



News & Specials *EMO Edition*



Time to say goodbye
to the dinosaur vises!

TRIAG
INTERNATIONAL

triag-int.ch

Official Website



09
19





1990

2013

Gründung der Triag AG

Foundation of Triag AG



**Entstehung der Triag International AG und der Schwesterfirma Tribur Invent GmbH veranlasst durch die Spaltung der Triag AG.
Die Triag AG ist die schweizer Landesvertretung.**

The formation of Triag International AG and of the sister company Tribur Invent GmbH due to the splitting of Triag AG. Triag AG is the swiss wide reseller.

triag-int.ch

Official Website



1990 Seit der Gründung der **Triag AG** im Jahre 1990 entwickelten und produzierten wir Spannsysteme für die span-abhebende Fertigung für den Weltmarkt und vertrieben Zerspanungswerkzeuge namhafter Hersteller in der Schweiz.

HEUTE Ab dem 1. Juli 2013 konzentrieren wir uns unter dem neuen Namen **Triag International AG** auf die Entwicklung, Produktion und den weltweiten Vertrieb unserer Spannsysteme.

Unsere Motivation ist es, für unsere Kunden den grösstmöglichen Nutzen ihrer Anlagen zu fördern. Sei es mit unserem tiefen und breiten Sortiment an Modularspanntechnik oder mittels werkstückspezifischen Sonderlösungen. Unsere modularen Spannsysteme finden Anwendung von der konventionellen Fräsmaschine bis zu 5-Achsen Fräszentren mit und ohne Automatisierung. Diese Effizienz nutzen wir auch in der Herstellung unserer Spannsysteme in unserer modernen Fertigung.

Auf ein gutes Arbeitsklima und unsere Umwelt legen wir sehr grossen Wert, denn nur mit einem funktionierendem Team und einem grossen Umweltbewusstsein können wir unsere Kunden offen und nachhaltig bedienen.

1990 Since the formation of **Triag AG** 1990 we have developed and produced workholding systems for the world market. Beside that we sold cutting tools also for the swiss market.

TODAY Since the 1st of July 2013 **Triag International AG** concentrates on workholding systems for the world market. Our goal is to develop, produce and distribute solutions for all application in the metal cutting industry.

Our motivation is to give our customers the best support to achieve the highest output of their investments in machine tools. We offer modular vise systems as standard and dedicated solutions for the highest performance. The modular system find it's application from conventional machines to high end 5-axis automated systems as well as many time on horizontal machines. Naturally we use for our production our own clamp systems so we have our own practical experience.

In a good working atmosphere and environment, we attach great importance, because only with a functioning team and a great environmental awareness, we can serve our customers open and sustainable.

Heute Today



Eigenes Engineering
Eigene Produktion
Weltweiter Vertrieb



*In-house engineering
In-house manufacturing
Worldwide distribution*

Triag International AG

Bösch 84 CH-6331 Hünenberg

✉ +41 41 727 27 77

✉ spannen@triag-int.ch

✉ clamping@triag-int.ch

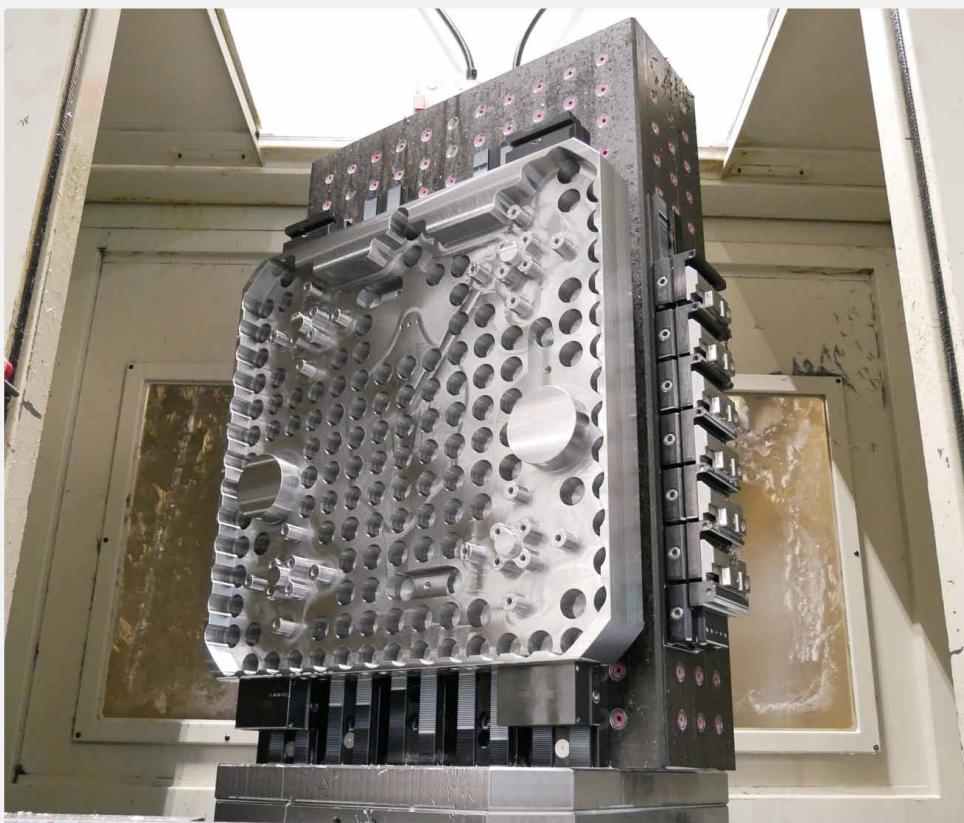
TRIAG
INTERNATIONAL



In Ihrem Gebäude werden doch auch alle Wohnungen vermietet...
Don't you rent out all flats in your building? So...



...weshalb nicht auch in Ihrem Bearbeitungszentrum?
...why not in your CNC milling machine?



80%

**...aller Bearbeitungszentren
werden nicht voll ausgenutzt!**
...of all machines are not fully used!



Max. mögliche Bearbeitungsgrösse
Max. working area



**Verschwenden Sie nicht einen Grossteil Ihrer
Investition! Don't waste a great part of your invest-
ment!**

Die Lösung

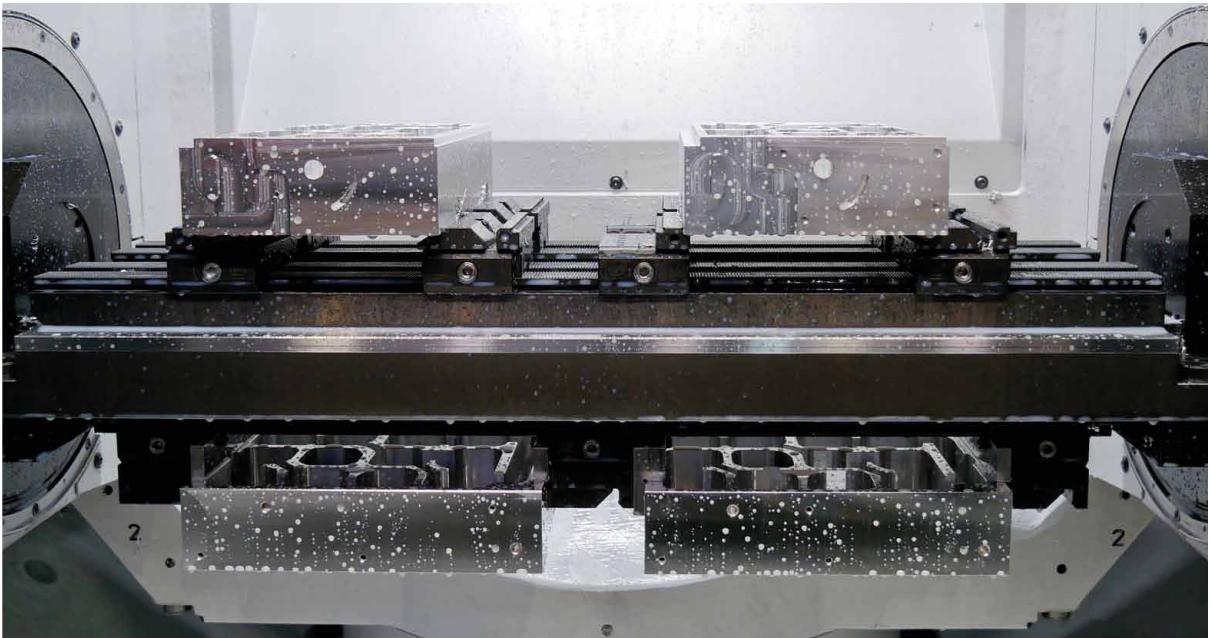
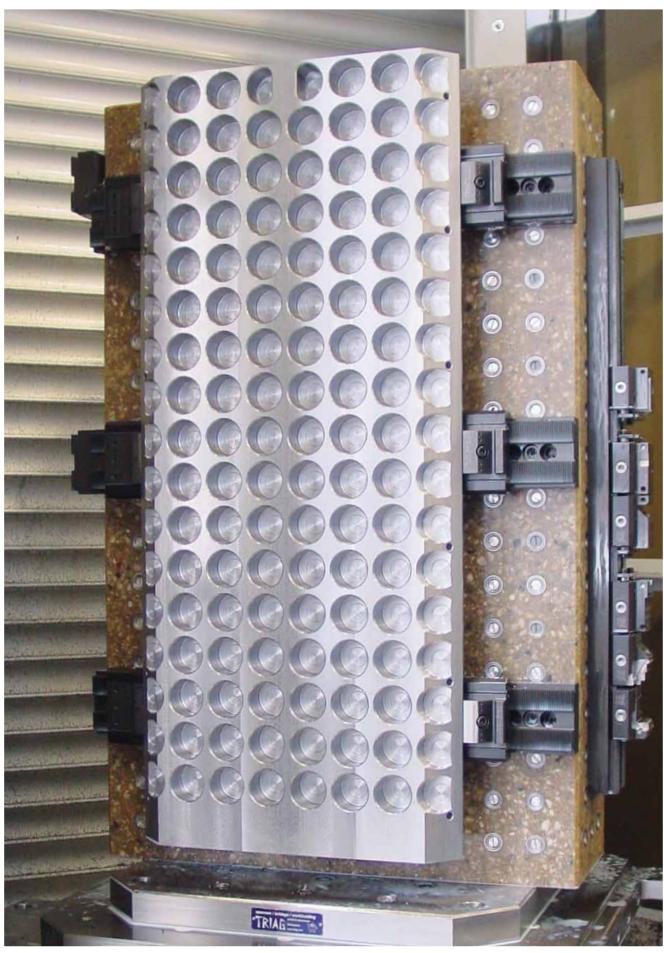
The solution

