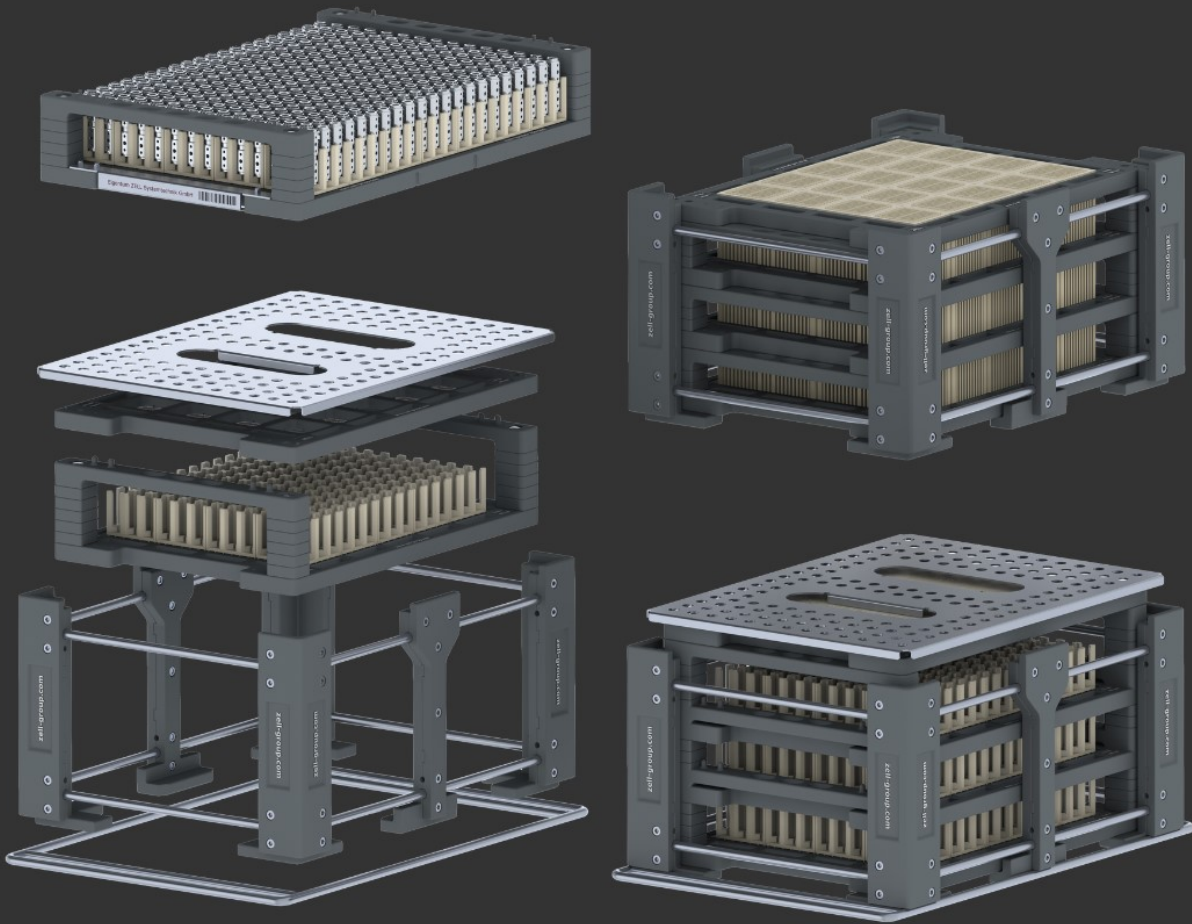
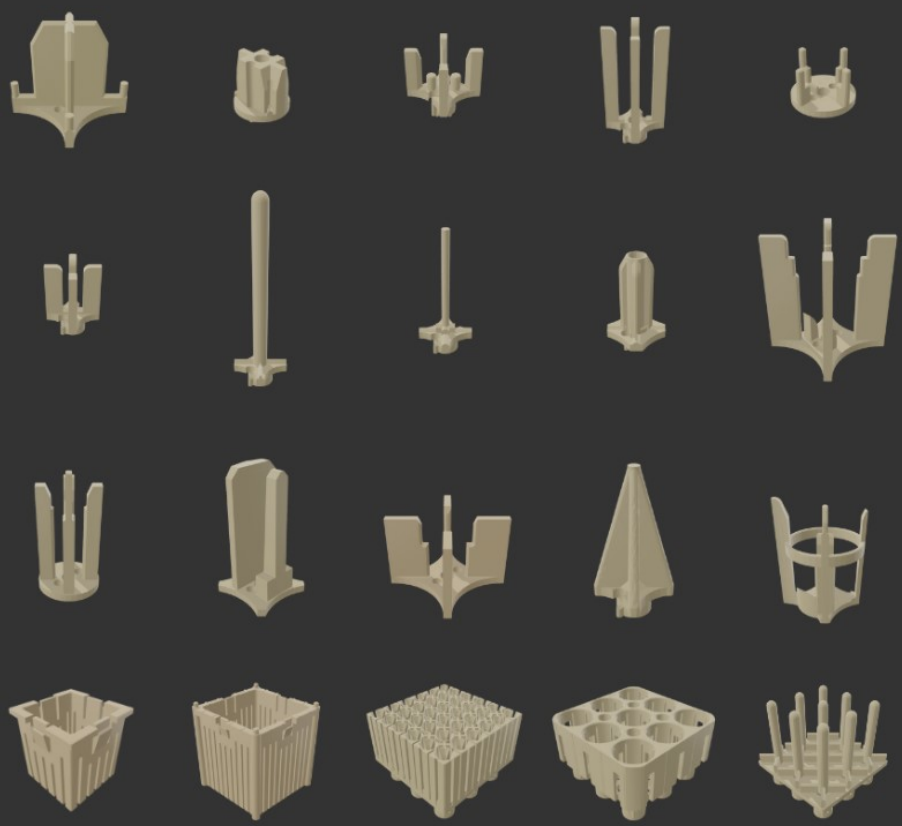


