## unequipped tray for the storage of semi-finished blanks in the LTL 1260



Thanks to their space saving and the ergonomic working height the LTL tool towers perfectly suit the storage of stacked semi-finished sheet blanks.

Store up  
to 500 kg of  
semi-finished  
blanks



Get all basic data such as weight, storage capacity, space occupancy, etc. calculated and edited through our configurator. We gladly arrange your individual tray layout for optimised utilisation and maximum efficiency.





Please contact us via phone, fax or e-mail.  
For any request or order you are welcome to send us a photo via your smartphone.



## Ultimate use of space and and perfectly customized storage arrangement

### standard heights:

100 mm	▲
75 mm	▲
50 mm	▲



to prevent injury, all edges  
are folded and deburred



box with  
bottom



folded and  
deburred edges



removable  
box



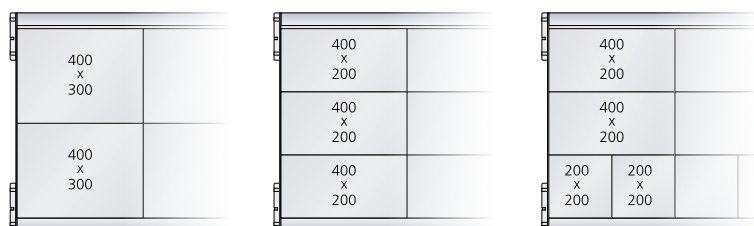
minimum  
loss of space



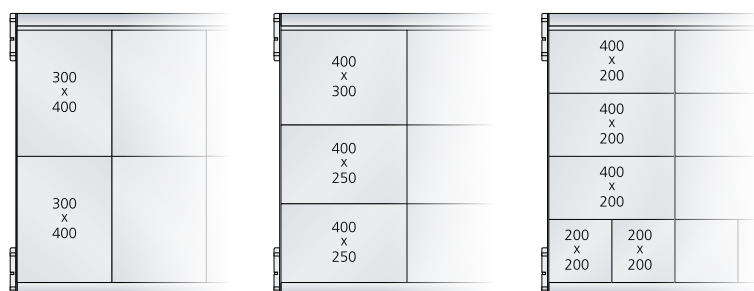
compatible to  
WSW trolleys



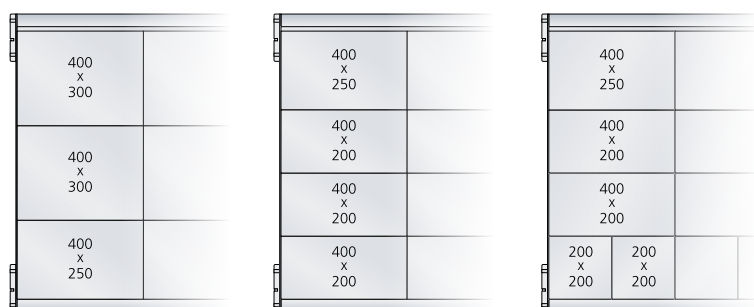
optimum fire  
protection



Example configurations of trays with 610 mm depth



Example configurations of trays with 813 mm depth



Example configurations of trays with 864 mm depth

## Metal storage boxes for the individual partition of your trays

With the precisely bended metal storage boxes you  
organize your lift system to the smallest detail.

Each single box can be individually removed or  
interchanged with its content.

If made of solid sheet steel or weight-saving aluminium,  
thanks to their thin wall thickness, Apfel storage boxes  
keep the loss of space to a minimum.

According to the required filling volume, all boxes are  
available in our standard heights of 50, 75 und 100 mm.

Due to the all-metal construction they also meet the  
requirements of the fire protection regulations.



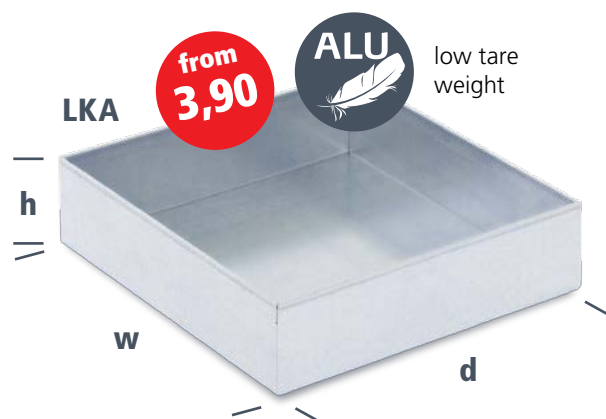
For the avoidance of injuries the edges of all Apfel  
metal storage boxes are folded and deburred



Get all basic data such as weight, storage capacity, space occupancy, etc. calculated and edited through our configurator.  
We gladly arrange your individual tray layout for optimised utilisation and maximum efficiency.

## Storage boxes made of aluminium alloy for less tare weight and more payload

Aluminium sheet (AlMg1) weighs just one-third compared to steel sheet.  
The use of light alloy material saves tare weight to gain effective load capacity for the storage of your goods.