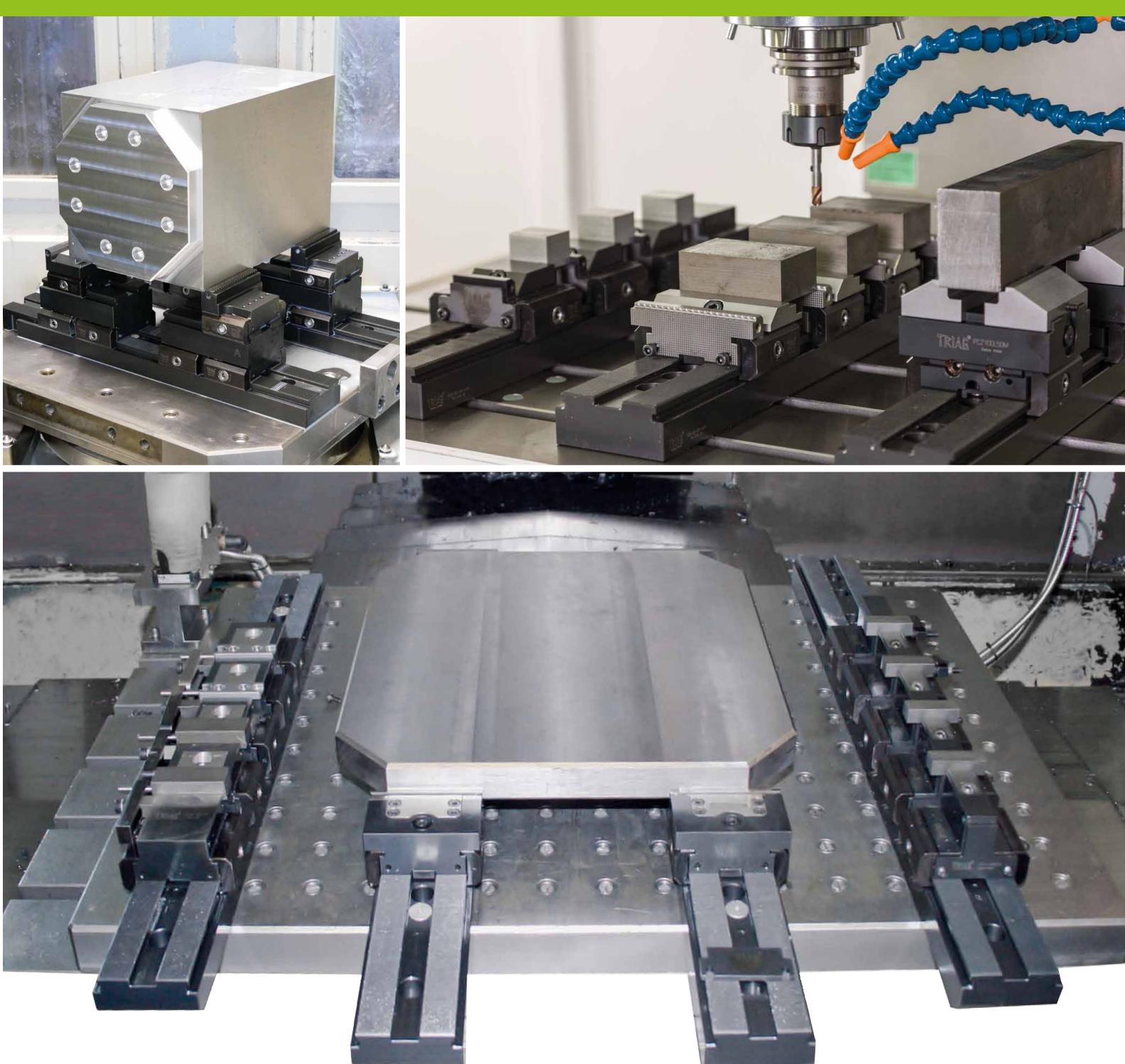
Mit unseren **modularen Spannsystemen** adaptieren Sie einfach und schnell einzelne oder mehrere Werkstücke in Ihrem Maschinen Verfahrbereich. Das Umrüsten wird schneller und es können viel mehr Werkstücke gespannt werden. Mit unseren **Sondervorrichtungen** finden wir auch für das beinahe unmögliche eine Lösung.

*With our **modular workholding systems** you change fast and adapt one or more workpieces into your machine xyz travel envelope ! You can clamp more than one or two parts at once. With our **dedicated fixtures** we find a solution even for the almost impossible.*

- ✓ **Modulare Spannsysteme**
- ✓ **Sondervorrichtungen**

- ✓ **Modular workholding systems**
- ✓ **Dedicated fixtures**





powerCLAMP



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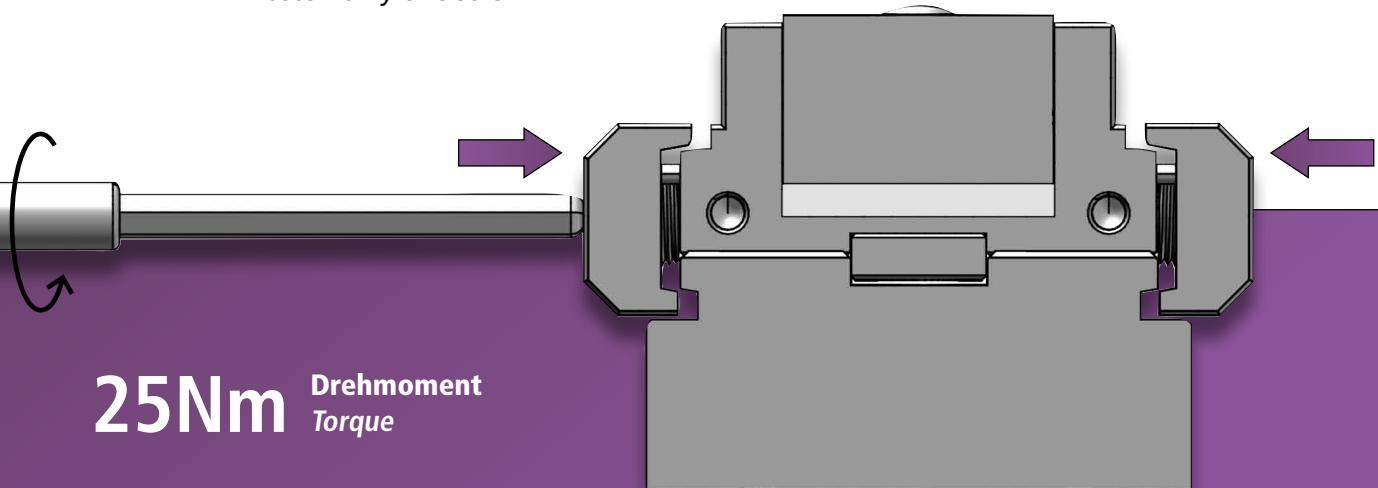
Das schnellverstellbare Mehrfachspannsystem! Die Positionierung der Spannmodule erfolgt mittels einer Verzahnung auf der Schiene. Befestigung mit nur einer Schraube!

The quickest multiple workholding system for easy set up! Positioning of the clamping modules by teeth on the base rail. Repositioning by opening only one single screw!



Einzigartiges Pratzensystem *Unique side clamp system*

Lediglich eine Schraube anziehen
Fasten only one screw



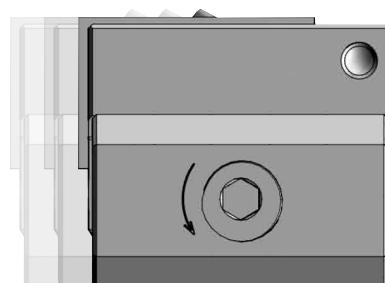
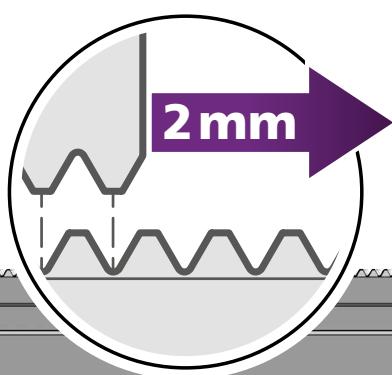
Die Schraubspindel ist von beiden Seiten zugänglich. Auf der einen Seite befindet sich ein Linksgewinde auf der anderen Seite einen Rechtsgewinde. Die Pratzen fahren gleichzeitig ein.

The screw spindle is accessible from both sides. There is a left-hand thread on one side and a right-hand thread on the other. The side clamps retract at the same time.