ZELL® Factory System



ZELL
Ideas for better solutions.



The latest standard workpiece carrier system of the **ZELL Group** consistently combines the areas of automation, transport, cleaning, storage & logistics.

Introduction

In recent years, it has become apparent that our products have been requested and purchased globally by customers from a wide range of industries.

The current price development of raw materials has shown that a combination of **polyamide** (PA) and **stainless steel** (VA) has to be the future solution. The prices for steel have risen drastically in the past, but the material share in the individual parts, in our new products is **only about 15%**. So, if the price of the raw material doubles, our purchase price will only increase by about 15%. This means that our products can continue to be manufactured and marketed competitively.

With our products, we want to unite the automated area of **logistics and cleaning** in a standard system. Only in this way customers can further simplify their processes, some of which are already automated. This means that **reloading processes become obsolete**, thanks to the modular compatibility of all components, right down to the Euro pallet. Several workpiece carriers can be stacked in a suitable washing basket, cleaned as a complete system, and then stacked on a pallet to save space (see attached pictures). Due to the standardization of the individual parts, we can produce all components in stock and are thus **always able to deliver**.

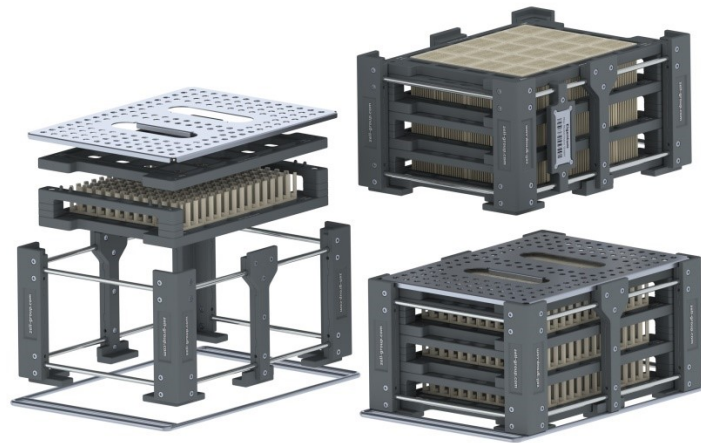
General competitive advantages of our system:

At the moment, there is no standard system on the market that combines the two areas of logistics and cleaning.

For the manufacturing industry, this means that those two systems must be operated separately. The interface between the two systems is the repackaging of the parts. This leads to high throughput times for the entire process and unnecessary handling costs. We have therefore set ourselves the following goal with these new developments:

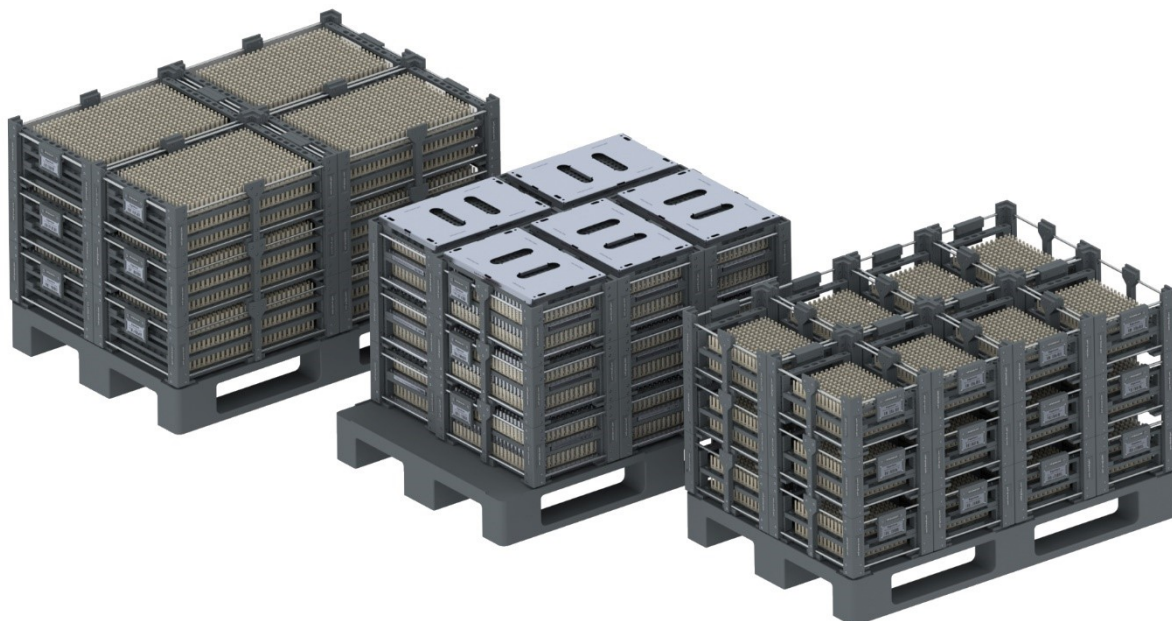
We want to offer a flexible standard system, which fulfills both customer requirements. Standardization enables us to manufacture and store the components more cost-effectively. The customer achieves a **price advantage of up to 50%** with the hardware both in the polyamide carriers, the Multiclips, and the polyamide-stainless steel baskets. Ideally, **the handling costs are eliminated completely** and the lead time in production is drastically reduced. We believe that this will enable us to be globally competitive in the coming years.