	100 mm d	150 mm d	200 mm d	250 mm d	300 mm d	350 mm d	400 mm d
<b>Aluminium storage boxes of 50 mm height</b>							
100 mm w	_____ pcs. LKA 050 100 100 110	_____ pcs. LKA 050 100 150 110	_____ pcs. LKA 050 100 200 110	_____ pcs. LKA 050 100 250 110	_____ pcs. LKA 050 100 300 110	_____ pcs. LKA 050 100 350 110	_____ pcs. LKA 050 100 400 110
150 mm w	_____ pcs. LKA 050 150 100 110	_____ pcs. LKA 050 150 150 110	_____ pcs. LKA 050 150 200 110	_____ pcs. LKA 050 150 250 110	_____ pcs. LKA 050 150 300 110	_____ pcs. LKA 050 150 350 110	_____ pcs. LKA 050 150 400 110
200 mm w	_____ pcs. LKA 050 200 100 110	_____ pcs. LKA 050 200 150 110	_____ pcs. LKA 050 200 200 110	_____ pcs. LKA 050 200 250 110	_____ pcs. LKA 050 200 300 110	_____ pcs. LKA 050 200 350 110	_____ pcs. LKA 050 200 400 110
250 mm w	_____ pcs. LKA 050 250 100 110	_____ pcs. LKA 050 250 150 110	_____ pcs. LKA 050 250 200 110	_____ pcs. LKA 050 250 250 110	_____ pcs. LKA 050 250 300 110	_____ pcs. LKA 050 250 350 110	_____ pcs. LKA 050 250 400 110
300 mm w	_____ pcs. LKA 050 300 100 110	_____ pcs. LKA 050 300 150 110	_____ pcs. LKA 050 300 200 110	_____ pcs. LKA 050 300 250 110	_____ pcs. LKA 050 300 300 110	_____ pcs. LKA 050 300 350 110	_____ pcs. LKA 050 300 400 110
350 mm w	_____ pcs. LKA 050 350 100 110	_____ pcs. LKA 050 350 150 110	_____ pcs. LKA 050 350 200 110	_____ pcs. LKA 050 350 250 110	_____ pcs. LKA 050 350 300 110	-	-
400 mm w	_____ pcs. LKA 050 400 100 110	_____ pcs. LKA 050 400 150 110	_____ pcs. LKA 050 400 200 110	_____ pcs. LKA 050 400 250 110	_____ pcs. LKA 050 400 300 110	-	-
<b>Aluminium storage boxes of 75 mm height</b>							
100 mm w	_____ pcs. LKA 075 100 100 110	_____ pcs. LKA 075 100 150 110	_____ pcs. LKA 075 100 200 110	_____ pcs. LKA 075 100 250 110	_____ pcs. LKA 075 100 300 110	_____ pcs. LKA 075 100 350 110	_____ pcs. LKA 075 100 400 110
150 mm w	_____ pcs. LKA 075 150 100 110	_____ pcs. LKA 075 150 150 110	_____ pcs. LKA 075 150 200 110	_____ pcs. LKA 075 150 250 110	_____ pcs. LKA 075 150 300 110	_____ pcs. LKA 075 150 350 110	_____ pcs. LKA 075 150 400 110
200 mm w	_____ pcs. LKA 075 200 100 110	_____ pcs. LKA 075 200 150 110	_____ pcs. LKA 075 200 200 110	_____ pcs. LKA 075 200 250 110	_____ pcs. LKA 075 200 300 110	_____ pcs. LKA 075 200 350 110	_____ pcs. LKA 075 200 400 110
250 mm w	_____ pcs. LKA 075 250 100 110	_____ pcs. LKA 075 250 150 110	_____ pcs. LKA 075 250 200 110	_____ pcs. LKA 075 250 250 110	_____ pcs. LKA 075 250 300 110	_____ pcs. LKA 075 250 350 110	_____ pcs. LKA 075 250 400 110
300 mm w	_____ pcs. LKA 075 300 100 110	_____ pcs. LKA 075 300 150 110	_____ pcs. LKA 075 300 200 110	_____ pcs. LKA 075 300 250 110	_____ pcs. LKA 075 300 300 110	_____ pcs. LKA 075 300 350 110	_____ pcs. LKA 075 300 400 110
350 mm w	_____ pcs. LKA 075 350 100 110	_____ pcs. LKA 075 350 150 110	_____ pcs. LKA 075 350 200 110	_____ pcs. LKA 075 350 250 110	_____ pcs. LKA 075 350 300 110	-	-
400 mm w	_____ pcs. LKA 075 400 100 110	_____ pcs. LKA 075 400 150 110	_____ pcs. LKA 075 400 200 110	_____ pcs. LKA 075 400 250 110	_____ pcs. LKA 075 400 300 110	-	-
<b>Aluminium storage boxes of 100 mm height</b>							
100 mm w	_____ pcs. LKA 100 100 100 110	_____ pcs. LKA 100 100 150 110	_____ pcs. LKA 100 100 200 110	_____ pcs. LKA 100 100 250 110	_____ pcs. LKA 100 100 300 110	_____ pcs. LKA 100 100 350 110	_____ pcs. LKA 100 100 400 110
150 mm w	_____ pcs. LKA 100 150 100 110	_____ pcs. LKA 100 150 150 110	_____ pcs. LKA 100 150 200 110	_____ pcs. LKA 100 150 250 110	_____ pcs. LKA 100 150 300 110	_____ pcs. LKA 100 150 350 110	_____ pcs. LKA 100 150 400 110
200 mm w	_____ pcs. LKA 100 200 100 110	_____ pcs. LKA 100 200 150 110	_____ pcs. LKA 100 200 200 110	_____ pcs. LKA 100 200 250 110	_____ pcs. LKA 100 200 300 110	_____ pcs. LKA 100 200 350 110	_____ pcs. LKA 100 200 400 110
250 mm w	_____ pcs. LKA 100 250 100 110	_____ pcs. LKA 100 250 150 110	_____ pcs. LKA 100 250 200 110	_____ pcs. LKA 100 250 250 110	_____ pcs. LKA 100 250 300 110	_____ pcs. LKA 100 250 350 110	_____ pcs. LKA 100 250 400 110
300 mm w	_____ pcs. LKA 100 300 100 110	_____ pcs. LKA 100 300 150 110	_____ pcs. LKA 100 300 200 110	_____ pcs. LKA 100 300 250 110	_____ pcs. LKA 100 300 300 110	_____ pcs. LKA 100 300 350 110	_____ pcs. LKA 100 300 400 110
350 mm w	_____ pcs. LKA 100 350 100 110	_____ pcs. LKA 100 350 150 110	_____ pcs. LKA 100 350 200 110	_____ pcs. LKA 100 350 250 110	_____ pcs. LKA 100 350 300 110	-	-
400 mm w	_____ pcs. LKA 100 400 100 110	_____ pcs. LKA 100 400 150 110	_____ pcs. LKA 100 400 200 110	_____ pcs. LKA 100 400 250 110	_____ pcs. LKA 100 400 300 110	-	-



Please contact us via phone, fax or e-mail.  
For any request or order you are welcome to send us a photo via your smartphone.



