METALLFORM

Customised Solutions

Individual workpiece holders for the highest requirements

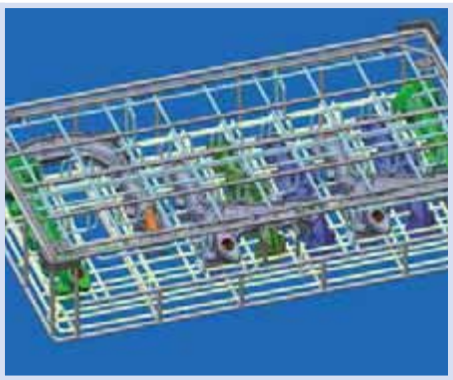
Company and core competencies

Added value through experience and know-how

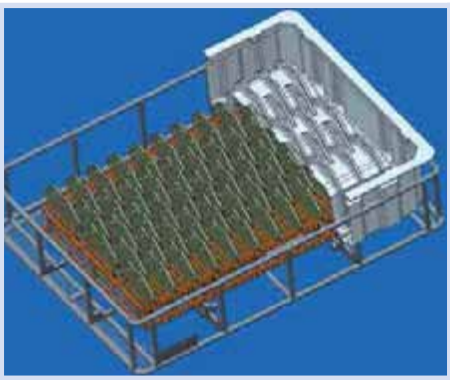
As the link between workpiece and cleaning machine, the workpiece holder influences the cleaning result as well as the profitability and level of automation of the cleaning process. With requirements for parts cleanliness getting stricter, components becoming increasingly complex and more and more robots being used in production, the demands placed on cleaning baskets are also increasing. And once a certain level has been reached, these demands can only be achieved by using component-specific workpiece holders.

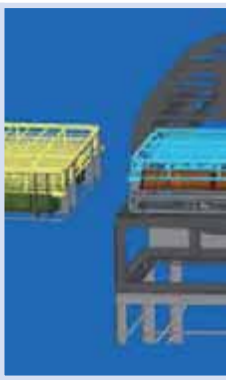
Whether your goal is to maintain a precisely defined degree of cleanliness, to protect components from damage during cleaning, to increase efficiency, to optimise your workflow or to automate the process – Metallform develops and manufactures the optimum technical and economical solution for every application. This is based on our specific know-how and many years of experience in industrial cleaning technology, engineering of workpiece holders and processing of stainless steel.

This extensive know-how, together with our high product quality, ensures that your investment in customised solutions by Metallform is amortised within a short time.



Rigid workpiece holders





Rigid workpiece holders for turning from/into blisters

Rigid vs. flexible workpiece holders

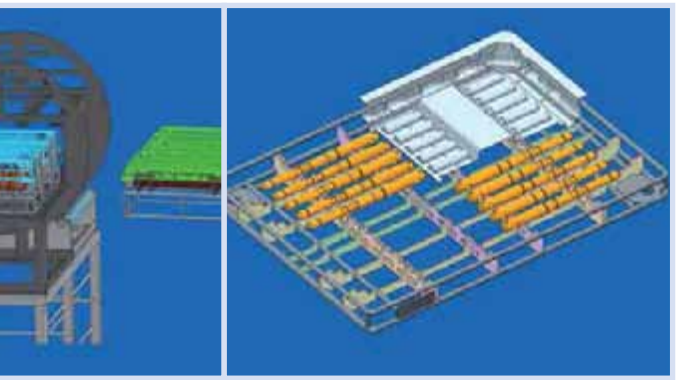
Rigid or flexible?
The application decides.

Metallform produces component-specific workpiece holders in both rigid and flexible design.

The rigid design offers a maximum level of process safety. It is usually used for components that are produced in large batches over a long period of time. After the product life cycle for the respective component has expired, the workpiece holders are disposed of.

If components are delivered in blisters (e.g. from external suppliers) or transported on in blisters after cleaning, we match the workpiece holders with the blisters so that parts can be turned from or into the blisters. This offers enormeous savings potentials.