A sophisticated and innovative workpiece carrier system

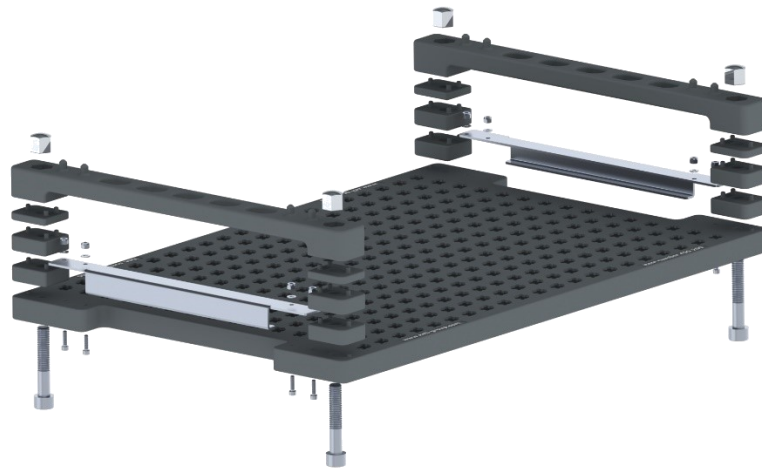


Our system consists of three main components: Workpiece carriers, transport baskets, and clips, as well as several useful supplements in the form of e. g. end lids, adapter frames, markings, etc. The sub-components can be modularly combined.

In the area of cleaning, we are guided by the standard dimensions of well-known equipment manufacturers. Customers have a wide range of customizing options, starting with the color of the individual clips, and extending to the labeling on the workpiece carriers and baskets.



1 Polyamide-Carrier system



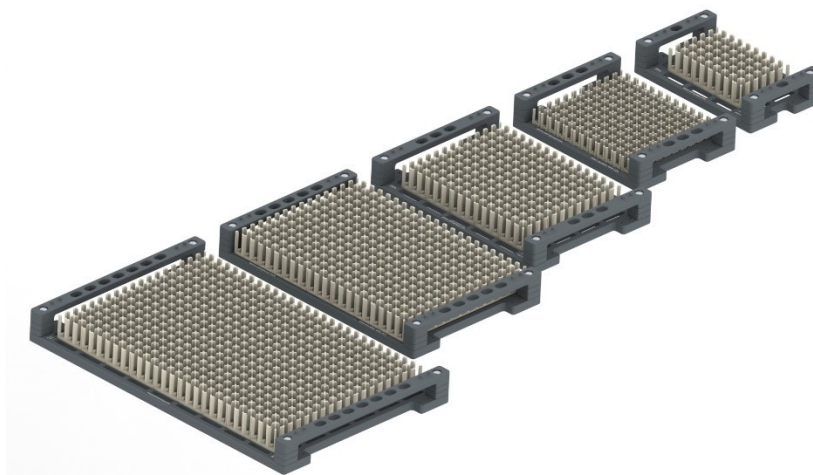
Our polyamide-carrier system is an assembly of several individual parts:

- The polyamide carrier, which on customer request can also be **further reinforced** by a stainless steel frame, for higher loads. The integrated bayonet lock allows the mounting of all our standard and Multiclips
- Two **retaining brackets**, each with four positioning bolts, guarantee not only good handling but also stackability of several systems
- Any number of **spacer sleeves** (5 mm or 10 mm), which serve as spacers between the retaining bracket and the polyamide carrier and allow any height of the carrier system from 20 mm to 150 mm. They can be mounted on any carrier variant
- Four **bolts** and cap nuts each, with which the entire assembly is bolted together
- Optionally, customers can mount **labeling plates** on the sides of the carrier, on which all relevant customer data is engraved by laser

Our new polyamide-carrier system is also being marketed for the first time as a modular assembly solution. Since we have been able to significantly reduce the assembly effort, customers are now able for the first time to assemble the carrier assembly that suits their needs themselves at any time. If a new component with different dimensions needs to be transported after initial use, only the number of spacer sleeves needs to be adjusted if the height is changed, and the entire carrier no longer needs to be replaced. In addition, the customer also saves unnecessary assembly costs and maintains control over the product quality of the individually assembled assembly. ZELL can therefore deliver the kit including assembly instructions on request.