## Storage boxes made of galvanized steel for minimum loss of space and maximum storage volume

Our precisely bended boxes of galvanized steel require only a fraction of the material thickness needed by plastic containers. Therefore they offer maximum storage volume to utilize the full capacity of your lift trays.



minimum  
loss of space



	100 mm d	150 mm d	200 mm d	250 mm d	300 mm d	350 mm d	400 mm d
<b>Galvanized steel storage boxes of 50 mm height</b>							

100 mm w	_____ pcs. LKV 050 100 100 110	_____ pcs. LKV 050 100 150 110	_____ pcs. LKV 050 100 200 110	_____ pcs. LKV 050 100 250 110	_____ pcs. LKV 050 100 300 110	_____ pcs. LKV 050 100 350 110	_____ pcs. LKV 050 100 400 110
150 mm w	_____ pcs. LKV 050 150 100 110	_____ pcs. LKV 050 150 150 110	_____ pcs. LKV 050 150 200 110	_____ pcs. LKV 050 150 250 110	_____ pcs. LKV 050 150 300 110	_____ pcs. LKV 050 150 350 110	_____ pcs. LKV 050 150 400 110
200 mm w	_____ pcs. LKV 050 200 100 110	_____ pcs. LKV 050 200 150 110	_____ pcs. LKV 050 200 200 110	_____ pcs. LKV 050 200 250 110	_____ pcs. LKV 050 200 300 110	_____ pcs. LKV 050 200 350 110	_____ pcs. LKV 050 200 400 110
250 mm w	_____ pcs. LKV 050 250 100 110	_____ pcs. LKV 050 250 150 110	_____ pcs. LKV 050 250 200 110	_____ pcs. LKV 050 250 250 110	_____ pcs. LKV 050 250 300 110	_____ pcs. LKV 050 250 350 110	_____ pcs. LKV 050 250 400 110
300 mm w	_____ pcs. LKV 050 300 100 110	_____ pcs. LKV 050 300 150 110	_____ pcs. LKV 050 300 200 110	_____ pcs. LKV 050 300 250 110	_____ pcs. LKV 050 300 300 110	_____ pcs. LKV 050 300 350 110	_____ pcs. LKV 050 300 400 110
350 mm w	_____ pcs. LKV 050 350 100 110	_____ pcs. LKV 050 350 150 110	_____ pcs. LKV 050 350 200 110	_____ pcs. LKV 050 350 250 110	_____ pcs. LKV 050 350 300 110	-	-
400 mm w	_____ pcs. LKV 050 400 100 110	_____ pcs. LKV 050 400 150 110	_____ pcs. LKV 050 400 200 110	_____ pcs. LKV 050 400 250 110	_____ pcs. LKV 050 400 300 110	-	-

<b>Galvanized steel storage boxes of 75 mm height</b>							
---	--	--	--	--	--	--	--

100 mm w	_____ pcs. LKV 075 100 100 110	_____ pcs. LKV 075 100 150 110	_____ pcs. LKV 075 100 200 110	_____ pcs. LKV 075 100 250 110	_____ pcs. LKV 075 100 300 110	_____ pcs. LKV 075 100 350 110	_____ pcs. LKV 075 100 400 110
150 mm w	_____ pcs. LKV 075 150 100 110	_____ pcs. LKV 075 150 150 110	_____ pcs. LKV 075 150 200 110	_____ pcs. LKV 075 150 250 110	_____ pcs. LKV 075 150 300 110	_____ pcs. LKV 075 150 350 110	_____ pcs. LKV 075 150 400 110
200 mm w	_____ pcs. LKV 075 200 100 110	_____ pcs. LKV 075 200 150 110	_____ pcs. LKV 075 200 200 110	_____ pcs. LKV 075 200 250 110	_____ pcs. LKV 075 200 300 110	_____ pcs. LKV 075 200 350 110	_____ pcs. LKV 075 200 400 110
250 mm w	_____ pcs. LKV 075 250 100 110	_____ pcs. LKV 075 250 150 110	_____ pcs. LKV 075 250 200 110	_____ pcs. LKV 075 250 250 110	_____ pcs. LKV 075 250 300 110	_____ pcs. LKV 075 250 350 110	_____ pcs. LKV 075 250 400 110
300 mm w	_____ pcs. LKV 075 300 100 110	_____ pcs. LKV 075 300 150 110	_____ pcs. LKV 075 300 200 110	_____ pcs. LKV 075 300 250 110	_____ pcs. LKV 075 300 300 110	_____ pcs. LKV 075 300 350 110	_____ pcs. LKV 075 300 400 110
350 mm w	_____ pcs. LKV 075 350 100 110	_____ pcs. LKV 075 350 150 110	_____ pcs. LKV 075 350 200 110	_____ pcs. LKV 075 350 250 110	_____ pcs. LKV 075 350 300 110	-	-
400 mm w	_____ pcs. LKV 075 400 100 110	_____ pcs. LKV 075 400 150 110	_____ pcs. LKV 075 400 200 110	_____ pcs. LKV 075 400 250 110	_____ pcs. LKV 075 400 300 110	-	-

