MATERIAL FLOW AND FACTORY EQUIPMENT WORK PIECE CARRIER

QUALITY FOR AUTOMATISED PRODUCTIONS.

BLOKSMA

BLOKSMA

FLOWING PROCESSES FOR MORE THAN 95 YEARS

BLOKSMA-Engineering – a name that has become synonym for professional material flow and technically mature workpiece carriers.

Starting in 1920 with a mechanical production, BLOKSMA has turned into the absolute specialist for efficient production logistics.

1920 Founding of BLOKSMA in Netherlands by Pieter Bloksma

1949 Founding of BLOKSMA in Germany by Hendrik Marinus Bloksma

1958 Herman A. Bloksma enters the business at only 16 years of age

1972 Development of the first product for material flow optimization by Herman A. Bloksma

1978 The patent for the first container tilting devices by Herman A. Bloksma

2004 Dirk Herman Hendrick Bloksma takes charge of the management

BLOKSMA

Well known companies trust in BLOKSMA solutions:

AEG · Allweiler · AMG · Arburg · Atlas Copco · Audi · Behr · Benzinger · Beru · Bitzer · BMW
Danfoss · Eaton · Eberspächer · ebmpapst · EMAG · FAG · Faurecia · Federal Mogul · Fein
Hansgrohe · Hatz · Heidelberg · Hella · Husky · IFA · INA · John Deere · Knipex
Mercedes Benz · Metabo · Miele · Nidec · Opel · Parker · Pierburg · Porsche · Promat
Wabco · Wago · ZF

Boge · Borg Warner · Bosch · Brose · BRP-Rotax · BSH · Caterpillar · Continental · Daimler
Felsomat · Festo · Ford · Gardena · Gemü · Georg Fischer · Getrag · GKN · Grob · Güdel
Kodak · KUKA · Liebherr · LUK · Lütze · Magna · Magna Steyr · Mahle · MAN · Mannesmann
Schaeffler · SEW · Stihl · thyssenkrupp · Traub · Valeo · Vibracoustic · Volkswagen · Vorwerk

OPTIMIZE YOUR
“PRODUCTIVITY FACTOR“ PFA

What is the PFA?

The Productivity Factor establishes the relationship between the total duration of the product cycle and the duration of the actual value creation process. The factor can be optimised by reducing the activities which do not generate added value such as the material transport from one processing station to the next.

$$PFA = \frac{Time_{overall}}{Time_{value\text{-}creation}}$$

Time overall
delivery, production time, internal transport, waiting/storage time, delivery
Time value-creation
processing, assembly, machine operating times

LET‘S USE THE CONCRETE EXAMPLE OF A MANUFACTURER FOR PROFESSIONAL POWER TOOLS

BEFORE	
Lead time / working day	1587 min
Value cration estimated	200 min
PFA =	**1587 min / 200 min = 7.94**
Stock	4,950,000 €

AFTER	
Lead time / working day	595 min
Value creation estimated	200 min
PFA =	**595 min / 200 min = 2.98**
Stock	1,600,000 €

SAVINGS

Time savings through trolley usage	per working day	**992 min**
Interest gained through lead time reduction from 8 to 3 working days	per working day	**1,315 €**
Stock reduction	per year	**3,170,000 €**
Total investment	about	**90,000 €**

Objectives

- increased efficency
- ground-level storage without shelves and forklifts
- reduction of transit stocks by 2/3
- halving the lead times
- higher productivity per unit area
- improved ergonomics

Solution approach:
Getting “the production moving“

- modern lay-out
  with just-in-time principle as flow production
- removal of high shelves with a roller conveyor
- forklift- free zones
- reduction of walk and search paths as well as manual repacking and restacking
- uniform SLC containers from the supplier to the customer

WORKPIECE CARRIER

Customized quality for automatised productions.

From small and light to large and heavy – BLOKSMA offers customized workpiece carrier systems for automatised manufacturing. In more than 2500 individual designs and dimensions!

Workpiece carriers have become indispensable in automatised productions. Due to the constantly decreasing component size carrying parts around is no longer managable by human hands. Therefore workpiece carriers are used to hold those workpieces and carry them safely to their destination. The geometry of the workpieces determine the construction type of the workpiece carrier systems. Workpiece carriers by BLOKSMA are therefore individually manufactured according to their functions and tasks. Highest possible precision is already ensured during your systems development phase by using rapid-prototyping technology. In all points we are oriented exactly towards your needs. Depending on the requirements of your components to be transported you are able to choose between diffrent materials - obviously with your measurments and fixed or variably extraction.

OVERVIEW

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WIRE / SHEET METAL CONSTRUCTION	**pages 276-277**
TUBULAR FRAME CONSTRUCTION	**pages 278-279**

WORKPIECE CARRIER CHECKLIST

workpiece carriers size	length	mm				
	width	mm				
	height	mm				
workpiece carrier (WPC) handling	manual ☐	automated robot ☐	automated linear axis ☐			
	please describe additional functions here					
component description						
component appearance						
	please include drawing/ file or photo					
weight	per component	kg	max. weight of the WPC	kg		
component	unmixed 1 sort of component ☐	mixed different components ☐				
component appearance	wavelike ☐	disk shaped ☐	geometrically not defined ☐			
deposit of component	horizontal ☐	upright ☐	hanging ☐			
component handling	outer geometry ☐	inside geometry ☐				
	Please include the handling in your drawing and send them to us.					
net accuracy space between component and outer geometry	mm	measurements raw parts/ finished parts	mm			
need for protection	no ☐	yes – ☐ at which points is it not allowed to grip and deposit the WPC? Please send a drawing with the corresponding marks.				
stackable	no ☐	yes – empty carriers ☐	yes – automatic stacking ☐	yes – automatic with temporary storage ☐		
number of WPC stacked	piece(s)		max. height of stacks (including container such as trolley or pallet)	m		
max. deviation of stack	X-axis	mm				
	Y-axis	mm				
	Z-axis	mm				
distance of components	X-axis	mm				
	Y-axis	mm				
deposit of workpiece	fix € (not exchangeable) ☐	flexible €€ (inlet exchangeable) ☐	flexibel €€€ (adjustable deposit) ☐			