Präzise und zuverlässige Schnittstelle *Precise and reliable interface*

Positionierschritte von 2 mm
Positioning increments of 2 mm





Leichtgewichtig *Lightweight*

Modul mit zwei Finger abhebbar
Module with two fingers liftable



Einfache Handhabung *Easy handling*

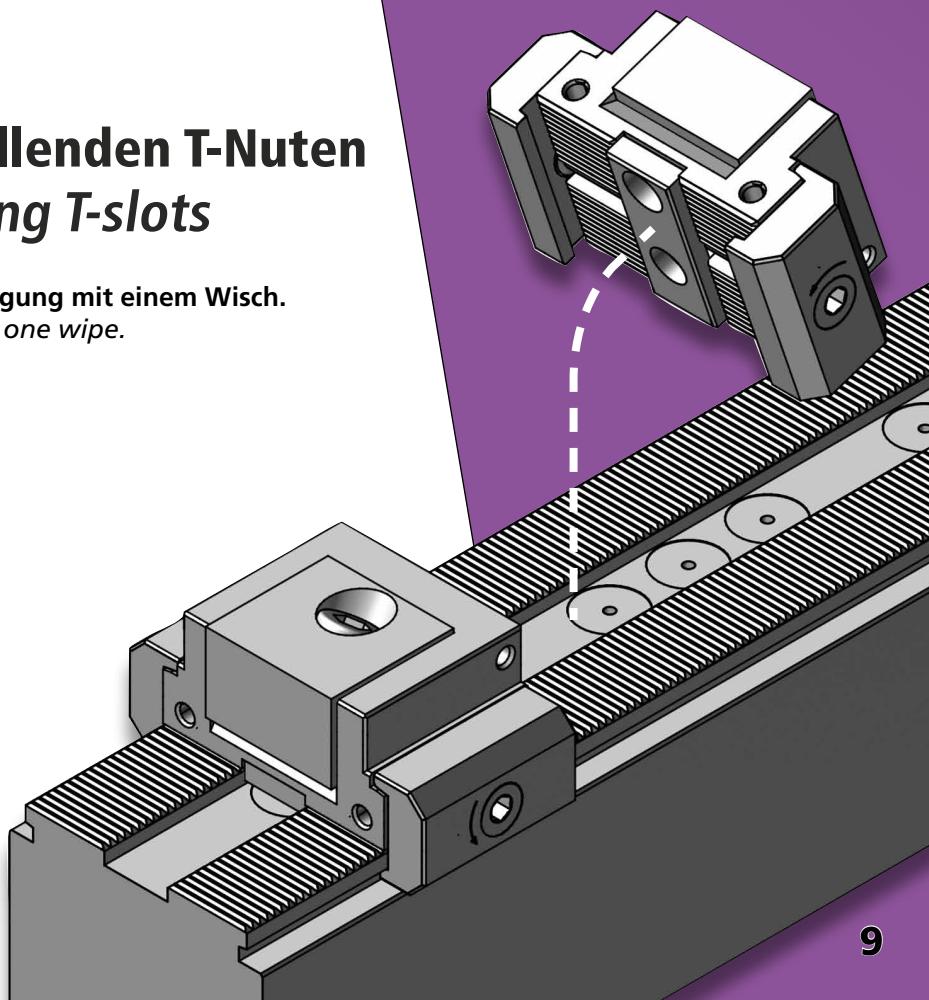
1. Eine Schraube lösen
2. Abheben und neu positionieren
3. Eine Schraube anziehen

1. Loosen one screw
2. Lift and change position
3. Fasten one screw



Keine spänefüllenden T-Nuten *No chip catching T-slots*

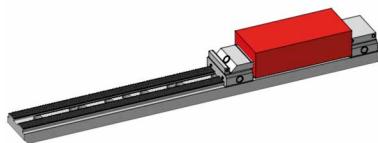
Einfache und schnelle Reinigung mit einem Wisch.
Easy and fast cleaning with one wipe.



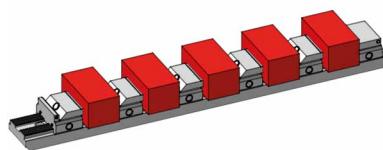


Hohes Mass an Flexibilität *High degree of flexibility*

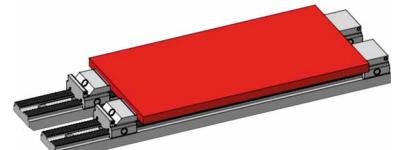
Ein einfaches universelles System für verschiedenste Anwendungen
One simple universal system for different applications



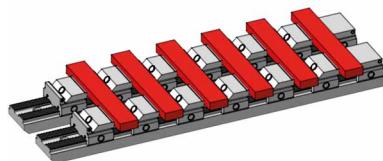
Einfache Spannung
Single workholding



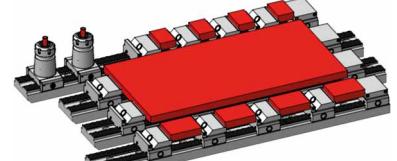
Mehrfachspannung
Multiple workholding



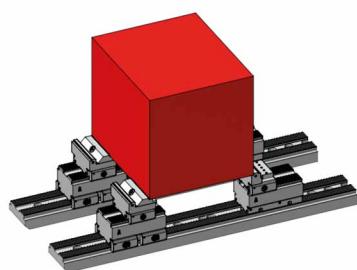
Seitlich gepaarte Schienen
Laterally paired rails



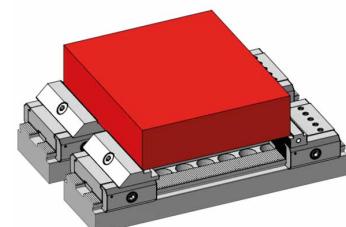
Mehrfachspannung mit Partnerschiene
Multiple workholding with partner rail



«Chaosche» Mehrfachspannung
«Chaotic» multiple workholding

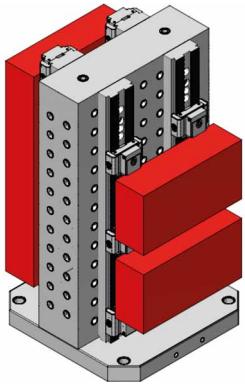


Erhöhte Spannstelle mit Partnerschiene
Raised workholding area with partner rail

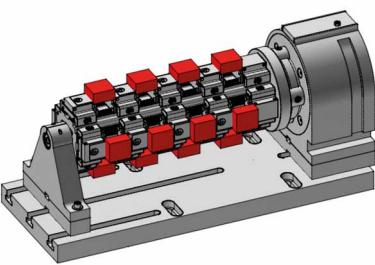


5-Achs Anwendung mit Partnerschiene
5-axis application with partner rail

3D MODULAR



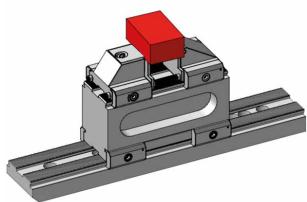
Gepaart auf Mineralgussturm
Paired on epoxy mineral tower



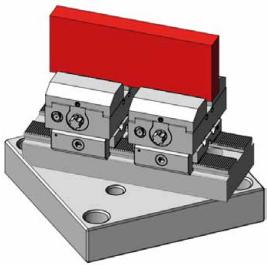
4-Achs Anwendung auf Monoblock
4-axis application on monoblock



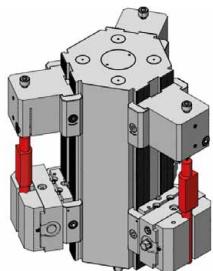
Auf Längsachse gepaarte Schienen
Rails paired on longitudinal axis



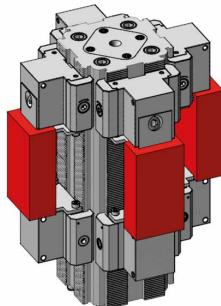
Erhöhte Spannstelle
Raised workholding area



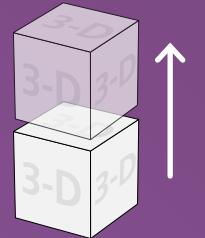
5-Achs Anwendung auf Schiene
5-axis application on rail



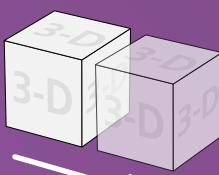
5-Achs Anwendung auf Monoblock
5-axis application on monoblock



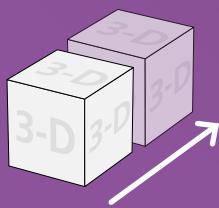
5-Achs Anwendung auf Monoblock
5-axis application on monoblock



In Höhe erweiterbar
Extendable in height



Seitlich erweiterbar
Laterally extendable



In Länge erweiterbar
Extendable in length

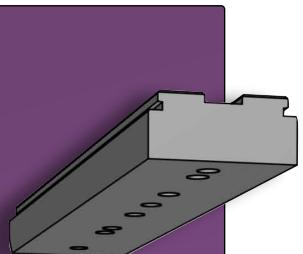
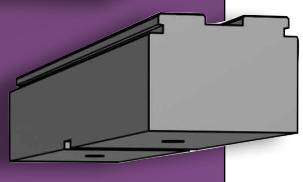
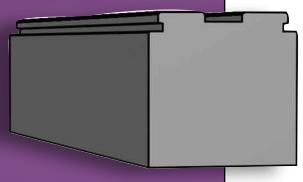
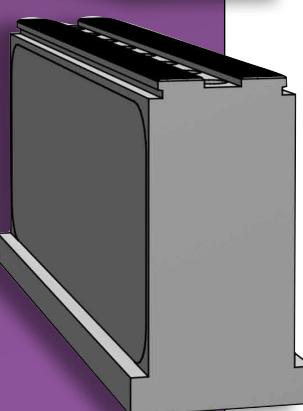
1

Basisschienen

Base-rails

Standart-Höhen

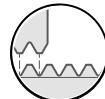
Standart heights

35 mm**60 mm****80 mm****175 mm**

Standart Längen

Standart lenghts

90mm	
125mm	
200mm	
220mm	
250mm	
300mm	
320mm	
350mm	
400mm	
450mm	
500mm	
550mm	
600mm	
650mm	
690mm	
700mm	
750mm	
800mm	
850mm	



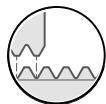
2

Monoblöcke und Türme *Monoblocks and towers*

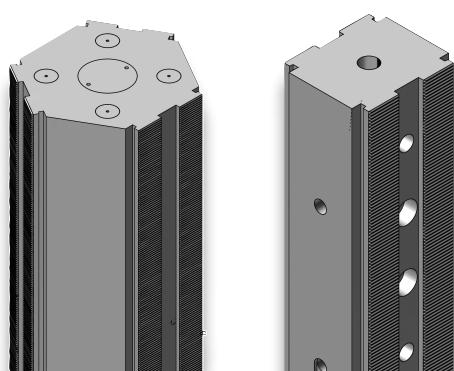
Standart Längen

Standart lenghts

300mm	
350mm	
400mm	
450mm	
500mm	
550mm	
600mm	
650mm	
700mm	
750mm	
800mm	
850mm	
900mm	