<b>Aluminium storage boxes of 100 mm height</b>							
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100 mm w	_____ pcs. LKV 100 100 100 110	_____ pcs. LKV 100 100 150 110	_____ pcs. LKV 100 100 200 110	_____ pcs. LKV 100 100 250 110	_____ pcs. LKV 100 100 300 110	_____ pcs. LKV 100 100 350 110	_____ pcs. LKV 100 100 400 110
150 mm w	_____ pcs. LKV 100 150 100 110	_____ pcs. LKV 100 150 150 110	_____ pcs. LKV 100 150 200 110	_____ pcs. LKV 100 150 250 110	_____ pcs. LKV 100 150 300 110	_____ pcs. LKV 100 150 350 110	_____ pcs. LKV 100 150 400 110
200 mm w	_____ pcs. LKV 100 200 100 110	_____ pcs. LKV 100 200 150 110	_____ pcs. LKV 100 200 200 110	_____ pcs. LKV 100 200 250 110	_____ pcs. LKV 100 200 300 110	_____ pcs. LKV 100 200 350 110	_____ pcs. LKV 100 200 400 110
250 mm w	_____ pcs. LKV 100 250 100 110	_____ pcs. LKV 100 250 150 110	_____ pcs. LKV 100 250 200 110	_____ pcs. LKV 100 250 250 110	_____ pcs. LKV 100 250 300 110	_____ pcs. LKV 100 250 350 110	_____ pcs. LKV 100 250 400 110
300 mm w	_____ pcs. LKV 100 300 100 110	_____ pcs. LKV 100 300 150 110	_____ pcs. LKV 100 300 200 110	_____ pcs. LKV 100 300 250 110	_____ pcs. LKV 100 300 300 110	_____ pcs. LKV 100 300 350 110	_____ pcs. LKV 100 300 400 110
350 mm w	_____ pcs. LKV 100 350 100 110	_____ pcs. LKV 100 350 150 110	_____ pcs. LKV 100 350 200 110	_____ pcs. LKV 100 350 250 110	_____ pcs. LKV 100 350 300 110	-	-
400 mm w	_____ pcs. LKV 100 400 100 110	_____ pcs. LKV 100 400 150 110	_____ pcs. LKV 100 400 200 110	_____ pcs. LKV 100 400 250 110	_____ pcs. LKV 100 400 300 110	-	-



Get all basic data such as weight, storage capacity, space occupancy, etc. calculated and edited through our configurator. We gladly arrange your individual tray layout for optimised utilisation and maximum efficiency.



Please contact us via phone, fax or e-mail.  
For any request or order you are welcome to send us a photo via your smartphone.



## SWV – enclosed slot grid containers with dividable compartments

### standard heights:

125 mm	▲
100 mm	▲
75 mm	▲
50 mm	▲

from  
**18,50**

For the avoidance of injuries  
all external edges are folded



compatible to  
WSW trolleys



folded and  
deburred edges



various dividers  
available



adjustable  
dividers



slot grid with  
10 mm steps



container with  
bottom



removable  
container



optimum fire  
protection

## Removable slot grid containers with tool-free adjustable dividers for the customizable storage of various kinds of articles

Wherever your storage items have to be transported to and from a workplace, the removable slot grid containers provide the optimum solution.

Thanks to its high rigidity, the enclosed container with integrated bottom offers high payload and safe removal.

To prevent injury, the external edges of the galvanized steel components are folded.

For the fast and individual partition, the crosswise dividers are snapped into the lengthwise inserted slot grid with 10 mm increments without the use of any tools.

To precisely match your storage needs, the containers are available in widths from 150 to 400 mm.

Due to the all-metal construction, the containers meet the requirements of fire protection regulations.



also available  
in aluminium



For a quick and easy application of barcode labels or magnetic stickers, all dividers are sloped and to avoid injuries, folded on all external edges.



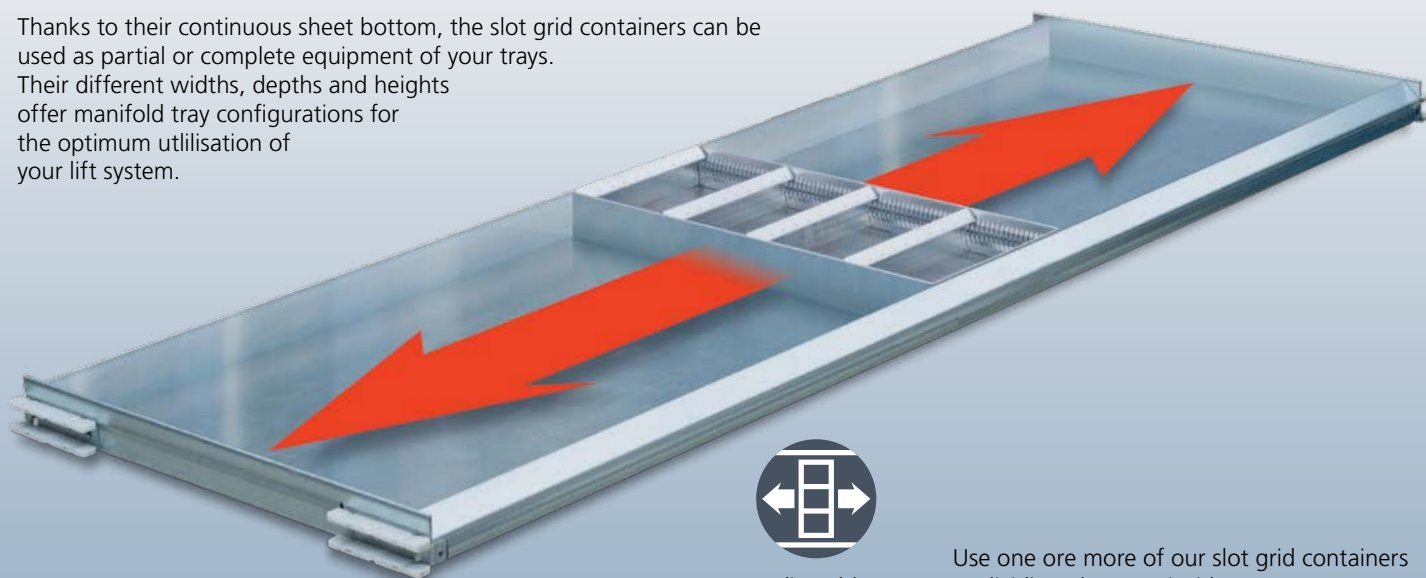
Without the use of any tools the dividers can be positioned individually within the 10 mm slot grid in which the precise machining guarantees a secure fit.