raw material/ surface	steel galvanized ☐	steel galvanized afterwards ☐	steel powder coated RAL ☐	
	aluminium natural finish ☐	aluminium anodized ☐		
	stainless steel natural finish ☐	stainless steel e-polished ☐		
	others ☐			
rotation lock (Poka Yoke)	workpiece carrier – no ☐	component – yes ☐		
		workpiece carrier – yes ☐		
workpiece carrier transport	on trolley ☐	on wooden pallet ☐	using KLT as inlet ☐	
labeling/ nameplate	no ☐	yes – ☐ quantity	piece(s)	
	chip/RFID ☐ please describe			
washable	submerged ☐	pivoted (put in angle) ☐	rotated 360° ☐	
wash quality	no ☐	yes – ☐ Please describe in detail		

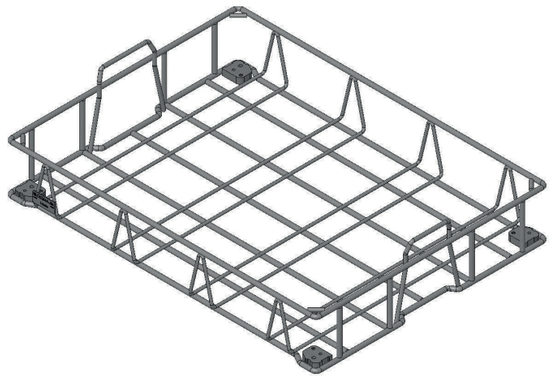
Please note: The subject of workpiece carrier is very complex. Please contact our inhouse sales department or the sales representitive in your area.

UNIVERSAL WORKPIECE CARRIER I
WIRE / WIRE SHEET METAL COMBINATION
600x400mm

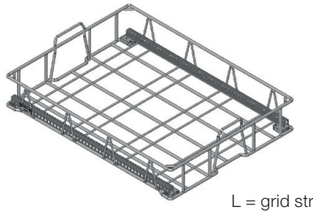
Scan me

Video

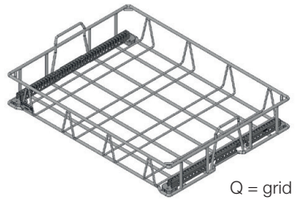
This workpiece carrier is perfectly suitable for the automatised productions. Its parts positioning is very precise. The carrier is made for multiple wash cycles and the deposit elements (metal/plastic) are adapted to the product to be carried. The workpiece carrier can be made of steel, stainless steel, aluminium or of a combinaton of these materials.



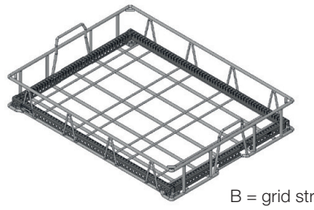
Article 202864-O _ _ _ _ without grid strips



L = grid strips lengthwise



Q = grid strips crosswise



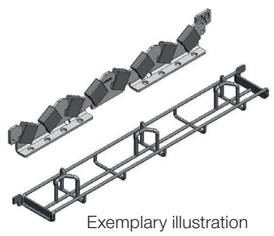
B = grid strips on both sides

WORKPIECE CARRIER - BASKET

Item no.	Position of the grid strips	stacking height in mm	grid spacing
202864 -	____	____ ____ ____	_____
	L = Grid bars lengthwise Q = Grid bars crosswise B = Grid bars on both sides	Please enter stacking height here.	A = 12,50mm B = 25,00mm

DEPOSIT RAIL

xxxxxx	600x400mm	Recording profiles are custom-made. Depending on length (lengthwise or crosswise in WST),part diameter, Materials and the like	



Exemplary illustration

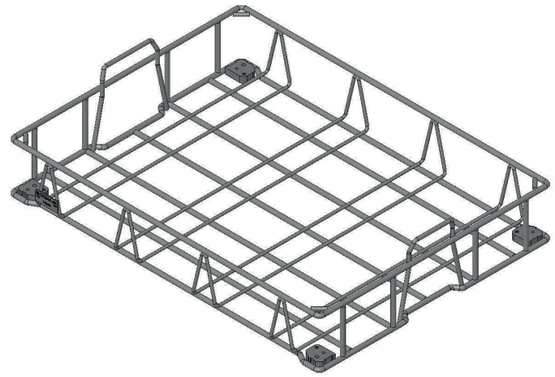
Other models / dimensions on request
Subject to technical changes

UNIVERSAL WORKPIECE CARRIER II
WIRE / WIRE SHEET METAL COMBINATION
800x600mm

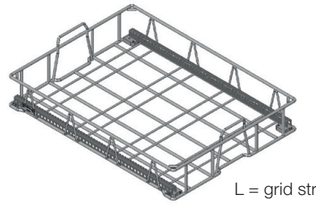
Scan me

Video

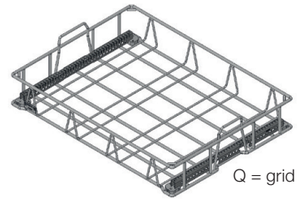
This workpiece carrier is perfectly suitable for the automatised productions. Its parts positioning is very precise. The carrier is made for multiple wash cycles and the deposit elements (metal/plastic) are adapted to the product to be carried. The workpiece carrier can be made of steel, stainless steel, aluminium or of a combinaton of these materials.