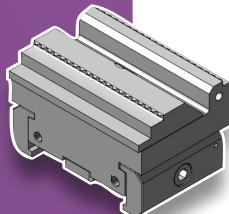
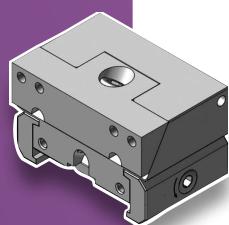
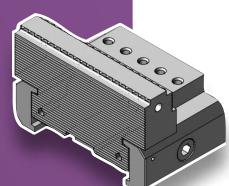
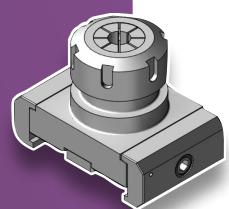
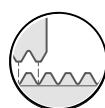
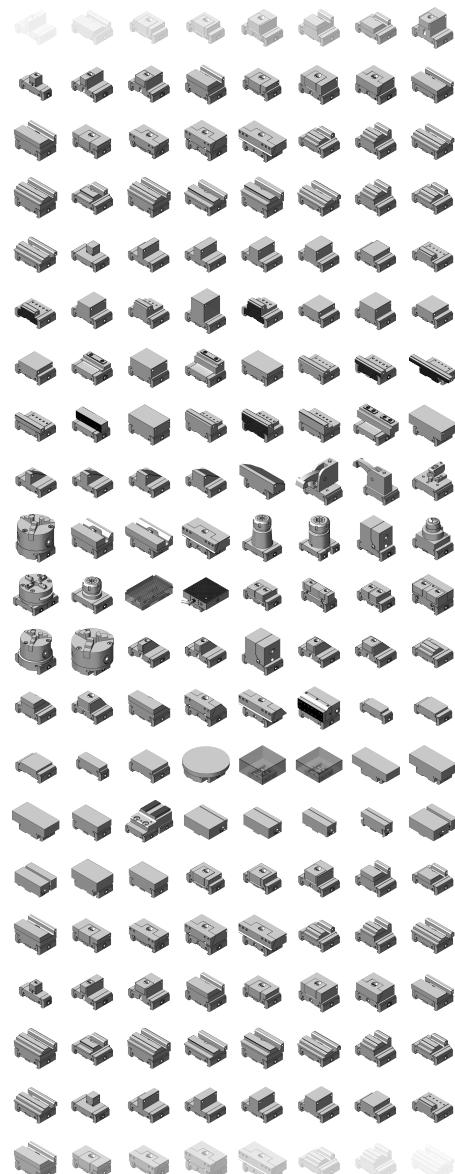


Für 5-Achs Anwendungen

For 5-axis applications

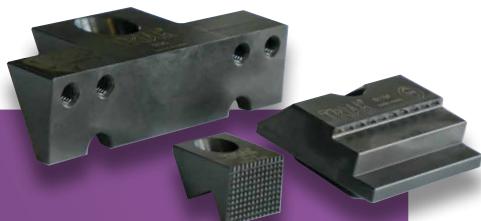
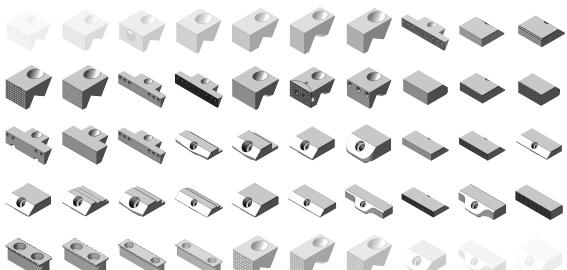
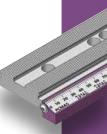
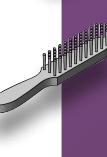
**3**

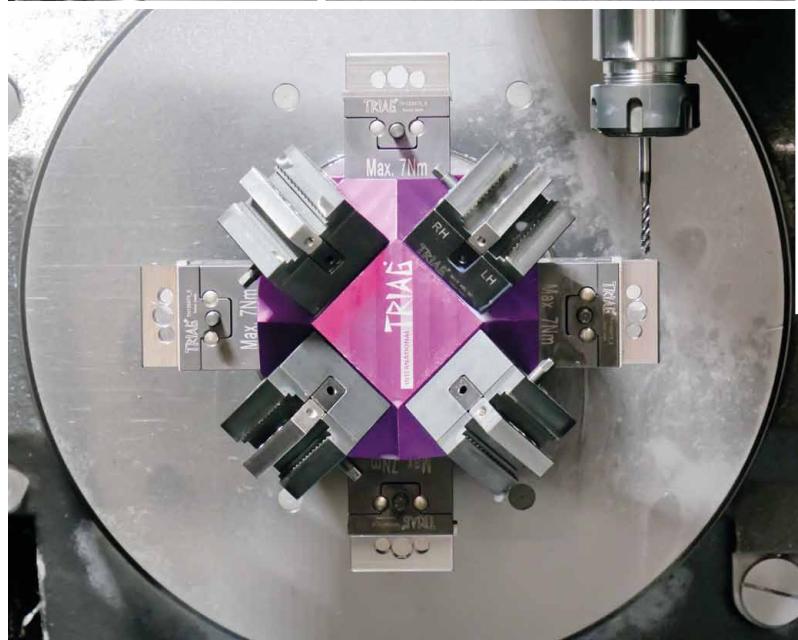
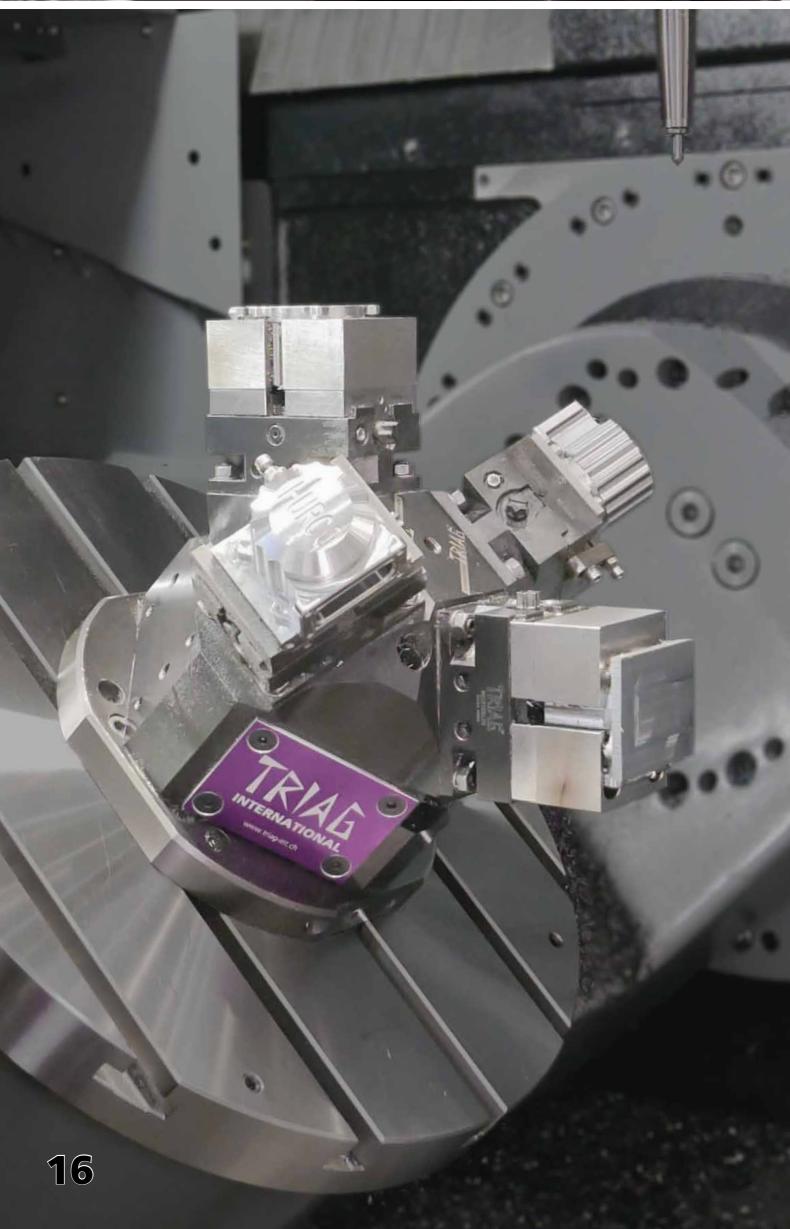
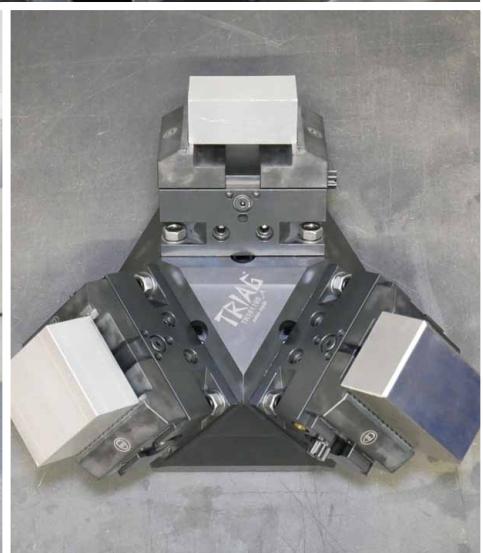
Module Modules