Currently, we offer customers the following five standard sizes:

- 255x155 mm
- 275x190 mm
- 355x255 mm
- 425x275 mm
- 555x355 mm



For each size of polyamide carrier, we offer the appropriate basket size. All polyamide components can also be manufactured antistatic (ESD) and are therefore ideal for the gentle transport of electronic components.

With our polyamide-carrier systems, we offer customers a solution that is up to 35% lighter and up to 50% cheaper than conventional stainless steel-carrier systems (see p. 11). At the same time, the entire assembly is a better and more innovative product.



POS-NR.	Artikel	Bezeichnung	Menge
1	450.200	PA Träger	1
2	450.600	Henkel	2
3	450.602	Distanzhülse 10 mm	
4	450.604	Distanzhülse 5 mm	
5	450.608	Hutmutter M8	4
6	94845	Schraube M8	4

X 1	Distanz 10 mm 450.602	Distanz 5 mm 450.604	X 2
20 mm	0 Stück	0 Stück	M8 x 20 mm
25 mm	0 Stück	4 Stück	M8 x 25 mm
30 mm	4 Stück	0 Stück	M8 x 30 mm
35 mm	4 Stück	4 Stück	M8 x 35 mm
40 mm	8 Stück	0 Stück	M8 x 40 mm
45 mm	8 Stück	4 Stück	M8 x 45 mm
50 mm	12 Stück	0 Stück	M8 x 50 mm
55 mm	12 Stück	4 Stück	M8 x 55 mm
60 mm	16 Stück	0 Stück	M8 x 60 mm
65 mm	16 Stück	4 Stück	M8 x 65 mm
70 mm	20 Stück	0 Stück	M8 x 70 mm
75 mm	20 Stück	4 Stück	M8 x 75 mm
80 mm	24 Stück	0 Stück	M8 x 80 mm
85 mm	24 Stück	4 Stück	M8 x 85 mm
90 mm	28 Stück	0 Stück	M8 x 90 mm
95 mm	28 Stück	4 Stück	M8 x 95 mm
100 mm	32 Stück	0 Stück	M8 x 100 mm
110 mm	36 Stück	0 Stück	M8 x 110 mm
120 mm	40 Stück	0 Stück	M8 x 120 mm
130 mm	44 Stück	0 Stück	M8 x 130 mm
140 mm	48 Stück	0 Stück	M8 x 140 mm
150 mm	52 Stück	0 Stück	M8 x 150 mm

Zylinderschraube mit Innensechskant DIN 912

ZELL ZELL Systemtechnik GmbH Zum Tannenweg 24 99644 Vellmar/Stein 49 9391 77004 - 0
 Datum: 3.2.2022 Seite: 1 von 1
 Name: Zell Gruppe
 E-Mail: www.zell-group.com
 Beschreibung: Komponentenermittlung für PA-Trägersysteme
 Artikelnummer: MA 0001-19
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Help sheet for the choice of size-dependent number of spacer sleeves required

POS-NR.	Artikel	Bezeichnung	Menge
1	450.200	PA Träger	1
2	450.600	Henkel	2
3	450.602	Distanzhülse 10 mm	8
4	450.604	Distanzhülse 5 mm	4
5	450.608	Hutmutter M8	4
6	450.612	Beschriftungsblech	2
7	94845	Schraube M8	4
8	999.194	Sechskantmutter M2,5	8
9	999.195	Schraube M2,5x10	8
10	999.197	Unterlagscheibe	8

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 Datum: 3.2.2022 Seite: 1 von 1
 Name: Zell Gruppe
 E-Mail: www.zell-group.com
 Beschreibung: Montageanleitung für PA-Trägersystem 450.200
 Artikelnummer: MA 450.200
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Assembly instructions polyamide-carrier system for customers

More information about our workpiece carriers can be found on our website at:
<https://en.zell-group.com/kategorien/edelstahl-kunststoff-werkstuecktrager>