Flexible workpiece holders can be adapted to different work-pieces due to their demountable, part-specific inserts. They are primarily used for components with a short product life cycle. The flexible design also offers advantages for a frequently changing range of parts.



Flexible workpiece holders

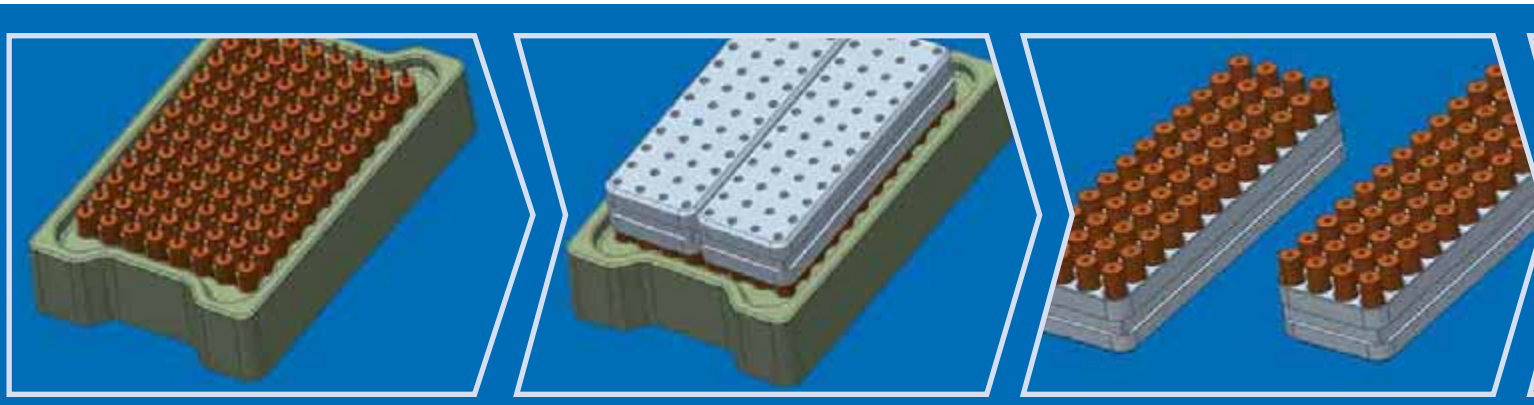
Consulting

Consulting – an important step toward workpiece holders that add genuine value

The quality and cleanliness requirements of components are becoming increasingly demanding. Yet production of workpieces is also under constant cost pressure. Workpiece holders therefore need to contribute to added value. To guarantee this, we offer comprehensive consulting services.

We not only consider the individual component and the cleaning system for which the workpiece holder is required, we also examine your basic manufacturing conditions. With this information we can develop optimal workpiece holders for your application.

The aim is not only to achieve defined cleanliness levels, but also to reduce time-consuming and cost-intensive repacking processes as well as to optimise upstream and downstream logistics processes – thereby reducing your operating costs.



A well-known automotive supplier reduces the required effort for parts transfer by 75 percent with this system.

Engineering – down to the smallest detail

As a provider of complete solutions, we take care of the entire design of the workpiece holder. You simply give us the relevant data, such as charge dimension, goods movement (rotation, swivelling, etc.), parts data (dimensions, function areas, critical component areas). With this information we project and design the workpiece holder using the latest CAD technology. On request, we can also develop the specifications for the packaging. This means your resources are not tied up in designing your equipment and instead remain available to you for your core processes.

With our extensive know-how and many years of experience in workpiece holder design, we guarantee that your parts will be optimally positioned and fixed in the workpiece holder and that the use of the available space will be optimised. Our designers pay particular attention to the geometry of the part receptacles. The aim is to have as few contact points as possible between the part and the workpiece holder, and for any contact point to be as small as possible. This guarantees that contamination and cleaning media cannot stick to the part and also prevents the parts from not draining and drying fully at the contact points and thus forming stains.