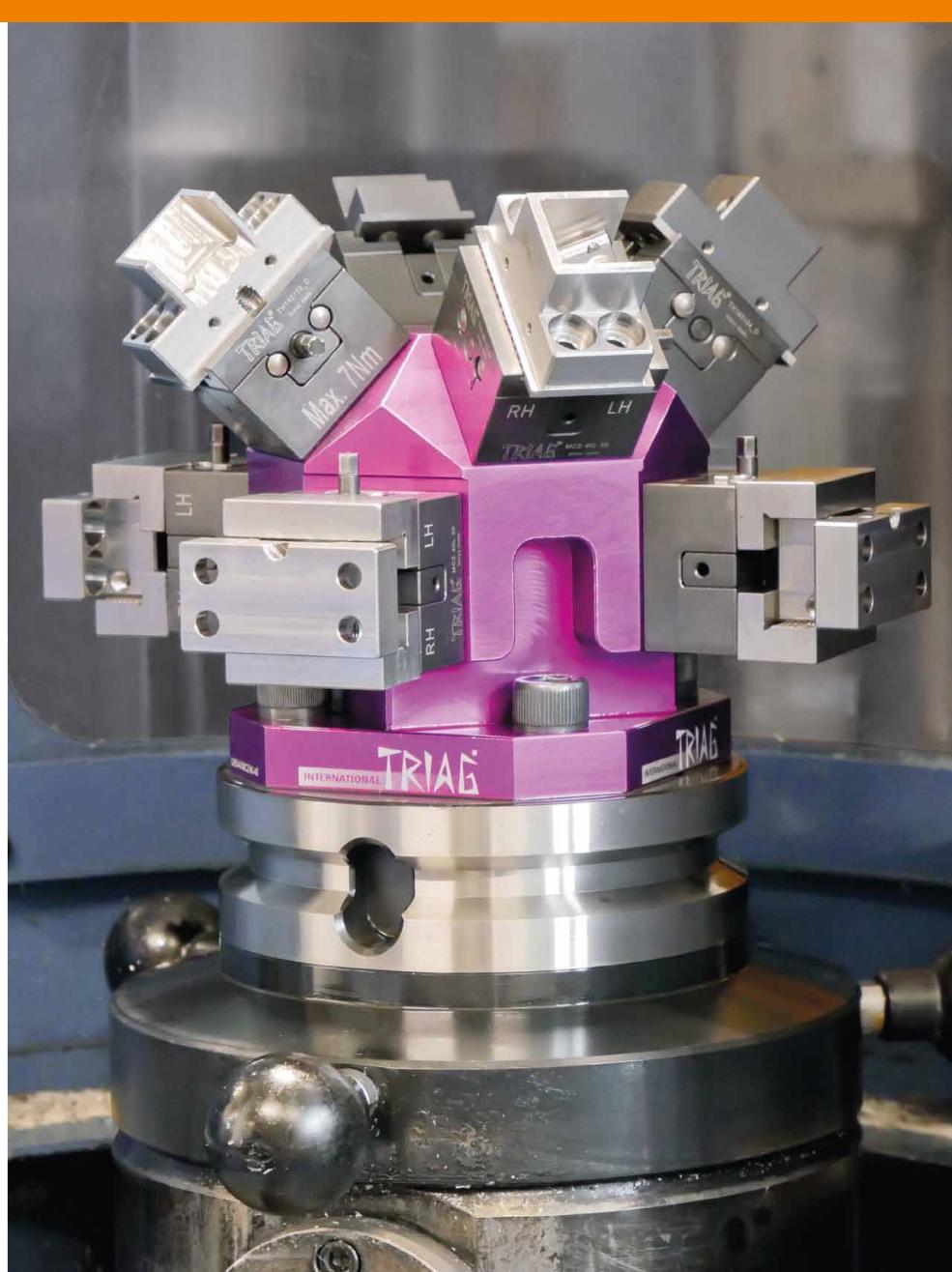
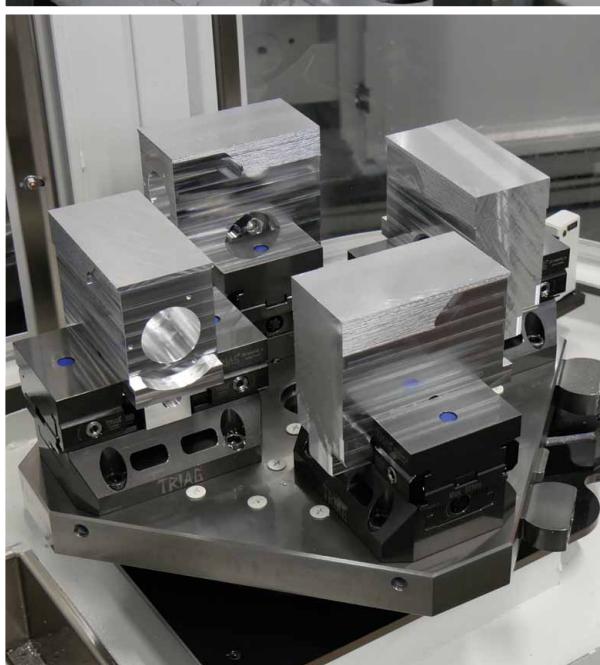
**Linearspannmodule**
Linear clamping modules**Niederzugspannmodule**
Pull down clamping module**Anschlagmodule**
Endmodule**Sonstige Module**
Divers modulesSpannmodul Breiten
*Clamping module widths***19 mm** - **150 mm****Über 200 Varianten**
Over 200 variants**3D**
MODULAR

4**Backen**
Jaws**Über 120 Varianten**

Over 120 variants

**Direkt-Präge**
Direct stamping**Geriffelt**
Double serrated**Gerillt**
Serrated**Glatt**
Flat**Hartmetallbeschichtet**
Carbide coated**Sonstige Backen**
Divers jaws**5****Zubehör**
Accessoires**Unterlagsscheiben**
Parallels**Magnetanschlag**
Magnetic milling buffer**Fräsanschlag**
Milling buffer**Schutzkappen**
Shut plugs**Einstellmasstäbe**
Measuring device for set up**Messingdrahtbürste**
Brass wire brush





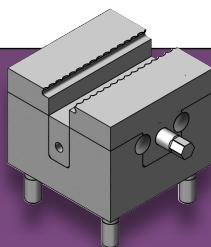
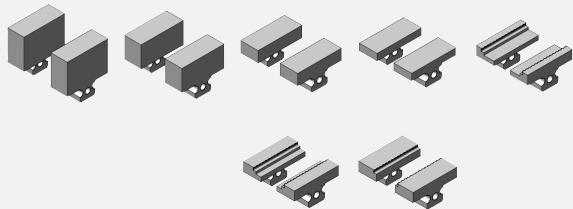
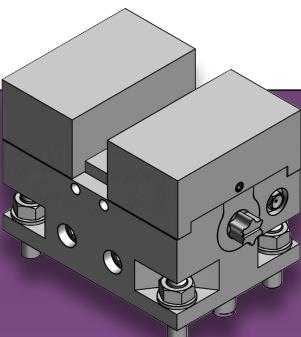
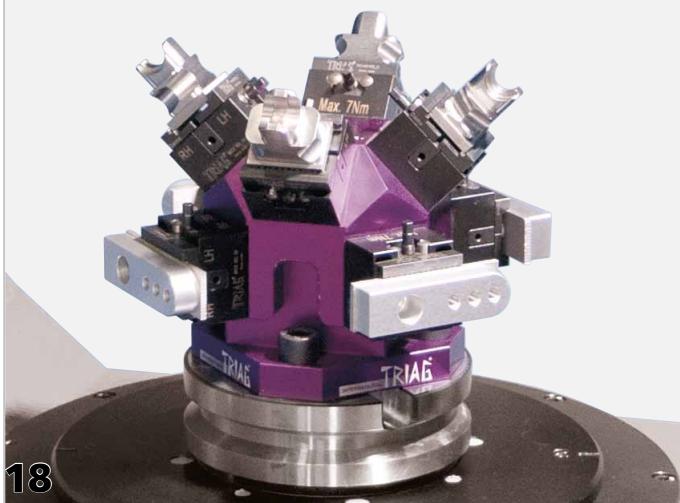
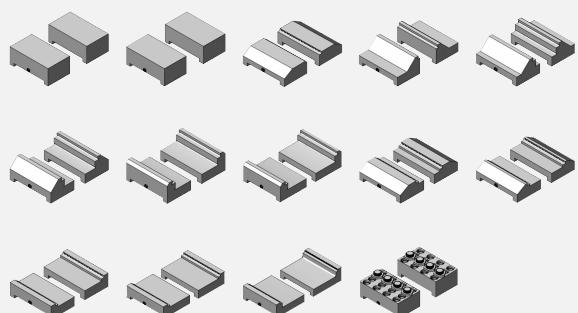
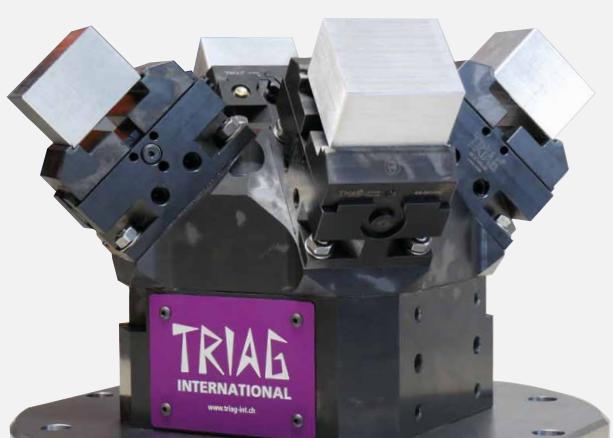
triCENTRO



Kleine bis grosse, sowie modulare Zentrischspanner in verschiedenen Ausführungen.

Small to big modular self centering vises in different variations.