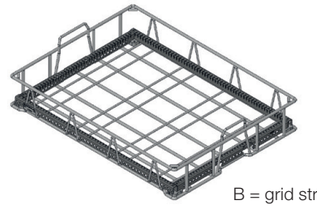
Article 202871-O_ _ _ _ without grid strips



L = grid strips lengthwise



Q = grid strips crosswise



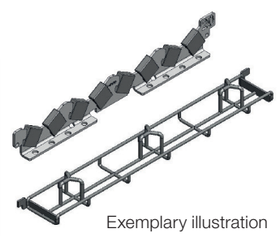
B = grid strips on both sides

WORKPIECE CARRIER – BASKET

Item no.	Position of the grid strips	stacking height in mm	grid spacing
202871 -	____	____ ____ ____	_____
	L = lengthwise, lange Seite Q = crosswise, kurze Seite B = beidseitig	Please enter stacking height here	A = 12,50mm B = 25,00mm

DEPOSIT RAIL

xxxxxx	800x600mm	Recording profiles are custom-made. Depending on length (lengthwise or crosswise in WST),part diameter, Materials and the like	

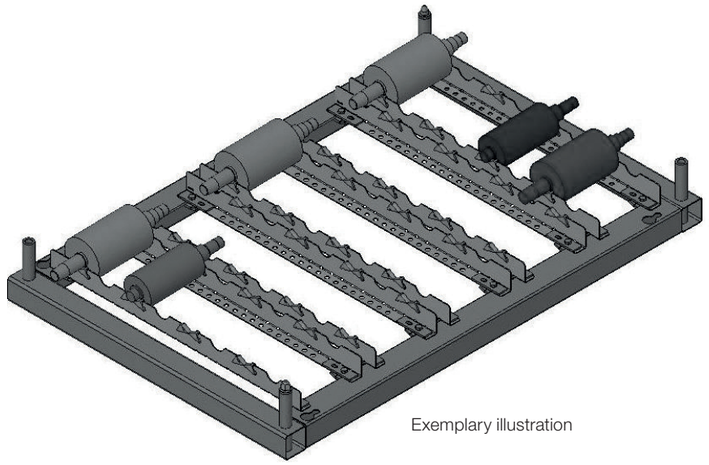


Exemplary illustration

Other models / dimensions on request
Subject to technical changes

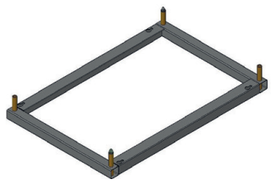
UNVERSAL WORKPIECE CARRIER III
TUBULAR FRAME CONSTRUCTION
800x600mm

This workpiece carrier is perfectly suitable for the automatised productions. Its parts positioning is very precise. The carrier is made for multiple wash cycles and the deposit elements (metal/plastic) are adapted to the product to be carried. The workpiece carrier can be made of steel, stainless steel, aluminium or of a combinaton of these materials.

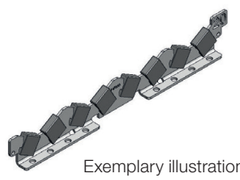


Exemplary illustration

WORKPIECE CARRIER FRAME

Item no.	WST size	Centering of the product	model
202872-xxx-S	800x600xSH	Terminal strip in the X- and Y-axis	

DEPOSIT RAIL

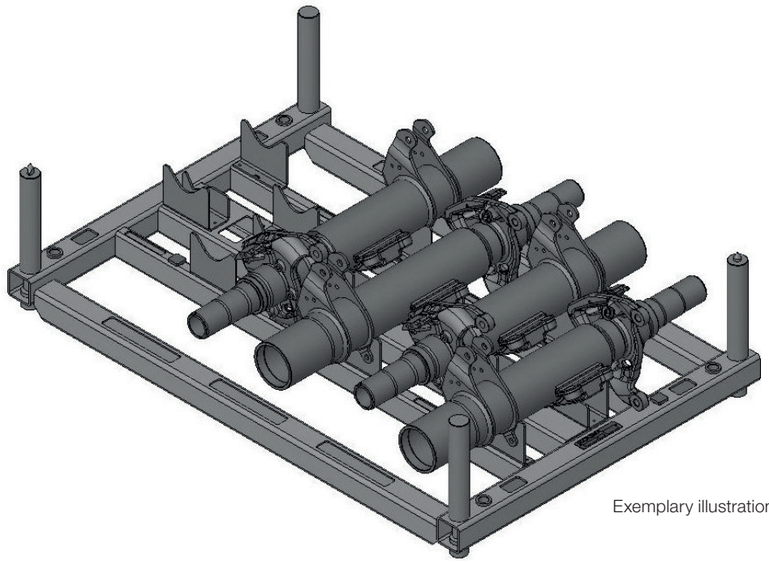
xxxxxx		Recording profiles are custom-made. Depending on length (lengthwise or crosswise in WST),part diameter, Materials and the like	 Exemplary illustration

Other models / dimensions on request
Subject to technical changes

BLOKSMA

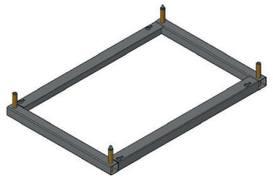
UNIVERSAL WORKPIECE CARRIER IV
TUBULAR FRAME CONSTRUCTION
1,200x800mm

This workpiece carrier is perfectly suitable for the automatised productions. Its parts positioning is very precise. The carrier is made for multiple wash cycles and the deposit elements (metal/plastic) are adapted to the product to be carried. The workpiece carrier can be made of steel, stainless steel, aluminium or of a combinaton of these materials.