Get all basic data such as weight, storage capacity, space occupancy, etc. calculated and edited through our configurator. We gladly arrange your individual tray layout for optimised utilisation and maximum efficiency.

## Subdivide your trays with slot grid containers

Thanks to their continuous sheet bottom, the slot grid containers can be used as partial or complete equipment of your trays. Their different widths, depths and heights offer manifold tray configurations for the optimum utilisation of your lift system.



adjustable  
positioning

Use one or more of our slot grid containers as dividing elements inside your trays to partition your individual storage spaces.



Please contact us via phone, fax or e-mail.  
For any request or order you are welcome to send us a photo via your smartphone.



## Removable slot grid containers – individually dividable storage places in an enclosed full-metal housing

	300 mm d	400 mm d	600 mm d	800 mm d	dividers
<b>Slot grid containers of 50 mm height</b>					
150 mm w	_____ pcs. SWV 050 150 300 210	_____ pcs. SWV 050 150 400 210	_____ pcs. SWV 050 150 600 210	_____ pcs. SWV 050 150 800 210	_____ pcs.
200 mm w	_____ pcs. SWV 050 200 300 210	_____ pcs. SWV 050 200 400 210	_____ pcs. SWV 050 200 600 210	_____ pcs. SWV 050 200 800 210	_____ pcs.
250 mm w	_____ pcs. SWV 050 250 300 210	_____ pcs. SWV 050 250 400 210	_____ pcs. SWV 050 250 600 210	_____ pcs. SWV 050 250 800 210	_____ pcs.
300 mm w	_____ pcs. SWV 050 300 300 210	_____ pcs. SWV 050 300 400 210	_____ pcs. SWV 050 300 600 210	_____ pcs. SWV 050 300 800 210	_____ pcs.
350 mm w	_____ pcs. SWV 050 350 300 210	_____ pcs. SWV 050 350 400 210	_____ pcs. SWV 050 350 600 210	_____ pcs. SWV 050 350 800 210	_____ pcs.
400 mm w	_____ pcs. SWV 050 400 300 210	_____ pcs. SWV 050 400 400 210	_____ pcs. SWV 050 400 600 210	_____ pcs. SWV 050 400 800 210	_____ pcs.

<b>Slot grid containers of 75 mm height</b>					
150 mm w	_____ pcs. SWV 075 150 300 210	_____ pcs. SWV 075 150 400 210	_____ pcs. SWV 075 150 600 210	_____ pcs. SWV 075 150 800 210	_____ pcs.
200 mm w	_____ pcs. SWV 075 200 300 210	_____ pcs. SWV 075 200 400 210	_____ pcs. SWV 075 200 600 210	_____ pcs. SWV 075 200 800 210	_____ pcs.
250 mm w	_____ pcs. SWV 075 250 300 210	_____ pcs. SWV 075 250 400 210	_____ pcs. SWV 075 250 600 210	_____ pcs. SWV 075 250 800 210	_____ pcs.
300 mm w	_____ pcs. SWV 075 300 300 210	_____ pcs. SWV 075 300 400 210	_____ pcs. SWV 075 300 600 210	_____ pcs. SWV 075 300 800 210	_____ pcs.
350 mm w	_____ pcs. SWV 075 350 300 210	_____ pcs. SWV 075 350 400 210	_____ pcs. SWV 075 350 600 210	_____ pcs. SWV 075 350 800 210	_____ pcs.
400 mm w	_____ pcs. SWV 075 400 300 210	_____ pcs. SWV 075 400 400 210	_____ pcs. SWV 075 400 600 210	_____ pcs. SWV 075 400 800 210	_____ pcs.

<b>Slot grid containers of 100 mm height</b>					
150 mm w	_____ pcs. SWV 100 150 300 210	_____ pcs. SWV 100 150 400 210	_____ pcs. SWV 100 150 600 210	_____ pcs. SWV 100 150 800 210	_____ pcs.
200 mm w	_____ pcs. SWV 100 200 300 210	_____ pcs. SWV 100 200 400 210	_____ pcs. SWV 100 200 600 210	_____ pcs. SWV 100 200 800 210	_____ pcs.
250 mm w	_____ pcs. SWV 100 250 300 210	_____ pcs. SWV 100 250 400 210	_____ pcs. SWV 100 250 600 210	_____ pcs. SWV 100 250 800 210	_____ pcs.
300 mm w	_____ pcs. SWV 100 300 300 210	_____ pcs. SWV 100 300 400 210	_____ pcs. SWV 100 300 600 210	_____ pcs. SWV 100 300 800 210	_____ pcs.
350 mm w	_____ pcs. SWV 100 350 300 210	_____ pcs. SWV 100 350 400 210	_____ pcs. SWV 100 350 600 210	_____ pcs. SWV 100 350 800 210	_____ pcs.
400 mm w	_____ pcs. SWV 100 400 300 210	_____ pcs. SWV 100 400 400 210	_____ pcs. SWV 100 400 600 210	_____ pcs. SWV 100 400 800 210	_____ pcs.