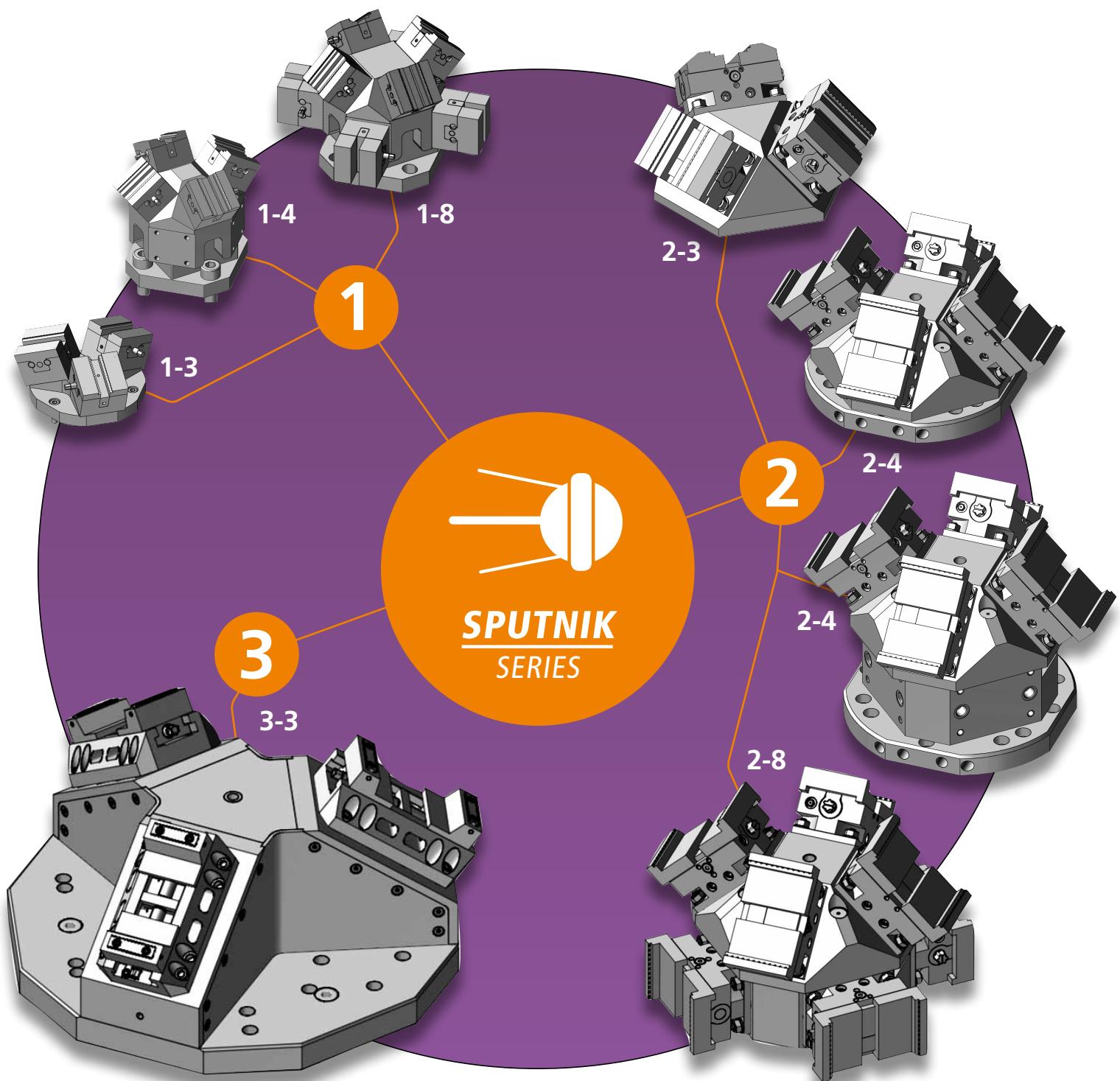
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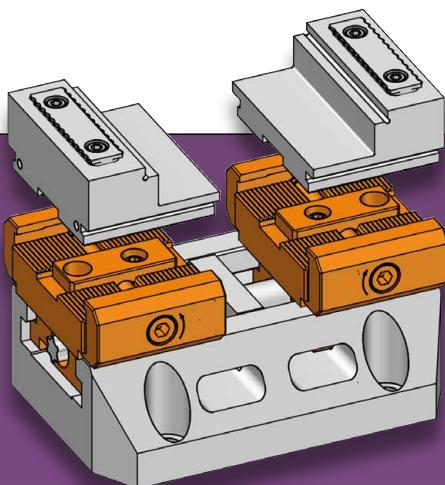
**MICRO**Spannbereich
Clamping area**0 - 31 mm**Max.Spannkraft
Max.Clamping force**800 daN (7Nm)**Abmessungen
Dimensions**40 x 40 x 32 mm****7****Backenvarianten**
Jaw variants**3mm Direkt-Prägebacken**
3mm Direct stamping jaws**Geeignet für die «Sputnik» Serie 1**
Suitable for the «Sputnik» series 1**MINI**Spannbereich
Clamping area**0 - 121 mm**Max.Spannkraft
Max.Clamping force**1600 daN (50Nm)**Abmessungen
Dimensions**100 x 70 x 74 mm****14****Backenvarianten**
Jaw variants**3mm Direkt-Prägebacken**
3mm Direct stamping jaws**Geeignet für die «Sputnik» Serie 2**
Suitable for the «Sputnik» series 2



QR-Codes zu den Produktevideos

QR-codes to the product videos





ZSB

Für den Einsatz von Schnellwechselbacken
For the use of quick-change jaws

Spannbereich
Clamping area

Backenabhängig
Jaw-dependent

Max.Spannkraft
Max.Clamping force

2100 daN (70Nm)

Abmessungen
Dimensions

() x 120 x 100 mm

**140
mm**



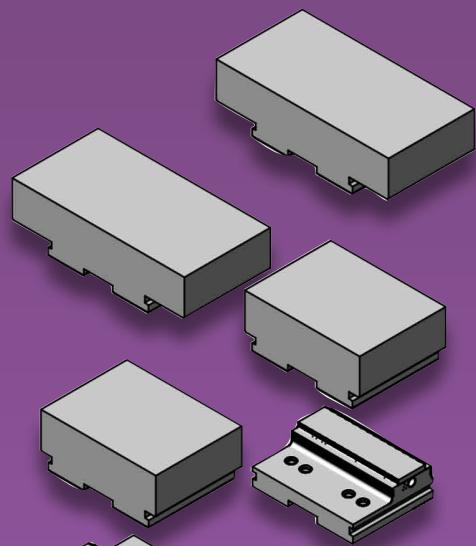
**160
mm**



**180
mm**



**200
mm**



7

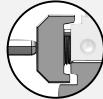
Backenvarianten
Jaw variants



**3mm Direkt-Prägebacken
3mm Direct stamping jaws**

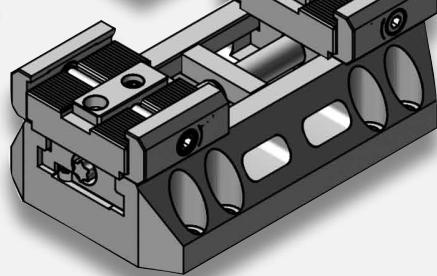


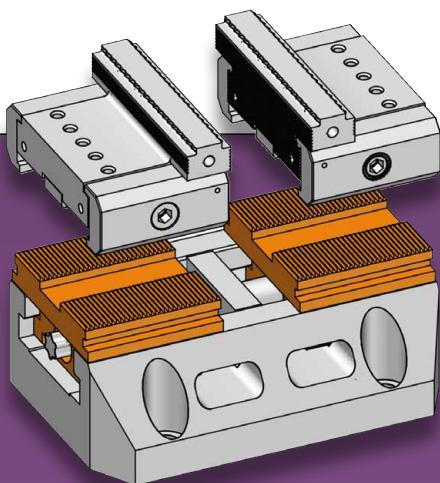
**powerCLAMP Schnittstelle
powerCLAMP interface**



**powerCLAMP Pratzensystem
powerCLAMP side clamp system**

powerCLAMP





ZSM

Für den Einsatz mit powerCLAMP Modulen
For the use with powerCLAMP modules

Spannbereich
Clamping area

Modulabhängig
Module-dependent

Max.Spannkraft
Max.Clamping force

2100 daN (70Nm)

Abmessungen
Dimensions

() x 120 x 100 mm

140
mm



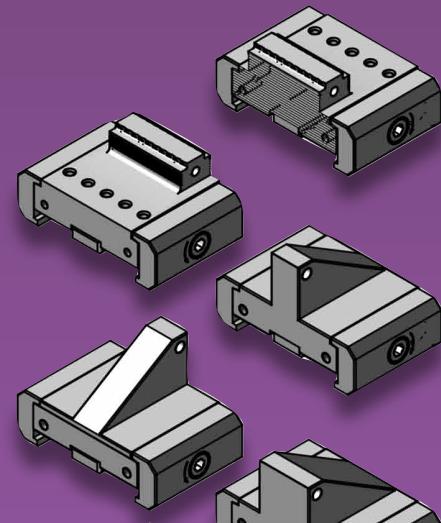
160
mm



180
mm



200
mm



56

Verschiedene Anschlagsmodule
Different stop modules



3mm Direkt-Prägebacken
3mm Direct stamping jaws



powerCLAMP Schnittstelle
powerCLAMP interface

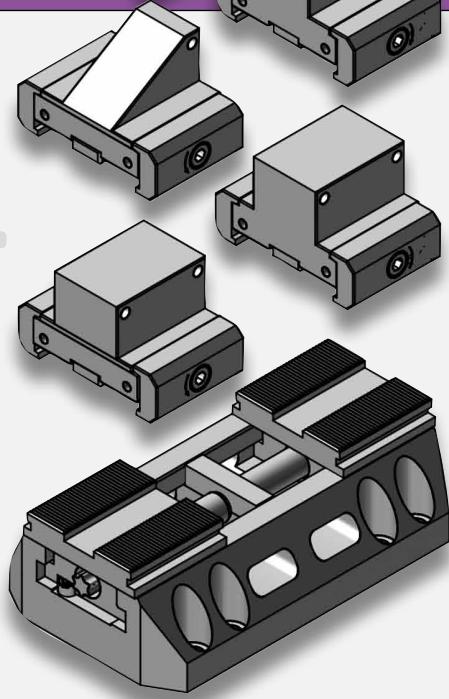


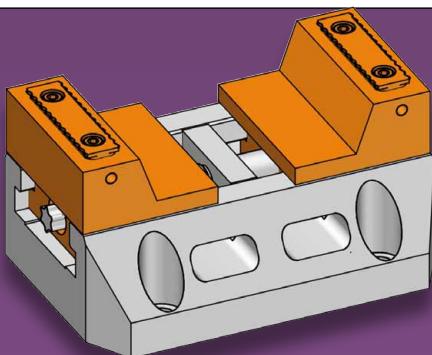
powerCLAMP Pratzensystem
powerCLAMP side clamp system



Höchste Modularität
Highest modularity

powerCLAMP





ZSX

Mit Spannkrafterhaltung
With spring loaded mechanism

Spannbereich
Clamping area

10 - 186 mm

Max.Spannkraft
Max.Clamping force

2100 daN (70Nm)