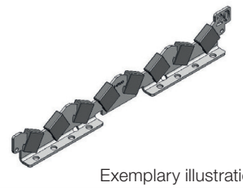


Exemplary illustration

WORKPIECE CARRIER FRAME

Item no.	WST Größe	Centering of the product	model
202873-xxx-S	1,200x800xSH	Terminal strip in the X- and Y-axis	

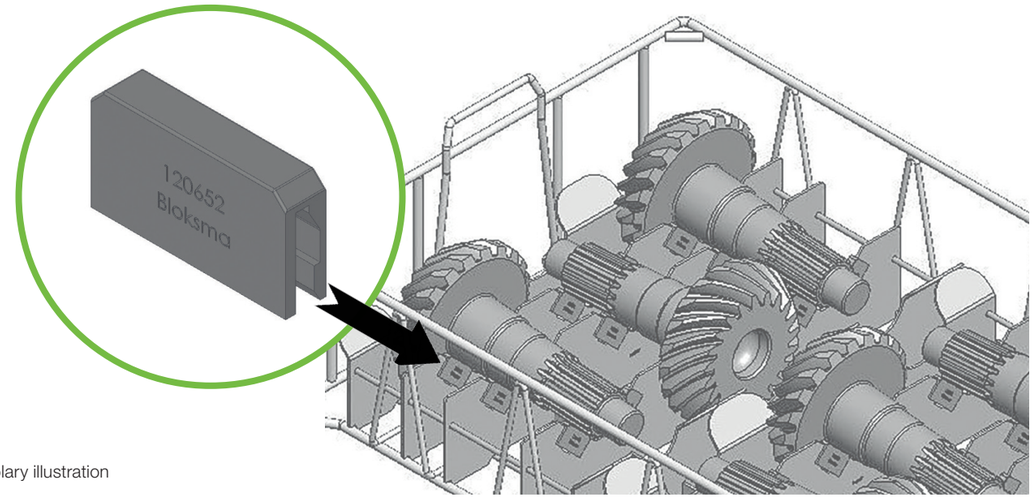
DEPOSIT RAIL

xxxxxx		Recording profiles are custom-made. Depending on length (lengthwise or crosswise in WST),part diameter, Materials and the like	 Exemplary illustration

Other models / dimensions on request
Subject to technical changes

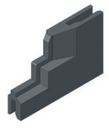
ACCESSORIES WORKPIECE CARRIER I
DEPOSIT ELEMENTS
DEPOSIT CLIPS

This workpiece carrier is perfectly suitable for the automatised productions. Its parts positioning is very precise. The carrier is made for multiple wash cycles and the deposit elements (metal/plastic) are adapted to the product to be carried. The workpiece carrier can be made of steel, stainless steel, aluminium or of a combinaton of these materials.



Exemplary illustration

DEPOSIT CLIPS PLASTIC

Item no.	dimensions	comment	model
124608	51x21x10mm	material PA for sheet thickness 2mm sky blue	
120652	10x26x48mm	material PA for sheet thickness 3mm sky blue	
119390	10x26x48mm	material PA for sheet thickness 4mm sky blue	
122432	10x41x64mm	Step clip for sheet thickness 3mm sky blue	

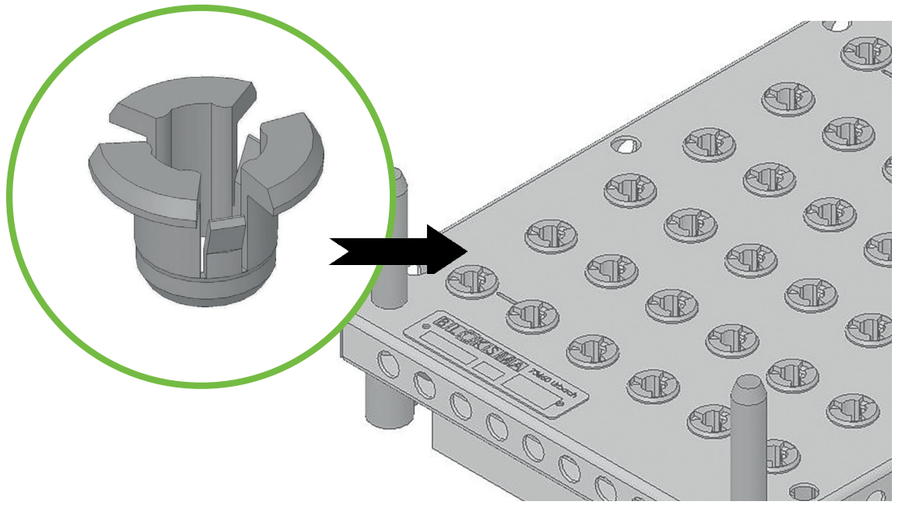
DEPOSIT CLIPS HARDENED STEEL

126024	3x6x48,5mm	support clip made of hardened steel	

Other models / dimensions on request
Subject to technical changes

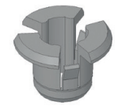
ACCESSORIES WORKPIECE CARRIER II
DEPOSIT ELEMENTS
DEPOSIT SLEEVES

This workpiece carrier is perfectly suitable for the automatised productions. Its parts positioning is very precise. The carrier is made for multiple wash cycles and the deposit elements (metal/plastic) are adapted to the product to be carried. The workpiece carrier can be made of steel, stainless steel, aluminium or of a combinaton of these materials.