<b>Slot grid containers of 125 mm height</b>					
150 mm w	_____ pcs. SWV 125 150 300 210	_____ pcs. SWV 125 150 400 210	_____ pcs. SWV 125 150 600 210	_____ pcs. SWV 125 150 800 210	_____ pcs.
200 mm w	_____ pcs. SWV 125 200 300 210	_____ pcs. SWV 125 200 400 210	_____ pcs. SWV 125 200 600 210	_____ pcs. SWV 125 200 800 210	_____ pcs.
250 mm w	_____ pcs. SWV 125 250 300 210	_____ pcs. SWV 125 250 400 210	_____ pcs. SWV 125 250 600 210	_____ pcs. SWV 125 250 800 210	_____ pcs.
300 mm w	_____ pcs. SWV 125 300 300 210	_____ pcs. SWV 125 300 400 210	_____ pcs. SWV 125 300 600 210	_____ pcs. SWV 125 300 800 210	_____ pcs.
350 mm w	_____ pcs. SWV 125 350 300 210	_____ pcs. SWV 125 350 400 210	_____ pcs. SWV 125 350 600 210	_____ pcs. SWV 125 350 800 210	_____ pcs.
400 mm w	_____ pcs. SWV 125 400 300 210	_____ pcs. SWV 125 400 400 210	_____ pcs. SWV 125 400 600 210	_____ pcs. SWV 125 400 800 210	_____ pcs.

Available widths:

150 mm

200 mm

250 mm

300 mm

350 mm

400 mm

Slot grid containers are available in widths of 150, 200, 250, 300, 350 and 400 mm, covering the half-depth (300 or 400 mm) or the full-depth (600 or 800 mm) of the tray.

According to the required filling volume, all containers are available in our standard heights of 50, 75, 100 and 125 mm.



Useful magnetic labeling strips (c-profile) for the individual tagging of your storage goods, incl. insertable cardboard label and protective foil, approx. 100 mm w x 20 mm h.



Get all basic data such as weight, storage capacity, space occupancy, etc. calculated and edited through our configurator. We gladly arrange your individual tray layout for optimised utilisation and maximum efficiency.



Please contact us via phone, fax or e-mail.  
For any request or order you are welcome to send us a photo via your smartphone.



## Customized partition for a fast and efficient order picking

easy setup with precise  
snap-in connection  
without the use of tools



### standard heights:

100 mm	▲
75 mm	▲
50 mm	▲

Frame from  
**67,40**  
cross dividers from  
**7,60**



recessed  
length dividers



folded and  
deburred edges



various dividers  
available



adjustable  
dividers



tapered slot grid  
of 10 mm steps



extra wide  
base plate



optimum fire  
protection



snap-in connection  
without use of tools

## Snap-fastened slot grid frames – the lightweight, adjustable and stable solution for your merchandise-driven storage

The newly developed slot grid containers come with plenty of technical features that make the subdivision of your trays not only simple and flexible, but also functional and safe.

All components are made of galvanized sheet steel and can be assembled without the use of any tools.

Due to the all-metal construction, they meet the requirements of fire protection regulations.

Reinforced corner joints with precisely finished edge bonds provide maximum stability and durability.

Recessed on both ends, the lengthwise dividers with their newly designed, high-strength snap-in connections additionally brace the frame to stabilize the whole construction against tension and compression.

Extra wide all-around base plates provide ultimate rigidity and a safe stand.



Sound corner joints provide highest rigidity and a precise fit. The recessed extra wide base plates additionally stabilize the whole frame structure.



To prevent injury, the external edges of all components are folded. For an individual tagging, different sloped dividers and magnetic labelling strips are available.



Get all basic data such as weight, storage capacity, space occupancy, etc. calculated and edited through our configurator. We gladly arrange your individual tray layout for optimised utilisation and maximum efficiency.

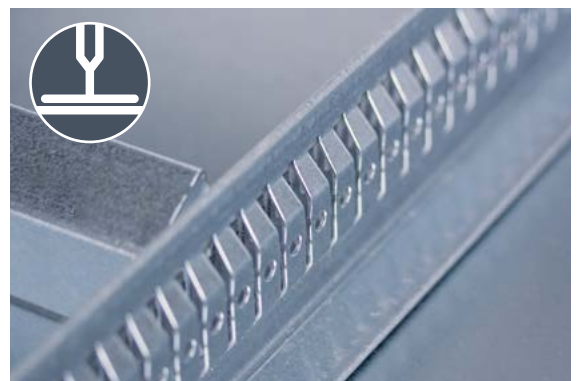


### **Snap-fastened slot grid frames for the quantity-oriented partition of your storage spaces**

With our snap-fastened slot grid frames you build up efficient, weight-saving storage and order picking systems, always easily adaptable to the amount of items to be stored.



When the dividers are safely fixed into the tapered slots, they overlay the base plate of the outer frame due to their recessed ends to increase the rigidity and sturdiness of the whole construction.



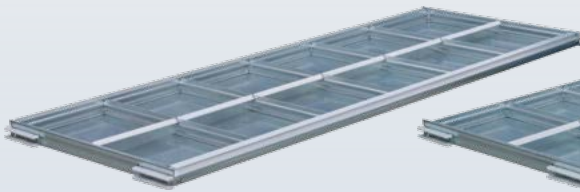
The extra wide dimensioned base plates of the length dividers ensure a stable construction without tension and contorsion which sustains even the most heaviest loads.



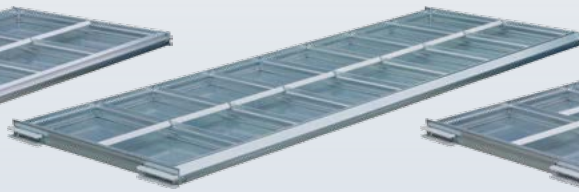
Please contact us via phone, fax or e-mail.  
For any request or order you are welcome to send us a photo via your smartphone.