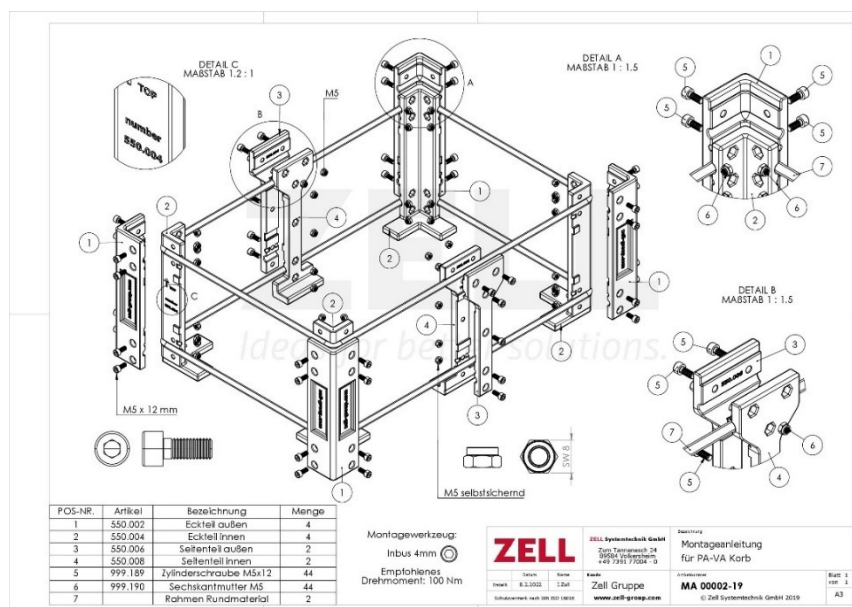
2 Polyamide-stainless steel-basket



Our polyamide-stainless steel-basket system is an assembly with the following components:

- Four **polyamide corner parts** each, consisting of the inner and outer parts.
- Two **welded stainless-steel frames** (diameter 8 mm), which define the area dimension of the baskets
- The whole assembly is mounted with **self-locking screws** and nuts
- Optional two **polyamide side parts** outside and inside, which allow stacking of smaller inserts
- Optional **identification labels** on a separate identification holder

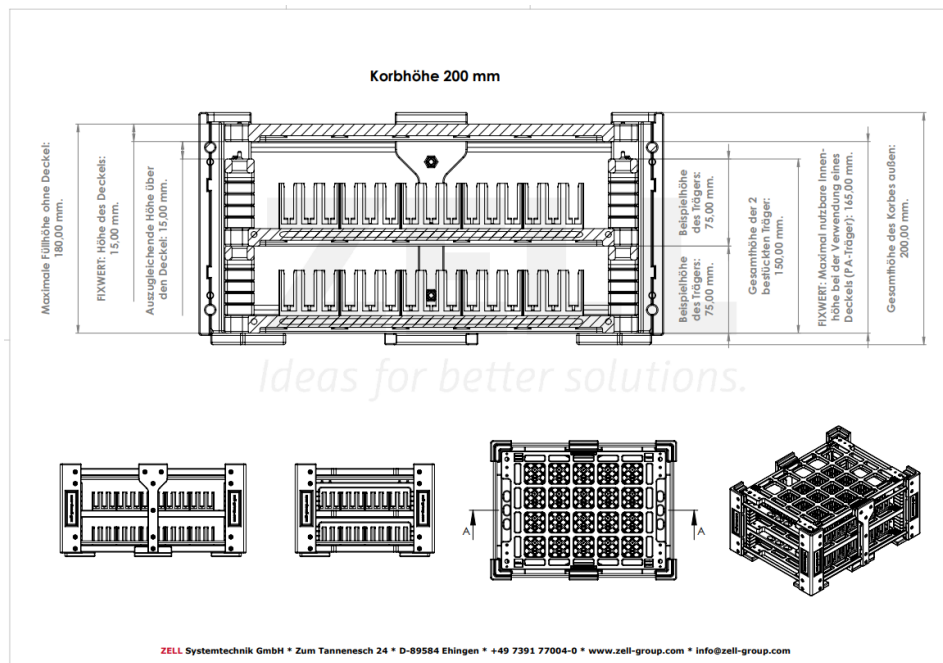
Our baskets can also be sold as a modular solution and can therefore be assembled independently by the customer. This creates flexible possibilities for use. In case of repair or the need for a changed size, individual parts can now be exchanged (**spare parts trade**).



Assembly instructions of the polyamide-stainless-steel baskets for customers

Currently we can realize all base areas with a basket height of 200 mm and 300 mm. In standard we have round frames for the following basket sizes in stock:

- 300x200 mm
- 320x235 mm
- 400x300 mm
- 470x320 mm
- 600x400 mm

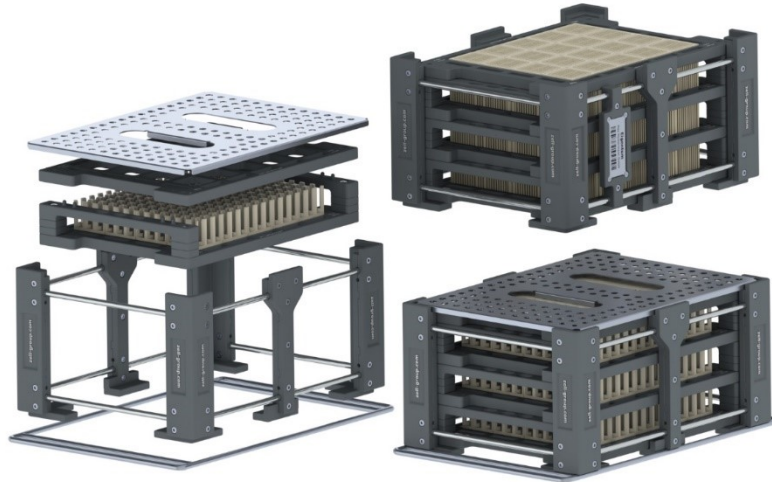


Determination of height for baskets with 200 mm height

More information about our baskets you can find on our website:
<https://en.zell-group.com/kategorien/edelstahl-kunststoff-korbe>