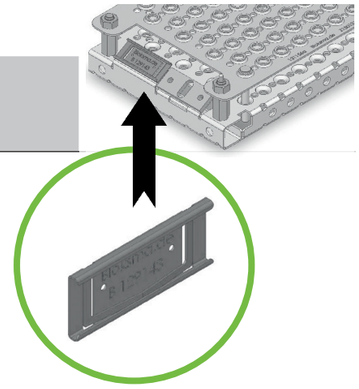


Exemplary illustration

DEPOSIT SLEEVE

Item no.	dimensions	comment	model
142433	Ø 26/16x18mm	for components with diameter 26mm	

LABEL HOLDER

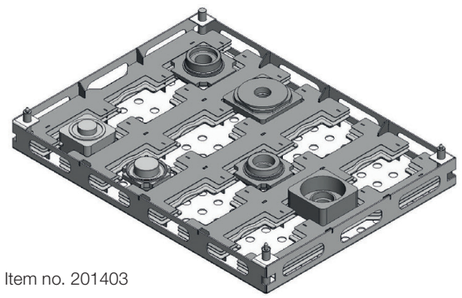
129143	50x20x3,4mm	BG label holder	

Other models / dimensions on request
Subject to technical changes

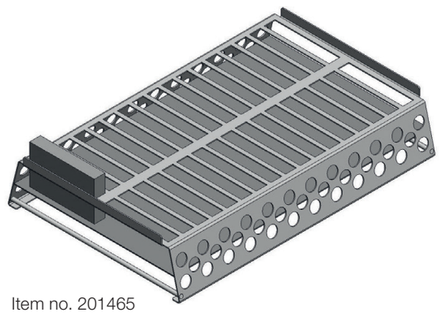
SHEET METAL CONSTRUCTION WTB I
FOR LIGHT, SMALL AND HIGH PRECISION COMPONENTS
WORKPIECE CARRIER

This workpiece carrier is perfectly suitable for the automatised production of high-precision and delicate components. The deposit elements (metal/plastic) are adapted to the product to be carried. The workpiece carrier can be made of steel, stainless steel, aluminium or of a combinaton of these materials.

Workpiece carriers are produced undividually and based on the geometric form of the components to be carried. In the last 40 years BLOKSMA has developed more than 2400 different types of workpiece carriers.



Item no. 201403



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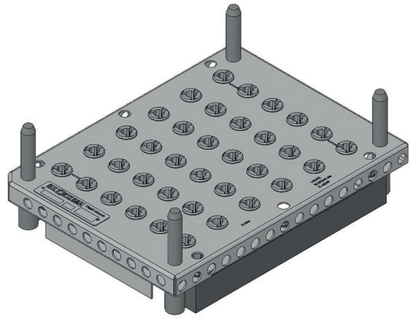

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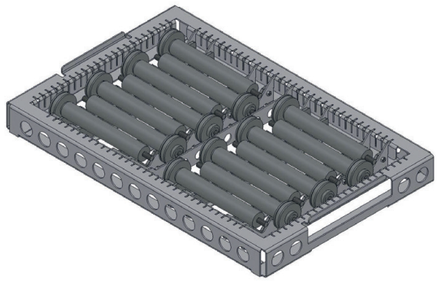

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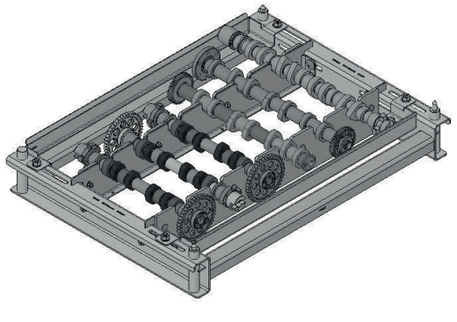

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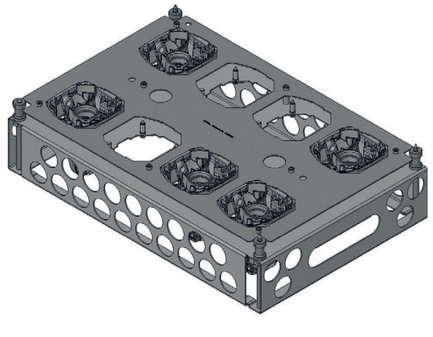
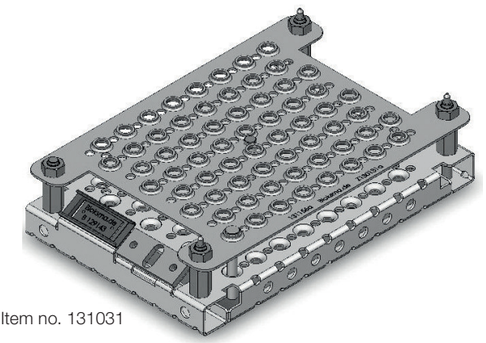


Itom no. 137432

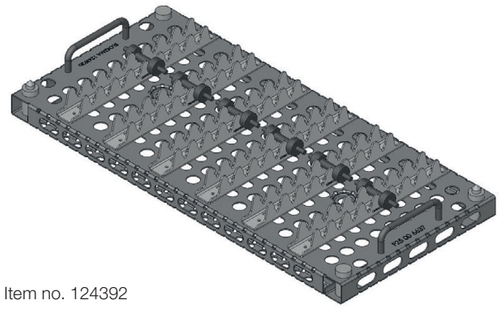
Other models / dimensions on request
Subject to technical changes