Abmessungen
Dimensions

() x 120 x 100 mm

140
mm



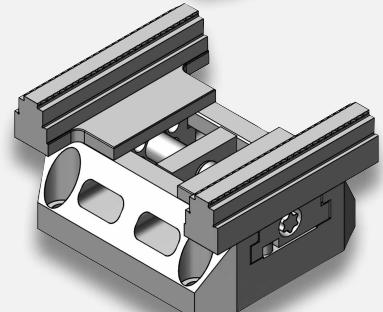
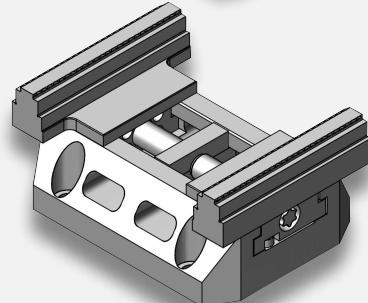
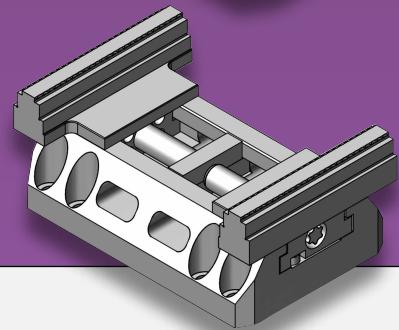
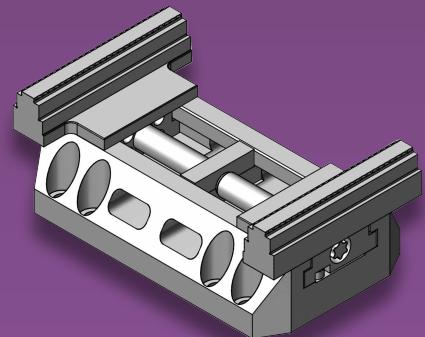
160
mm



180
mm



200
mm



2

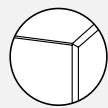
Backenvarianten
Jaw variants



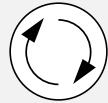
3mm Direkt-Prägebacken
3mm Direct stamping jaws



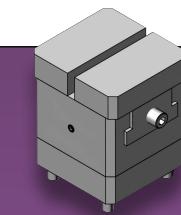
Spannkrafterhaltung mit Nachfederung
Spring loaded mechanism to maintain clamping force



«Weiche» Formbacken
«Soft» jaws for dedicated fixtures



Backen-Schnellwechselsystem
Jaw quick-change system



MICRO-P

Hub
Stroke

3mm

Max.Spannkraft
Max.Clamping force

120 daN

Abmessungen
Dimensions

52 x 40 x 48 mm



3mm Direkt-Prägebacken
3mm Direct stamping jaws



powerCLAMP Schnittstelle
powerCLAMP interface



powerCLAMP Pratzensystem
powerCLAMP side clamp system

powerCLAMP



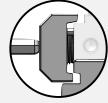
Verschiedene Anschlagsmodule
Different stop modules



3mm Direkt-Prägebacken
3mm Direct stamping jaws



powerCLAMP Schnittstelle
powerCLAMP interface

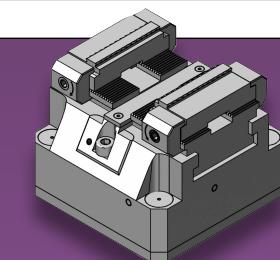
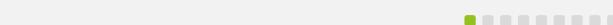


powerCLAMP Pratzensystem
powerCLAMP side clamp system



Höchste Modularität
Highest modularity

powerCLAMP



MINI-P

Hub
Stroke

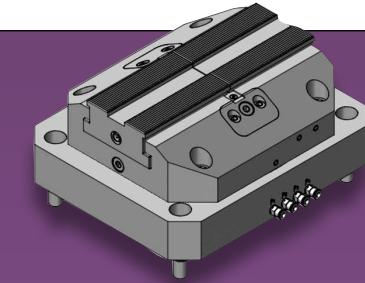
6mm

Max.Spannkraft
Max.Clamping force

1400 daN (12bar)

Abmessungen
Dimensions

124 x 124 x 103 mm



GRANDE-P

Hub
Stroke

6mm

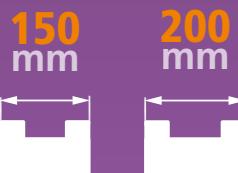
Max.Spannkraft
Max.Clamping force

2500 daN (12bar)

Abmessungen
Dimensions

() x 180 x 100 mm

150
mm

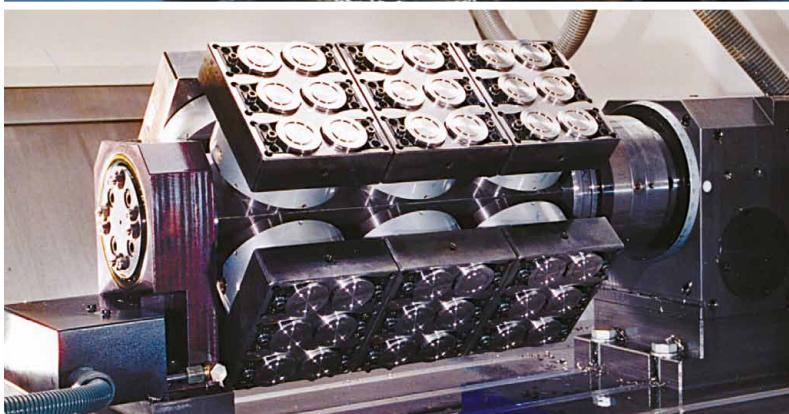
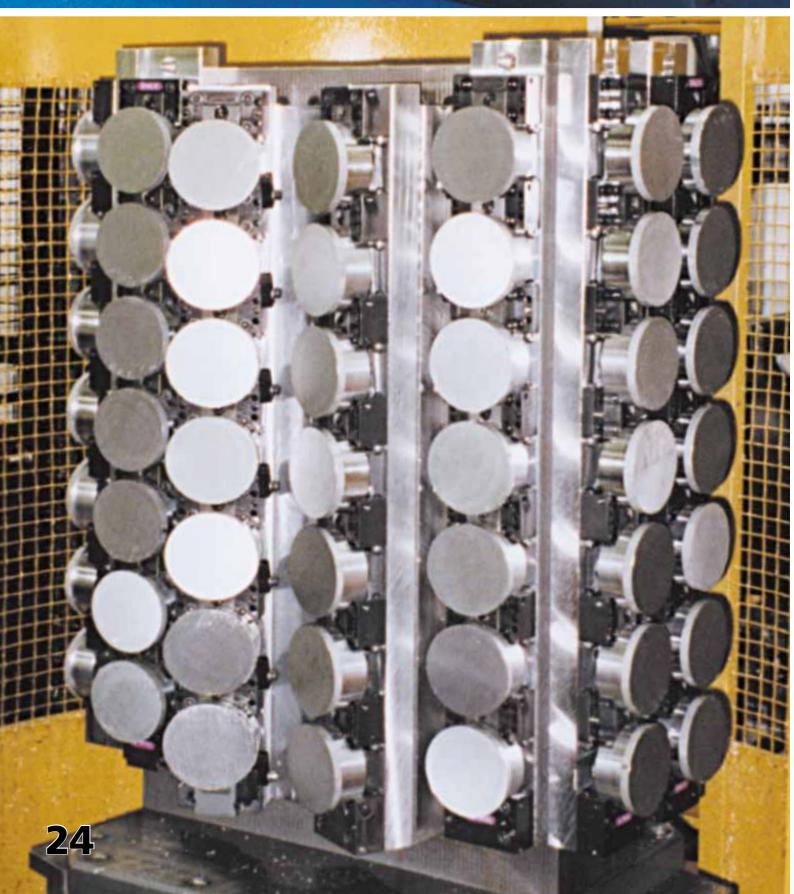
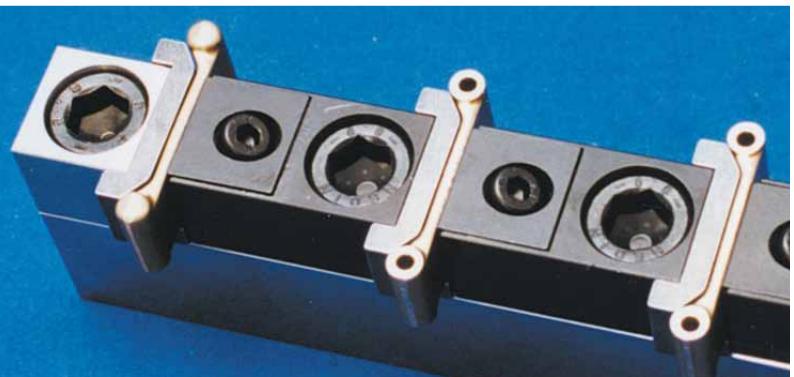


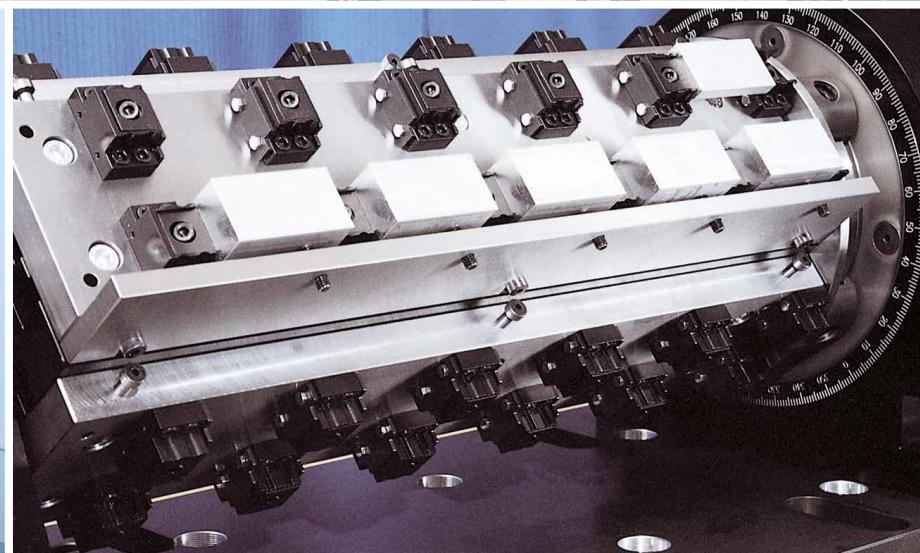
200
mm



250
mm







microCLAMP



Kleinste Module für den Vorrichtungsbau.
Sie haben eine grosse Spannkraft (bis 28'000N),
der benötigte Abstand zwischen den Werkstücken ist im Optimalfall nur 15 mm.