## Customized partition for a fast and efficient order picking



Tray with 12 storage spaces,  
partitioned by 5 length and  
6 crosswise dividers



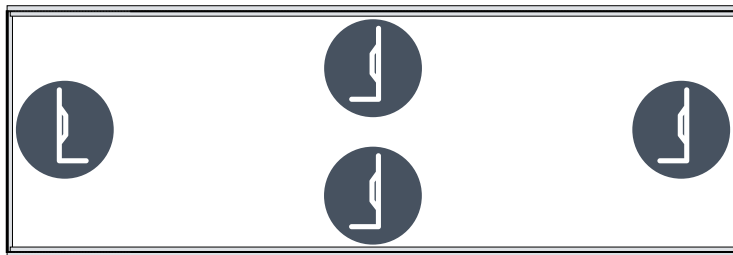
Tray with 16 storage spaces,  
partitioned by 7 length and  
8 crosswise dividers



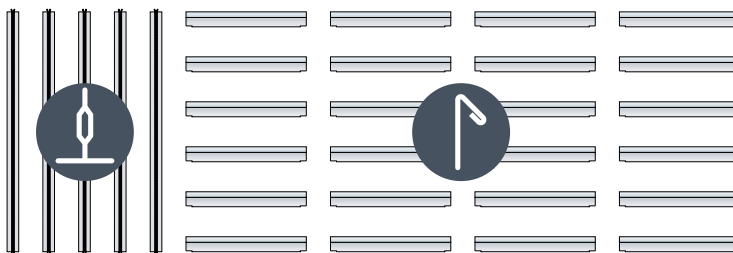
Tray with 20 storage spaces,  
partitioned by 7 length and  
12 crosswise dividers



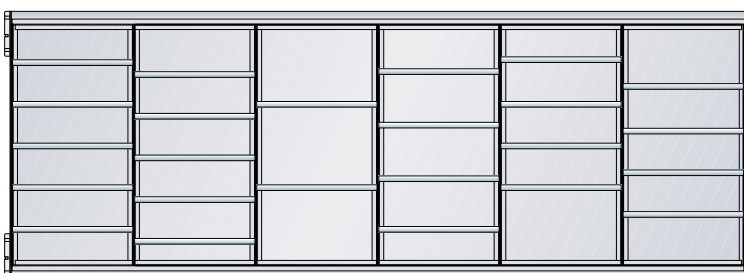
Unequipped tray



Frame with tapered slot grid of 10 mm increments



Length dividers with slot grid and sloped crosswise dividers



Tray with different storage spaces, tool-free adjustable in depth

## Assembly of a slot grid frame in a tray

The mounting of the length dividers into the frame as well as the positioning of the crosswise dividers into the length dividers are implemented without the use of tools.

To guarantee an easy plug in and a permanent fixation of the crosswise dividers, our new developed grid consists of tapered cut slots of 10 mm distance.

For a better perceptibility, the crosswise dividers are sloped and can be easily tagged by magnetic or adhesive labels.

To prevent injury, the external edges of the galvanized steel components are folded.

According to the required filling volume, all components are available in heights of 50, 75 and 100 mm.

Choose the components that suit your individual storage system from our extensive range.



The length dividers of galvanized steel with their double clamp are snapped into the tapered slots of the outer frame to build up a stable traction- and pressure-resistant connection.



Get all basic data such as weight, storage capacity, space occupancy, etc. calculated and edited through our configurator. We gladly arrange your individual tray layout for optimised utilisation and maximum efficiency.



**Adjustable  
cross-partition  
fastened  
in 10 mm  
increments**



Please contact us via phone, fax or e-mail.  
For any request or order you are welcome to send us a photo via your smartphone.



## Screw-fastened divider plate frames with big filling heights for a safe high-volume storage of large amounts of goods

standard heights:

250 mm  
200 mm  
150 mm



Screwed in dividers for the safe storage of large amounts of goods



hole grid with 10 mm steps



folded and deburred edges



various dividers available



suitable for suspension files



screwed in dividers

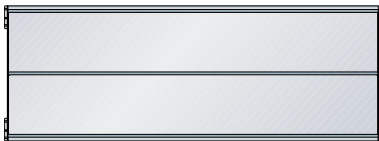


adjustable cross-partition



optimum fire protection

### Example subdivisions of trays



2 storage spaces for extra long items, partitioned by 1 lengthwise divider



4 storage spaces, partitioned by 1 length divider and 2 crosswise dividers



6 storage spaces, partitioned by 2 length dividers and 3 crosswise dividers



8 storage spaces, partitioned by 3 length dividers and 4 crosswise dividers



12 storage spaces, partitioned by 5 length dividers and 6 crosswise dividers



16 storage spaces, partitioned by 7 length dividers and 8 crosswise dividers

### Plenty of space for the well-arranged and safe storage of your goods

The sound frame with its screwed-in length and crosswise dividers provides maximum stability.

Due to the continuous hole grid of 10 mm increments the crosswise dividers are lengthwise adjustable.

For the storage of extra long items the tray can be completely divided lengthwise.

With two dividers next to each other the tray can even suit the storage of suspension files.

To prevent injury, the external edges of the galvanized steel components are folded.



Tray with sloped crosswise dividers for the application of magnetic or adhesive labels



Get all basic data such as weight, storage capacity, space occupancy, etc. calculated and edited through our configurator. We gladly arrange your individual tray layout for optimised utilisation and maximum efficiency.

## KEK – the perfect bin sizes for storage according to the euro code

KEK 1510



KEK 2015



KEK 3020

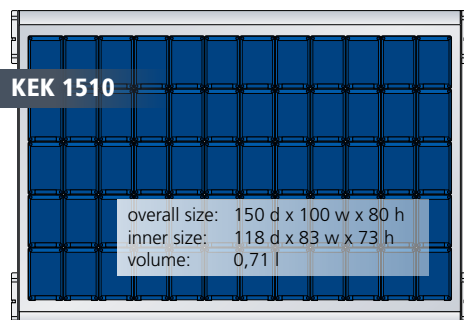


KEK 4030

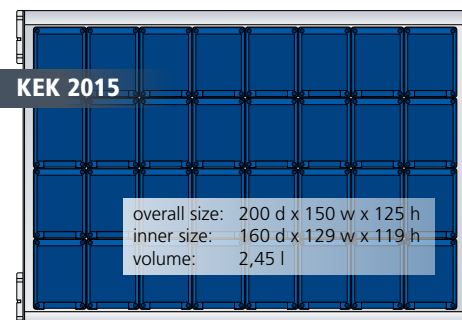


The KEK euro code plastic storage bins are perfectly compatible with euro pallet dimensions. The four different sizes are combinable with each other in width and length and therefore perfectly suited for the allocation in lift trays. Made of shock-resistant polypropylene (PP) and equipped with tubular corners, they are easily stackable and allow extreme charges (for example 650 kg superimposed load of the KEK 4030).