BLOKSMA

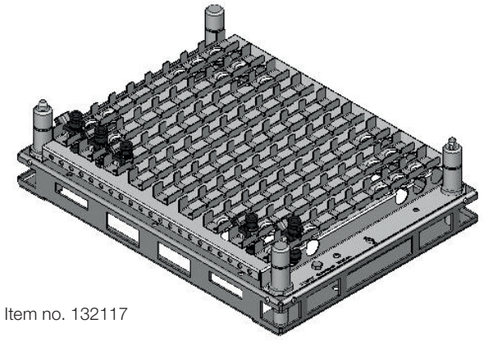
SHEET METAL CONSTRUCTION WTB II
FOR LIGHT, SMALL AND HIGH PRECISION COMPONENTS
WORKPIECE CARRIER



Item no. 131031



Item no. 124392



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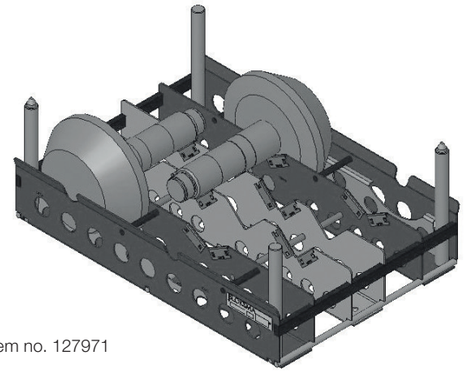
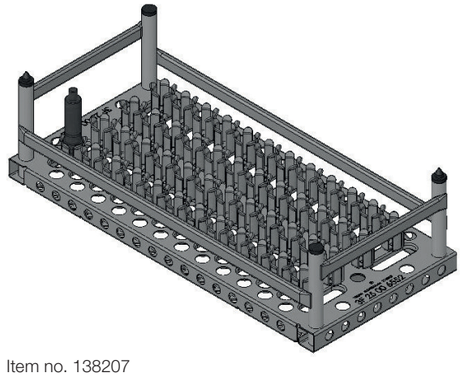


Item no. 127971



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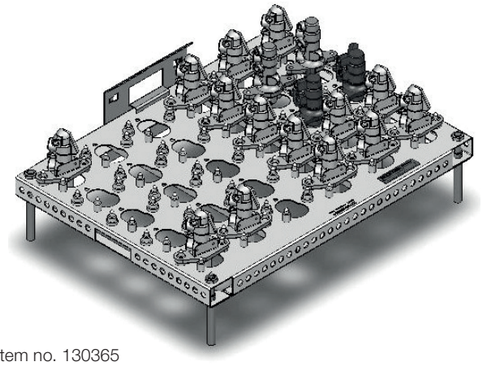


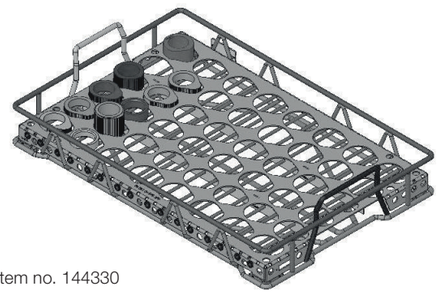
Item no. 130365

Other models / dimensions on request
Subject to technical changes

WIRE CONSTRUCTION WTD I
FOR LIGHT AND MEDIUM-WEIGHT COMPONENTS
WORKPIECE CARRIER

This workpiece carrier is perfectly suitable for the automatised production of high-precision and delicate components. The deposit elements (metal/plastic) are adapted to the product to be carried. The workpiece carrier can be made of steel, stainless steel, aluminium or of a combinaton of these materials.

Workpiece carriers are produced undividually and based on the geometric form of the components to be carried. In the last 40 years BLOKSMA has developed more than 2400 different types of workpiece carriers.



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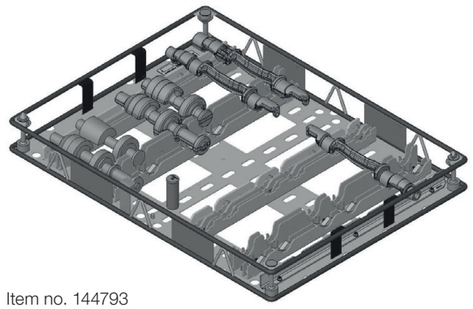

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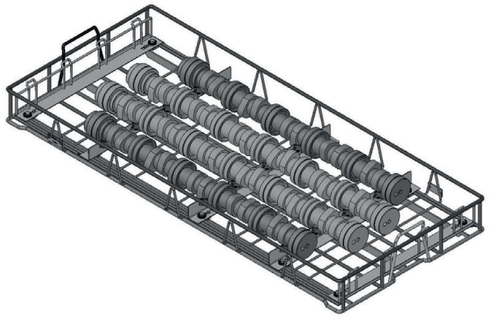

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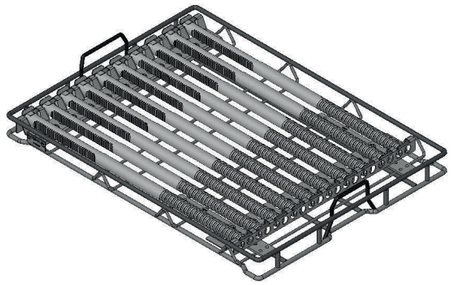
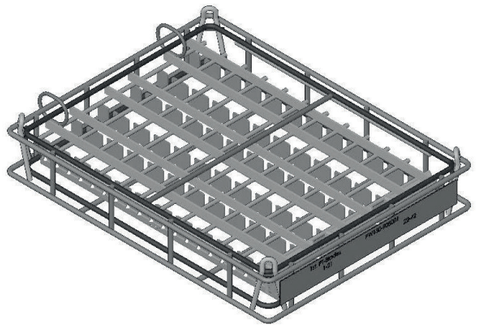