3 Polyamide or stainless-steel lid



From the very beginning, we developed for the highest quality requirements, as well as the protection of the components to be transported and cleaned. It was therefore clear that a polyamide or stainless-steel lid was required. For each basket size, we have therefore developed the appropriate lids with which to close the system. Our stainless-steel closing lids distribute the pressure of the automation components that grip, swivel, and rotate the baskets in the cleaning systems. In this way, all components remain fixed in place and the entire system gains stability.

Our polyamide lids consist of a carrier, which can be lowered by the selected number of spacer sleeves (see height determination) so that the system is closed.

Senkkopfschraube DIN 7991

5.00

10.00

15.00

Federring 8 mm DIN 128

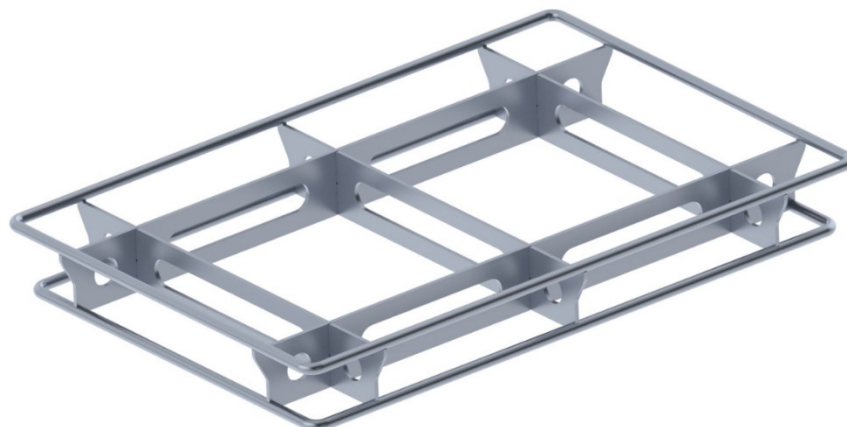
Mutter M8 niedrige Form

POS.-NR.	Artikel	Bezeichnung	Menge
1		PA Träger	1
2		Federring 8 mm DIN 128	4
3		Mutter M8 niedrige Form	4
4	450.028	Distanzhülse Aufagedeckel	8
5	450.026	Distanzhülse Aufagedeckel	4
6		Senkkopfschraube M8	4

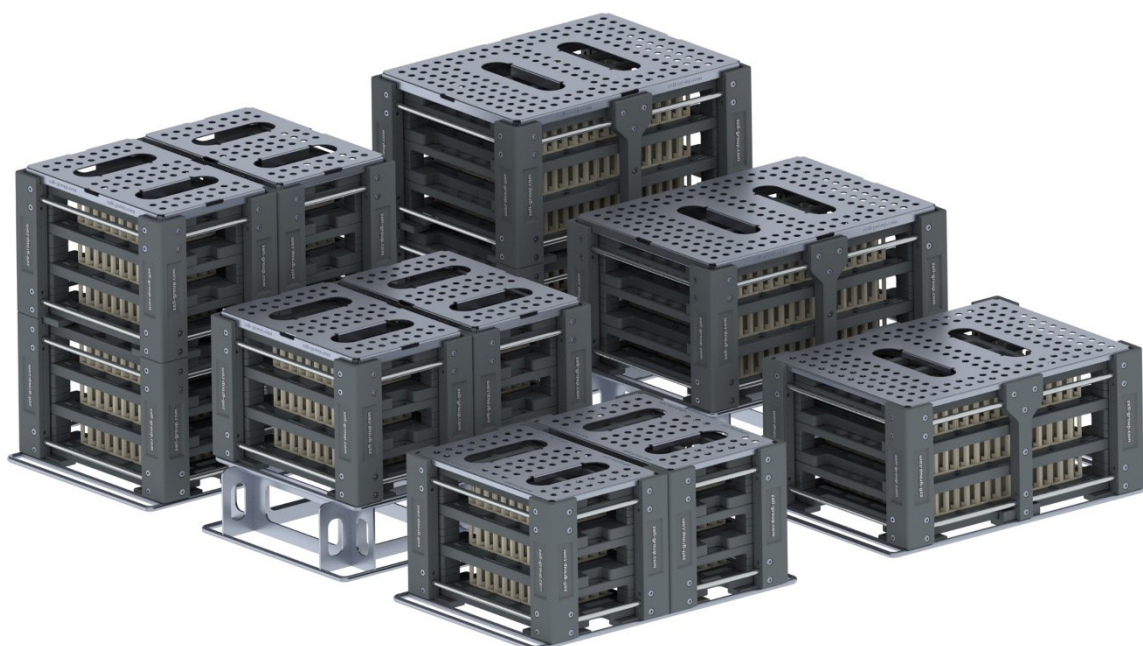
X 1	Distanz 10 mm 450.028	Distanz 5 mm 450.026	X 2
20 mm	0 Stück	4 Stück	M8 x 16 mm
25 mm	4 Stück	0 Stück	M8 x 20 mm
30 mm	4 Stück	4 Stück	M8 x 25 mm
35 mm	8 Stück	0 Stück	M8 x 30 mm
40 mm	8 Stück	4 Stück	M8 x 35 mm
45 mm	12 Stück	0 Stück	M8 x 40 mm
50 mm	12 Stück	4 Stück	M8 x 45 mm
55 mm	16 Stück	0 Stück	M8 x 50 mm
60 mm	16 Stück	4 Stück	M8 x 55 mm
65 mm	20 Stück	0 Stück	M8 x 60 mm
70 mm	20 Stück	4 Stück	M8 x 65 mm
75 mm	24 Stück	0 Stück	M8 x 70 mm
80 mm	24 Stück	4 Stück	M8 x 75 mm