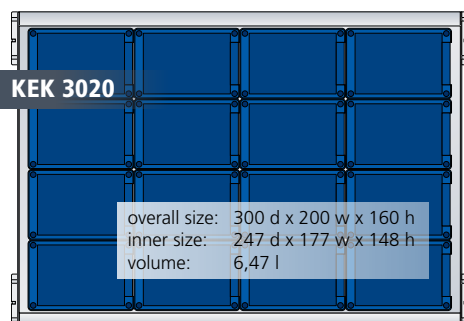
## Example calculations with trays of the LTL 1280



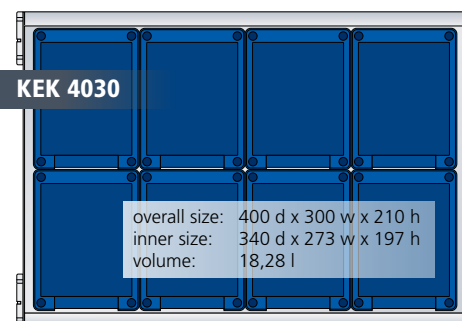
3.000 mm h = 12 trays of 60 plastic bins of 150 x 100 mm  
**Total storage capacity: 720 euro code plastic bins**  
6.000 mm h = 32 trays of 60 plastic bins of 150 x 100 mm  
**Total storage capacity: 1.920 euro code plastic bins**  
9.000 mm h = 52 trays of 60 plastic bins of 150 x 100 mm  
**Total storage capacity: 3.120 euro code plastic bins**



3.000 mm h = 12 trays of 32 plastic bins of 200 x 150 mm  
**Total storage capacity: 384 euro code plastic bins**  
6.000 mm h = 32 trays of 32 plastic bins of 200 x 150 mm  
**Total storage capacity: 1.024 euro code plastic bins**  
9.000 mm h = 52 trays of 32 plastic bins of 200 x 150 mm  
**Total storage capacity: 1.664 euro code plastic bins**



3.000 mm h = 12 trays of 16 plastic bins of 300 x 200 mm  
**Total storage capacity: 192 euro code plastic bins**  
6.000 mm h = 32 trays of 16 plastic bins of 300 x 200 mm  
**Total storage capacity: 512 euro code plastic bins**  
9.000 mm h = 52 trays of 16 plastic bins of 300 x 200 mm  
**Total storage capacity: 832 euro code plastic bins**



3.000 mm h = 12 trays of 8 plastic bins of 400 x 300 mm  
**Total storage capacity: 96 euro code plastic bins**  
6.000 mm h = 32 trays of 8 plastic bins of 400 x 300 mm  
**Total storage capacity: 256 euro code plastic bins**  
9.000 mm h = 52 trays of 8 plastic bins of 400 x 300 mm  
**Total storage capacity: 416 euro code plastic bins**



Please contact us via phone, fax or e-mail.  
For any request or order you are welcome to send us a photo via your smartphone.



## WSW – the workshop trolleys that perfectly match our tool carriers

Our WSW workshop trolley with its compatible equipment transports your milling and turning tools safely and gently to wherever they are needed.

The robust drawer, mountable from both sides, offers a dust-free and handy space for measuring devices, working documents and small parts. The base of the trolley and a further shelf provide additional locations for your tools.

The side and rear panels have a grid pattern of square holes of 10 x 10 mm combined with round holes of 5 mm for the easy mounting of add-ons.

The stainless steel handle bar, 2 fixed and 2 swivel castors and a payload of 400 kg provide high charges und safe handling.

### WSW 600

for tool carriers WWR 600, dimensions: 922 h x 582 w x 702 d

### WSW 800

for tool carriers WWR 800, dimensions: 922 h x 582 w x 922 d



WSW 800



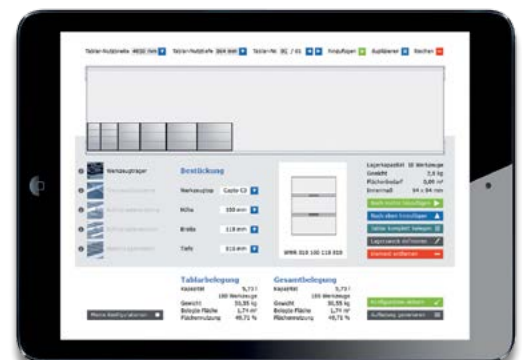
## Customized systems with optimum product benefits

No matter if the reduction of access times, the optimization of space or the material structure due to specific requirements is in focus – with our individually manufactured equipment we satisfy the highest demands in sustainable and proper function, maximum safety and tailor-made engineering.

Whether large-dimension complete systems of carrier elements, the fitting components of high-bay storage or the optimized layout for the partitioning of lift trays – we design, construct and realize compatible storage systems and commissioning solutions according to your operating processes, made to match the size of your business.

Our configurator generates the perfect layout of your individual tray configuration in detail to calculate the precise storage capacity of your tool tower.

Use our advanced technology to reach the full capacity of your lift system and therefore save time, space and money.



Get all basic data such as weight, storage capacity, space occupancy, etc. calculated and edited through our configurator. We gladly arrange your individual tray layout for optimised utilisation and maximum efficiency.





[www.apfel-gmbh.de](http://www.apfel-gmbh.de)

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Subject to change without notice.  
Prices are quoted in Euro ex works.  
Dimensions in millimeters.  
Illustrated tools and accessories are  
not included.