Item no. 136304



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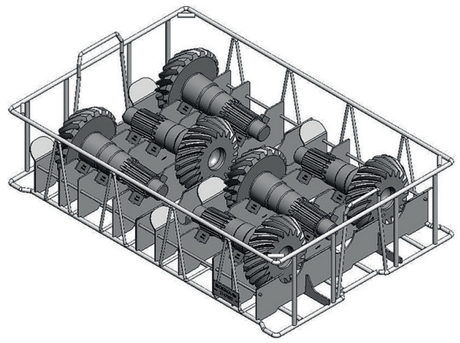
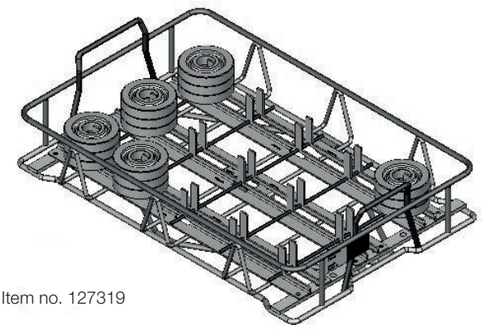


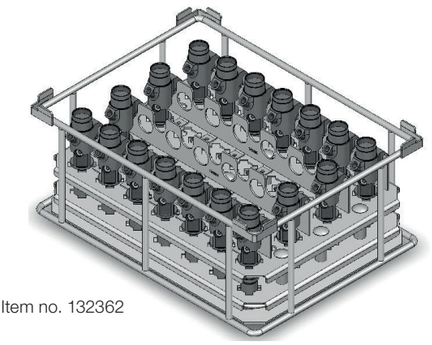
Item no. 147983

Other models / dimensions on request
Subject to technical changes

WIRE-SHEET METAL CONTRUCTION WTD II
FOR LIGHT AND MEDIUM-WEIGHT COMPONENTS
WORKPIECE CARRIER



Item no. 127319



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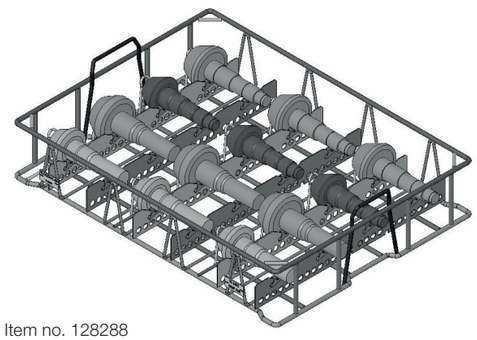

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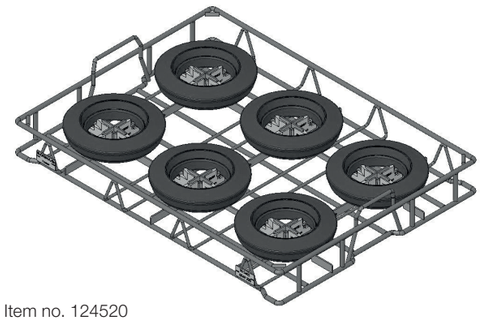

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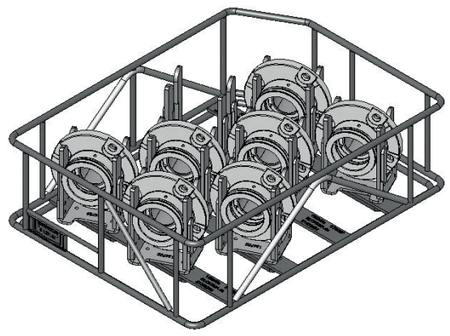

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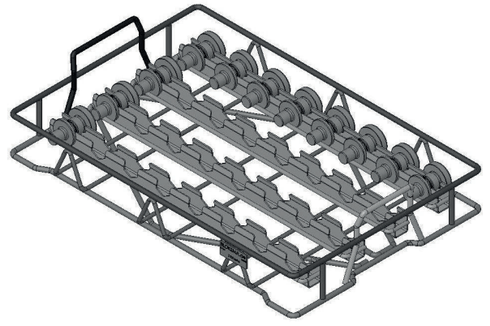


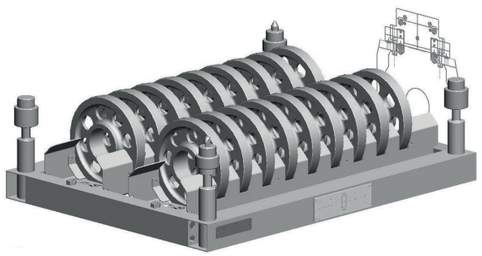
Item no. 131661

Other models / dimensions on request
Subject to technical changes

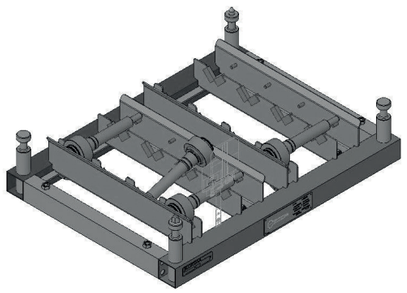
TUBULAR FRAME CONSTRUCTION WTR I
FOR HEAVY AND BIG COMPONENTS
WORKPIECE CARRIER

This workpiece carrier is perfectly suitable for the automatised production of high-precision and delicate components. The deposit elements (metal/plastic) are adapted to the product to be carried. The workpiece carrier can be made of steel, stainless steel, aluminium or of a combinaton of these materials.

