FLEXIBLE, SAFE and EFFICIENT WORKPIECE CARRIER SYSTEMS
Variable workpiece carrier systems

“tech-rack variogrid and techtray - flexible all-in-one systems for the industry. The convincing workpiece carriers from FRIES for logistics, cleaning and storage.”

The workpiece carrier systems tech-rack variogrid and techtray offer a high level of efficiency and considerable cost reductions in logistics and the cleaning of sensitive metal parts. The systems can be used for safe and easy cleaning, storing and to transport delicate high-quality components. All in one workpiece carrier, without repositioning and repackaging.

In sensitive industries, such as metal processing, optics, medical technology, mechatronics, microelectronics or precision engineering, the cleaning of components is a central part of many production and assembly processes. In this context, specific workpiece carriers for the parts are used which fix the workpieces in a certain position and at certain points to achieve optimum cleanliness.

The new FRIES Comp21/22 material offers the advantage of even higher chemical and thermal resistance and, therefore, meets higher requirements in industrial component cleaning. This also enables the use in autoclaves for vapour sterilisation.
**tech-rack variogrid**

stands for the individual design of workpiece carrier systems. These can be adapted to the required size and thus adjusted to the requirements of the cleaning machine or also for storage in small load carriers (SLC). To ensure that they can be stacked at any size, the rotatable stacking bolts can be placed on the grid plate in any way.

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**techtray**

is a modular workpiece carrier system. It is used both as insert in the standard rack or compartment rack and as separate workpiece carrier. Techtray combines the advantages of plastic workpiece carriers with the design of a metal mesh rack base. Also, the grid dimension of 13 x 13 mm enables many mounting variants.

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Workpiece carrier systems from FRIES ensure efficiency and ease of operation in every stage of the process:

- optimum cleaning result
- maximum protection of sensitive surfaces
- harmless transport
- perfect storage
Special applications require individual solutions. The variety of available options of variogrid ensures the perfect solution for your special application.

Maximum variability and flexibility

The variogrid rotating stacking bolts and rotatable stacking bolts can be mounted on the base plate in any way. This means, the stackability is ensured irrespective of the plate size.

**Easy assembly**

1. Plug in

2. Rotate

3. Ready for stacking
Customised workpiece carrier system
The tech-rack variogrid plate can be cut to the required size. The workpiece carriers can be stacked easily by means of rotatable stacking bolts.

Numerous rotating and plug pins available
Rotating and plug pins can be mounted on the modular variogrid workpiece carrier system easily without any tools. On request, the pins can be manufactured specifically for the respective component.

Cross and longitudinal dividers
Two divider heights (42 and 69 mm) in standard lengths and additional lengths adjusted to the plates are available for the variogrid plate.

FRIES tech-rack variogrid at a glance
» All-in-one: cleaning, transport and storage
» Efficient cleaning with optimised accessibility
» Variety of individual configuration options
» Suitable for aqueous and solvent-based procedures and ultrasound applications
» Lightweight: tech-rack variogrid is more lightweight than comparable metal plates
» Safe handling: designed for user-friendliness based on ergonomic principles
» Variable plate size: the plate can be cut to suit the application
» Can be combined with the tech-rack industrial racks
» Special versions for pins and special holders, such as spacers and many more available

All-in-one
Careful transport, safe storage and perfect cleaning – everything consequently in one workpiece carrier system!
techtray - absolute component protection and flexibility

techtray is a modular workpiece carrier system for increased safety and efficiency in industrial component cleaning and internal production logistics. To achieve optimum cleaning in highly-sensitive areas, techtray combines the advantages of plastic workpiece carriers with the design of a metal mesh rack base. Thanks to its protection against damage and optimum flushing during cleaning, techtray is the standard in industrial component cleaning, component handling and component logistics.

FRIES techtray at a glance

- Flexibility through universal partitions and insertion variants
- Multi-tray function (base=cover)
- Can be used for transport, logistics and cleaning
- Can be stacked with stacking bolts at variable heights
- Good rinse-through and low screening.
- Can be used as an insert in the standard rack or modular carrier frame and as an independent workpiece carrier

Example of use: techtray stacked 2 times in rack with closure lid
Example of use: techtray stacked 3 times with cover
Example of use: techtray stacked 3 times with rack with retainer frame

*techtray is a common development of FRIES Kunststofftechnik GmbH and Kögel GmbH.*
Examples of use

Numerous rotatable and plug pins

Many rotatable and plug pins for shafts, sleeves, turned parts, milled parts and many more are available to precisely position the components on the variogrid base plate. On request, rotatable pins can also be manufactured individually to suit the component.