ZELL	ZELL Systemtechnik GmbH Zum Tannenweg 24 89584 Völklingen +49 7391 77004 - 0	Bezeichnung Komponentenermittlung für PA-Deckel
Datum 15.11.2022	Name I.Zell	Blatt 1 von 1
Schutzzeichen nach DIN ISO 16016	Kunde Zell Gruppe www.zell-group.com	Artikelnummer MA 00003-19 © Zell Systemtechnik GmbH 2019

4 Adapter frame for the cleaning systems



In order to optimize the sizes of our baskets for Euro pallets and cleaning machines, we have developed a stainless-steel adapter frame for each size. This allows the baskets to be easily placed in the machine and then stacked on a conventional Euro pallet (1200x800 mm) to save space. This means that our system is fit for logistics and components no longer must be restacked at great expense.



5 Multiclip

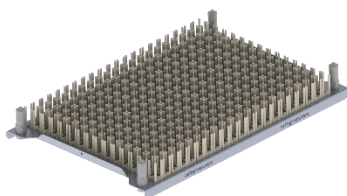


Zell has already developed more than 700 standard clip and pin variants, for workpiece holding. With our new Multiclips, we now offer further decisive advantages:

- A more favorable purchase price, as we can offer up to 36 cavities - i.e., +400% - per Multiclip instead of nine cavities as with conventional standard clips. This significantly increases the holding capacity per carrier
- Significantly reduced assembly time of up to -83%, as the Multiclip only must be clicked in and not screwed in individually as with standard clips
- Customers therefore receive a higher-quality system, at a 50% lower price



- Polyamide carrier with 35 Multiclips and a total of **315 cavities**
- Assembly time of clips, spacer sleeves, and **bracket approx. 5 minutes**



- Conventional stainless steel carrier with **315 individual clips** and a total of 315 cavities.
- Assembly time of clips and spacers more than **30 minutes**

A proven standard system

In addition to our latest standard system, we are already working very successfully with our current standard catalog. It contains more than 700 clip forms, stainless steel carriers, polyamide, and stainless-steel washing baskets, lids, carrier systems for heat treatment, etc.

1 Stainless steel basket lid

For our various options of washing baskets, we offer, depending on the customer's requirements, the appropriate designs of support lids and clamping lids.

2 GRID PLUS System

A combination of grid frames and screwed clips, offers the best possible flushing of the components, with maximum component protection.

3 GRID System

Temperature-resistant workpiece carriers up to 1,200 degrees Celsius, developed for the heat treatment of components.

4 Stainless-steel-carriers

Here we distinguish two main options:

1. carrier for mounting PA baskets and
2. carrier with bayonet lock for the mounting of Standard and Multiclips.