You can request a **checklist** with the key points for the development of part-specific workpiece holders via our homepage www.metallform.de.

For further information regarding this solution please refer to the back side of this brochure.

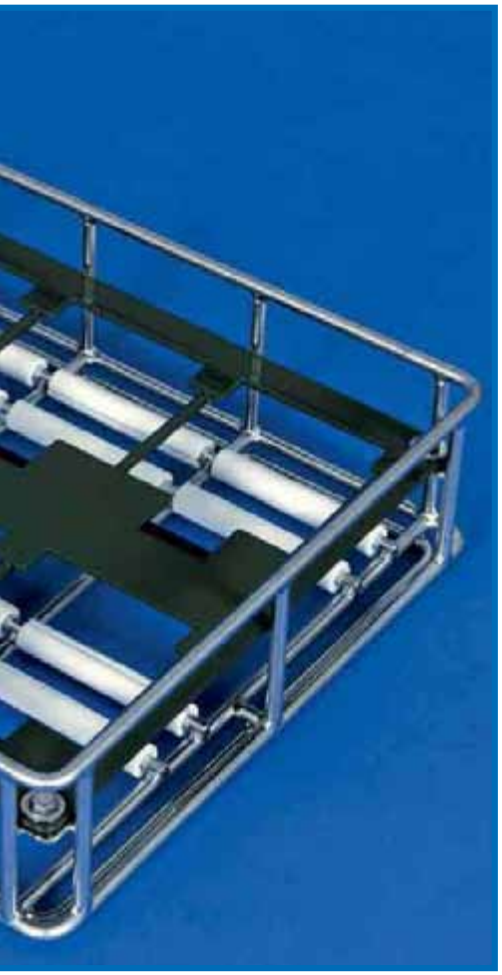
Quality

Uncompromising in quality and processing

Our workpiece holders are produced as standard using stainless steel rounds with electrolytic polished surfaces. Where required for accuracy, for example for robot handling, laser-cut sheet metal is also used. The high-quality, long-life material is suitable for all cleaning media and prevents return contamination from the basket to the component as well as contamination of the tanks due to corrosion and zinc separation.

The use of rounds offers clear advantages for the cleaning process:
The parts are easily accessible to the cleaning media on all sides. The round material offers optimum drainage behaviour, which minimises the carryover of dirt and cleaning media. And the round wire also minimises the contact surfaces.

But our workpiece holders not only offer uncompromising quality in terms of design and material, but also in processing. All connections of the rounds are completely welded. Where laser-cut sheet metal is used, it is completely deburred. There are no sharp corners, edges or wire ends that could cause injury.



Component protection – perfectly matched

There are various ways of protecting delicate workpieces from damage.

The workpiece holder areas that come into contact with parts can be partially coated with HALAR (Teflon) or RILSAN (Polyamide). On rounds HALAR can be applied with a thickness of 0.25 to 0.6 mm. The Teflon protective layer is very durable and offers excellent protection against corrosion. It has a „rubber-type" surface and very good chemical resistance. HALAR is temperature-resistant up to 130°C (wet) or 150°C (dry).

The cheaper RILSAN coating can be applied on rounds with a thickness of 0.1 to 0.4 mm and has a relatively hard surface. The disadvantages of the RILSAN coating - compared with HALAR - are poorer chemical resistance and lower temperature resistance (80°C in continuous use, higher if used for a short time).

A crucial quality feature for both types of coating is the pre-treatment. If the parts are not sand blasted before being coated, superficial damage can cause the coating to detach. With RILSAN, this can cause large areas of the coating to flake. For this reason, we place great emphasis on pre-treatment and sand blast all parts before coating them.

Both plastic coatings are wearing parts. They wear over time and must be reapplied in regular intervals.