Variety of fastening options

The tech-rack variogrid press in socket ensures a large variety of fastening options. In this way, threads, screws, hooks or handles can be mounted on the base plate easily.
The system components

**tech-rack variogrid workpiece carrier plate**
600 x 400 mm, height 13 mm
On request, the plate can be cut to smaller sizes. (see page 6-7)

**techtray workpiece carrier plate**
425 x 276 mm
The workpiece carrier plate can be used both as bottom and as lid.

**Top frame, low**
600 x 400 mm, height 36 mm, combinable with tech-rack variogrid and tech-rack industrial racks

**Top frame, high**
600 x 400 mm, height 63 mm, combinable with tech-rack variogrid and tech-rack industrial racks

**Lateral and lengthwise dividers, low**
Height 28 mm, adapted to respective plate size, enable partitions fitting the size of the workpieces

**Lateral and lengthwise dividers, medium**
Height 42 mm, adapted to respective plate size, enable partitions fitting the size of the workpieces

**Lateral and lengthwise dividers, high**
Height 69 mm, adapted to respective plate size, enable partitions fitting the size of the workpieces

Example of application: variogrid base plate with frame, ensures combination with FRIES tech-rack basket
Rotatable stacking bolts
The rotating stacking bolts can be positioned on the base plate in any way to allow stackability at any size.

Press in sockets
The press in sockets can be driven into the vario-grid base plate. This enables a large number of fastening options, such as hooks, bolts, handles and many more.

Stacking bolt for techtray
Polyamide
Stainless steel

Handles
Handle for divider height 28 mm
Handle for divider height 42 mm
Handle for divider height 69 mm
Handle height 96 mm
References

COMVAT
Haag (CH)

The tech-rack variogrid workpiece carrier system is used for the entire process from the turning lathe to storage and during assembly. In this way, the workpiece carriers are equipped at the turning lathe and then cleaned in fully-automatic ultrasound cleaning with 7 baths. The cleaning is performed in the clean room ISO8 environment. While doing so, the absence of films and visual cleanliness (vacuum compatibility) is in the centre of attention. Afterwards, the workpiece carriers are stacked in Euroboxes for storage and further assembly.

SENSOR TECHNOLOGY COMPANY (CH)

In a company producing sensor technology, the tech-rack variogrid workpiece carriers are used from the turning and milling centre to the storage. A clear identification ensures that the workpiece carrier is inserted in the magazine using the correct compartment subdivision, because the turning and milling centre produces overnight by means of automation thanks to 48 different workpiece carriers which are equipped using the robot.
COMVAT AG, Haag (CH)
Herbert Hager

“We focus on efficiency and cleanliness in the entire production process. To achieve this aim, we use the tech-rack variogrid system as base.”

FRENCKEN MECHATRONICS B.V.
Eindhoven (NL)

Frencken develops, designs and manufactures individual components by order of the customer, but also entire machines and systems for the field of medicine and research. Its customers include companies, such as ASML, Philips Medical Systems, Bruker and Thermo Fisher Scientific. Developing and manufacturing for the high-tech sector also means meeting the highest cleaning requirements. Frencken uses the latest plant technology in which the tech-rack variogrid system is employed. The flexible workpiece carrier ensures optimum cleaning, offers maximum protection of the sensitive surfaces and enables a safe transport of the components.
Example:
Panel size 251 x 199 mm

Dimensions in mm, tolerance +/- 1.5 mm
variogrid standard scheme

The following images show the standard scheme for the positioning of the rotatable stacking bolts and the lateral and lengthwise dividers.

Fitting transport boxes

The variogrid plate can be adapted individually to commercially available transport boxes, such as SLC boxes, European standard stacking boxes and many more.
Flexible division
Thanks to universal partitions and plug-in options, the techtray can be divided optimally according to the respective requirements.
Workpiece carrier systems

Efficient and professional all-in-one systems from FRIES

The variable all-in-one systems from FRIES stand for the individual design of workpiece carriers - the carrier plates can be adjusted to the required size or they are used as standard rack or compartment rack and also as separate workpiece carrier. Rotating stackable bolts which can be positioned in any way ensure the stackability at any size. Therefore, FRIES workpiece carrier systems offer numerous possibilities of use for process-optimised manufacturing from cleaning, transport to storage. Numerous rotating & plug pins, plate dividers and accessories complement the intelligent all-round solutions.

Have you seen this?

Receive information on the variety of our products and enjoy the benefits of the FRIES industrial racks.