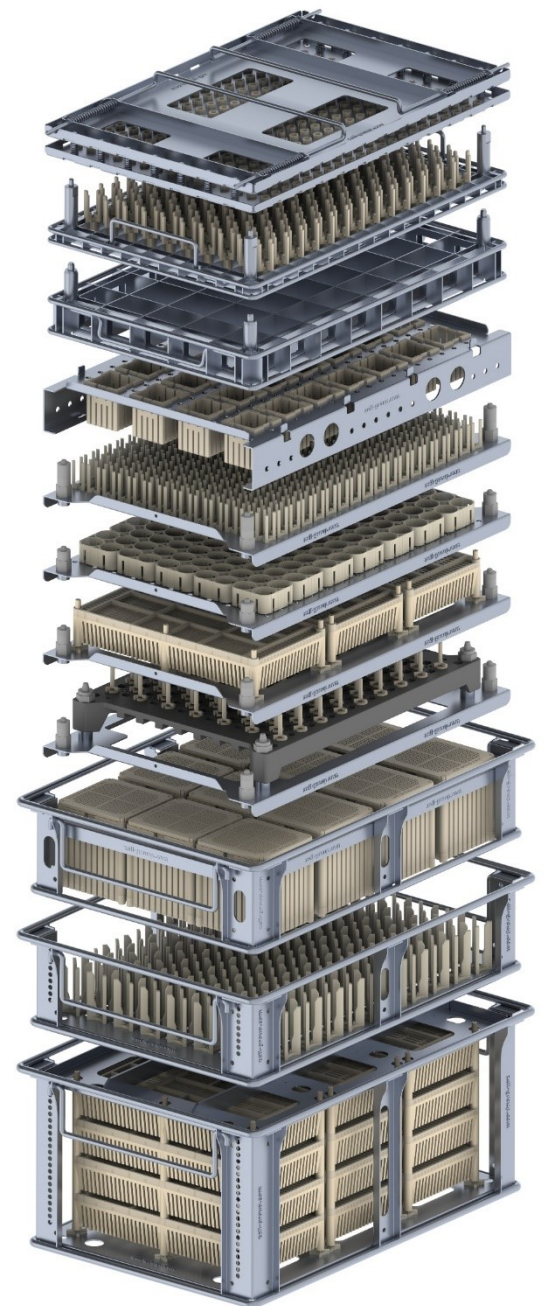
5 Polyamide-Washing baskets

Various sizes of polyamide washing baskets guarantee gentle cleaning and safe transport of sensitive small parts.

6 Stainless steel-washing baskets

Here, as well, we offer three different options:

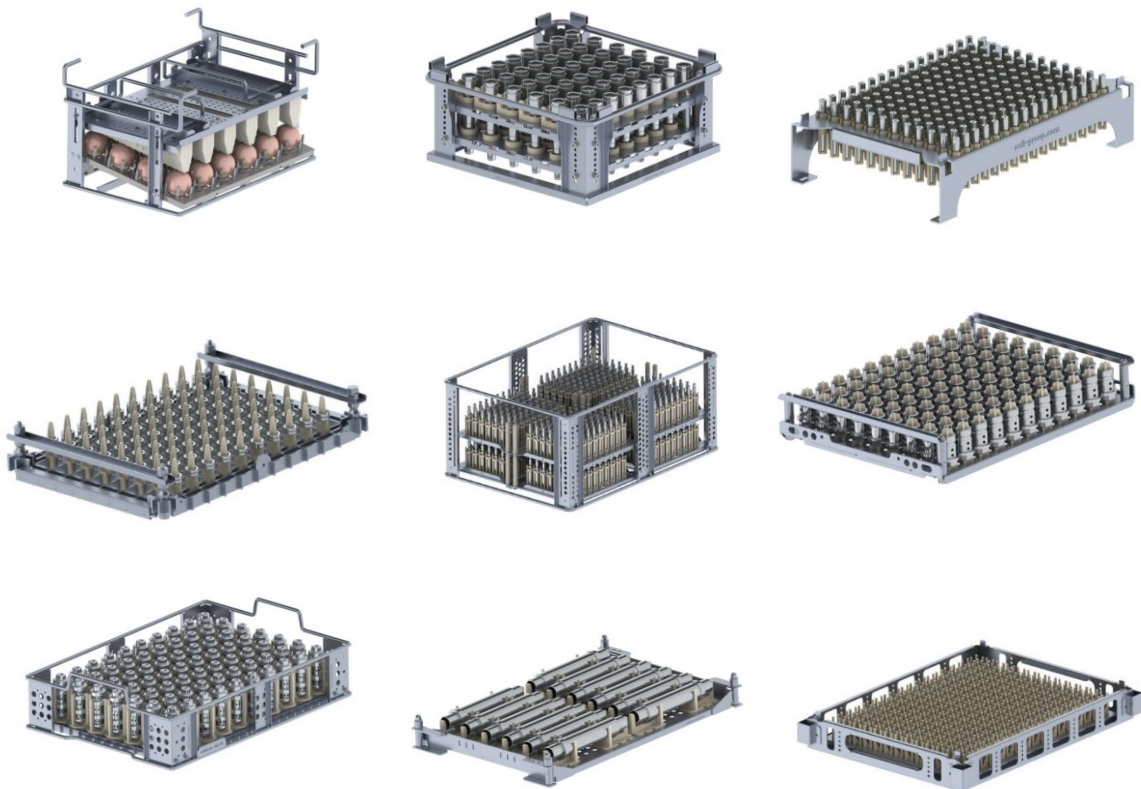
- washing baskets with a fixed bottom plate for mounting of standard clips and Multiclips
- washing baskets for the transport of polyamide baskets
- washing baskets for various inserts up to a size of 430x280 mm



Industry-specific individual solutions

Despite our strong focus on standardizable systems, we continue to develop customized solutions according to our customer's specifications, both in the polyamide and stainless-steel sectors.

In this way, we have been able to support many industrial sectors with our systems in their daily workflow.

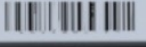


Your Notes

Your Notes



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