Workpiece carriers are produced undividually and based on the geometric form of the components to be carried. In the last 40 years BLOKSMA has developed more than 2400 different types of workpiece carriers.



Item no. 133881



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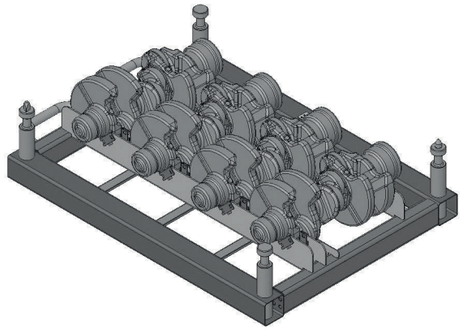
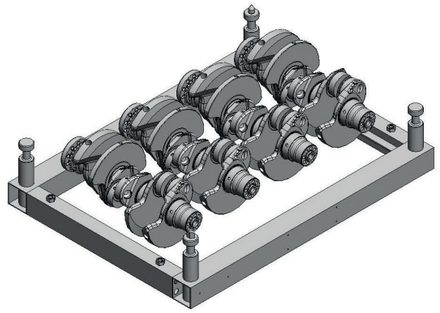


Item no. 142802



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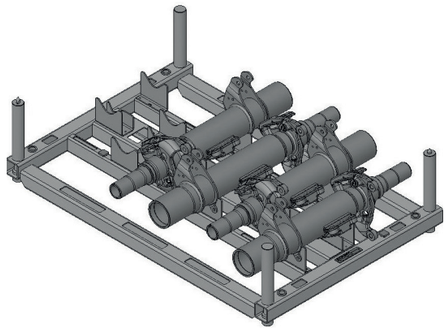
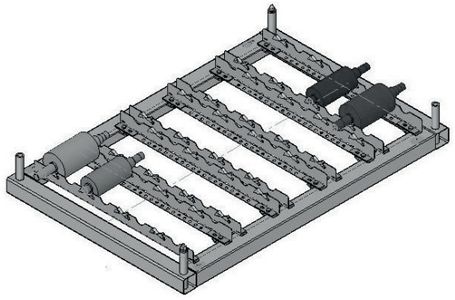


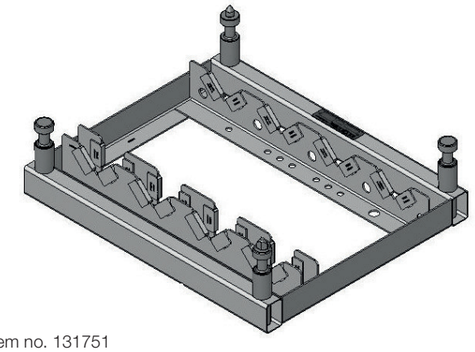
Item no. 128285



Item no. 131587

Other models / dimensions on request
Subject to technical changes

TUBULAR FRAME CONSTRUCTION WTR II
FOR BIG AND HEAVY COMPONENTS
WORKPIECE CARRIER



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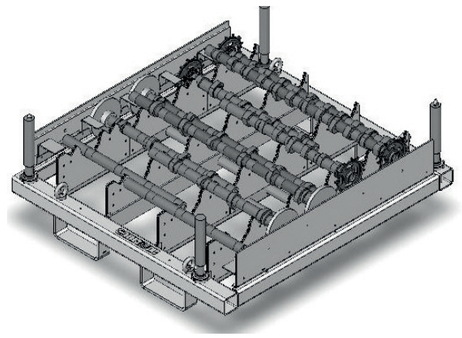

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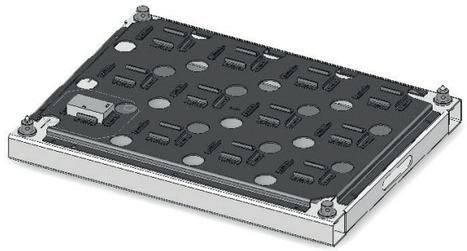

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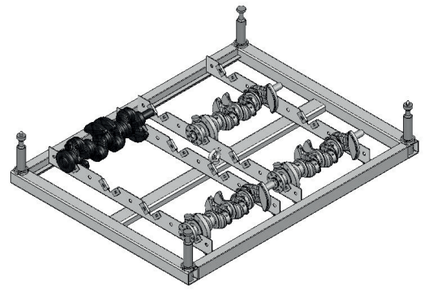

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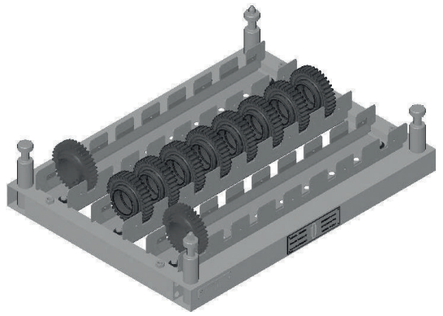

Item no. 139824

Other models / dimensions on request
Subject to technical changes

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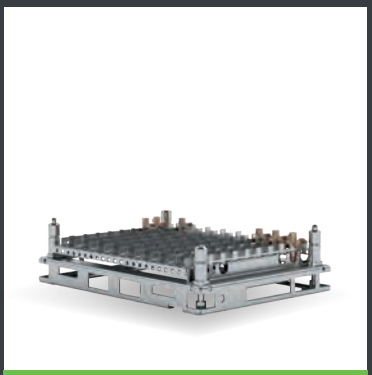

7 | WORK PIECE CARRIER

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