Special temperature and media-resistant Teflon clips enable selective coating of the areas of the workpiece holder that come into contact with the components. Teflon clips are predominantly used for heavy and/or sharp-edged components, where plastic coatings would wear too quickly. Alternatively, Teflon mouldings can also be used.

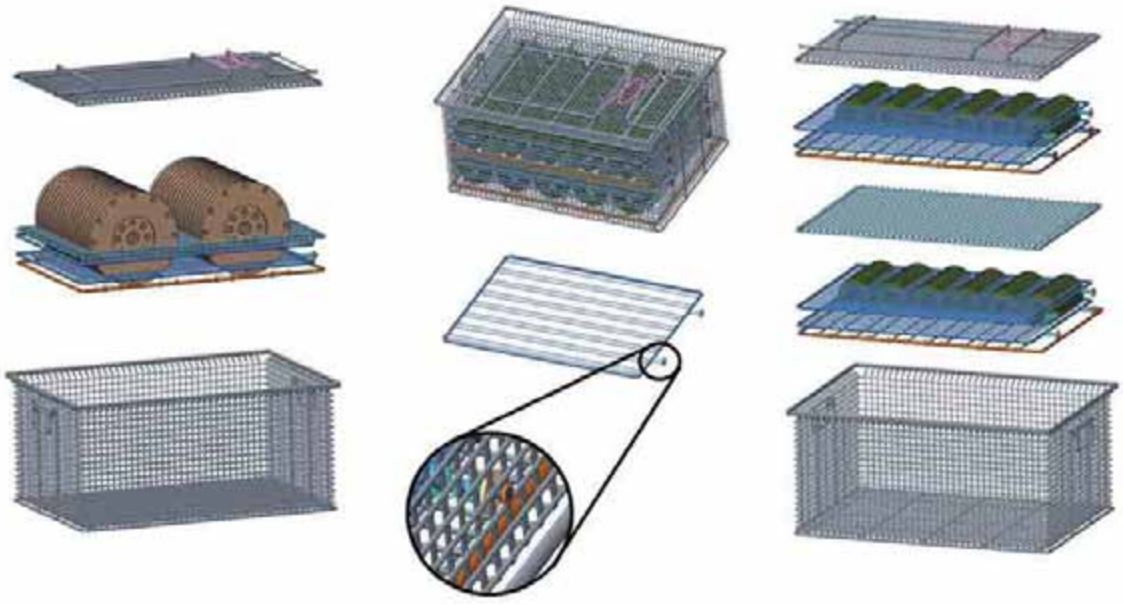
Our products can be copied – but our customers benefits cannot

A well-known automotive supplier receives two different components on blisters of 96 and 48 workpieces each. Fully automated assembly requires combination of 48 parts each of type A and B in one workpiece holder. For this, Metallform designed a parts-specific workpiece holder in which the workpieces are also cleaned before being automatically unloaded and assembled. To prevent manual transfers for combination of the different components in the workpiece holder, special turning adapters are used. The blister packs with 96 parts of type A are turned into an adapter that can be divided after filling. The turning adapter for part B is designed to take up 48 workpieces. Half of adapter A and adapter B are placed on a frame and the components are then turned into the workpiece holder. This sophisticated solution reduces the required effort by 75 percent compared to the customer's original plan of manual transfer.

For pictures of this solution please refer to the inside of this brochure

Individual accessories for the MEFO-BOX system

By two types of inserts, one for forming compartment rows, the other for determining compartments' depth, changing parts can be held simply, securely and inexpensively inside the MEFO-BOX. Cleaning of new parts now only requires different inserts instead of a complete new cleaning basket. An advantage of which particularly contract manufacturers and companies producing a wide range of parts do benefit.



Quality made in Bretten

It´s a matter of know-how.

Our strengths are our in-house design and manufacturing. For our customers this means consistently high quality, price stability and adherence to delivery dates – no matter how large or small the order.

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