Smallest modules for dedicated fixtures. Having a high clamping force (up to 28'000N) the distance between workpieces is only 15 mm in optimum set up.

TRIAG
INTERNATIONAL

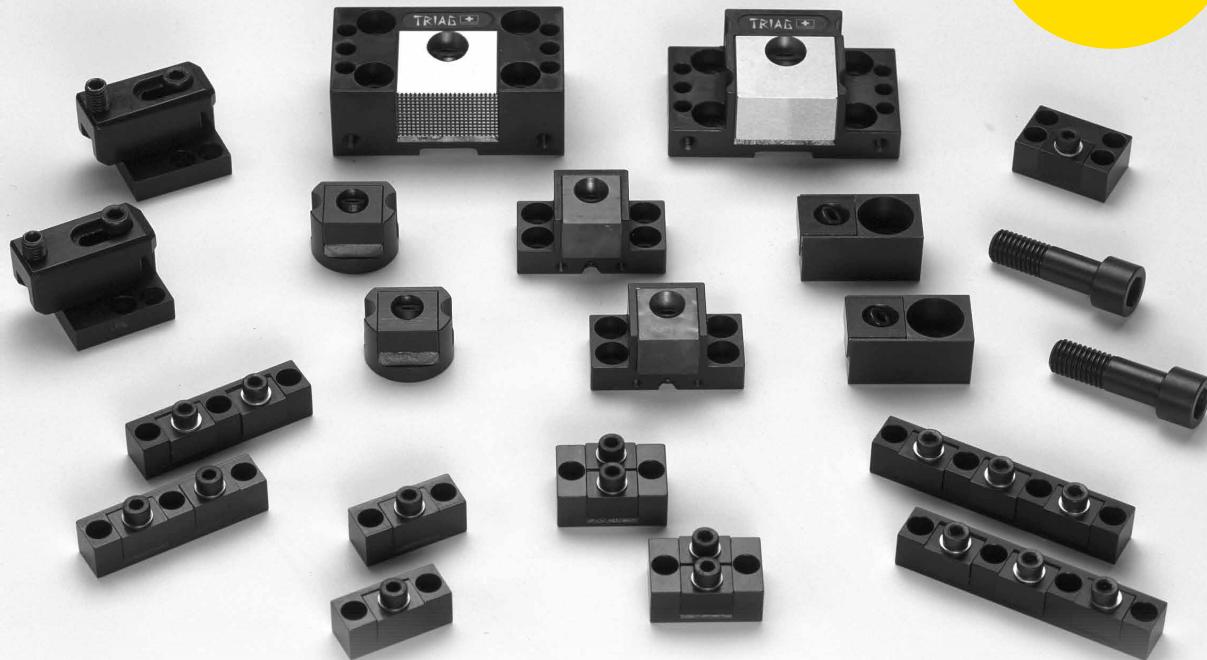


Kleine Spannmodule - grosse Auswahl

Small clamping modules - big choice

Über 50 verschiedene Spannmodule für den Vorrichtungsbau
Over 50 different clamping modules for dedicated fixtures

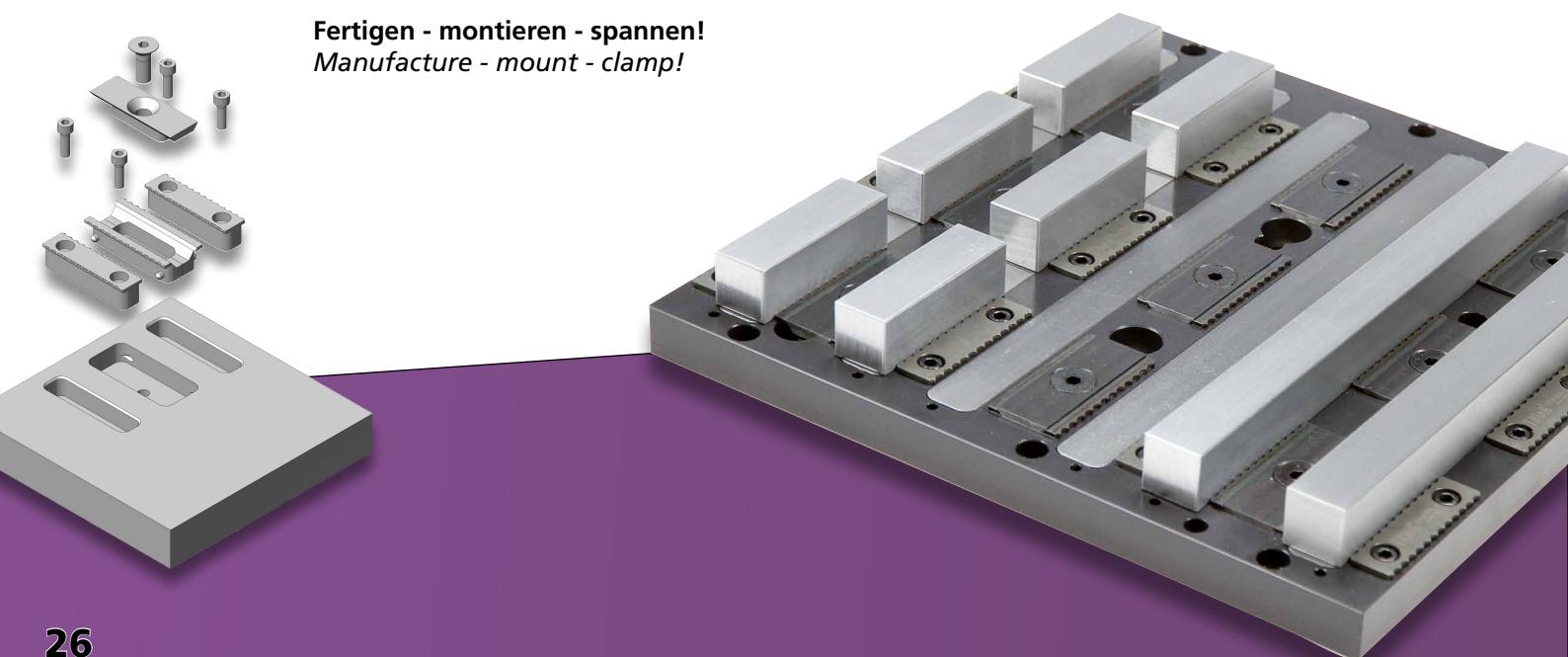
50x



Ideal für den Vorrichtungsbau

Ideal for dedicated fixtures

Fertigen - montieren - spannen!
Manufacture - mount - clamp!



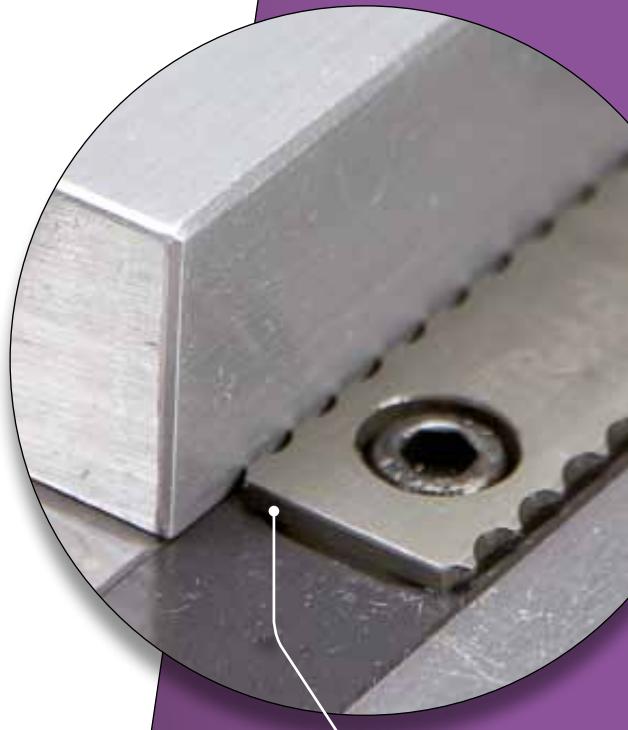


Kraftvoll gespannt

Powerfully clamped

Spannkräfte bis: *Clamping forces up to:*

2800 daN



3mm Direkt-Prägebacken
3mm Direct stamping jaws



Hohe Spanndichte

High density workholding

Ab 15 mm Platz zwischen den Werkstücken
Only 15 mm needed between the workpieces



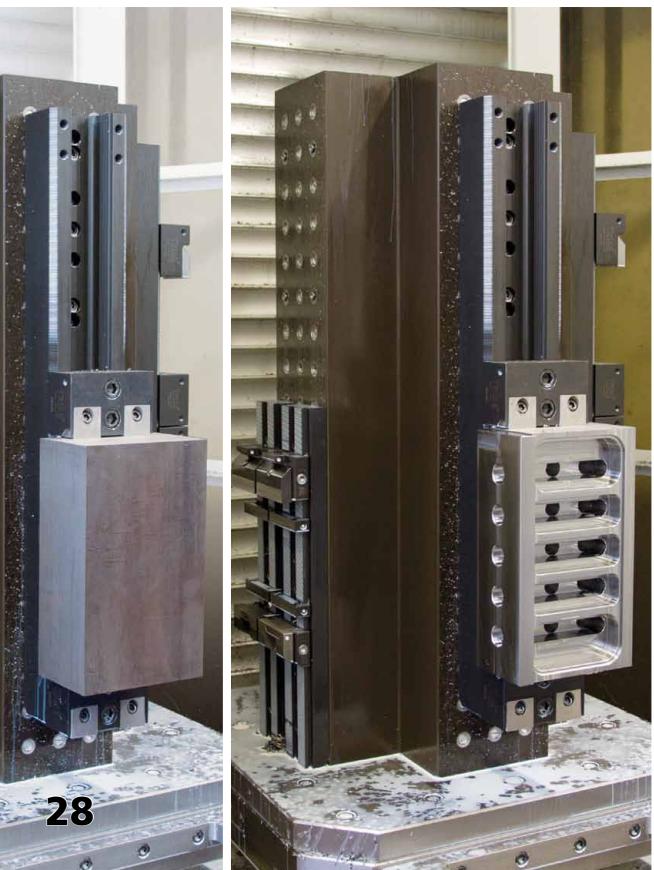
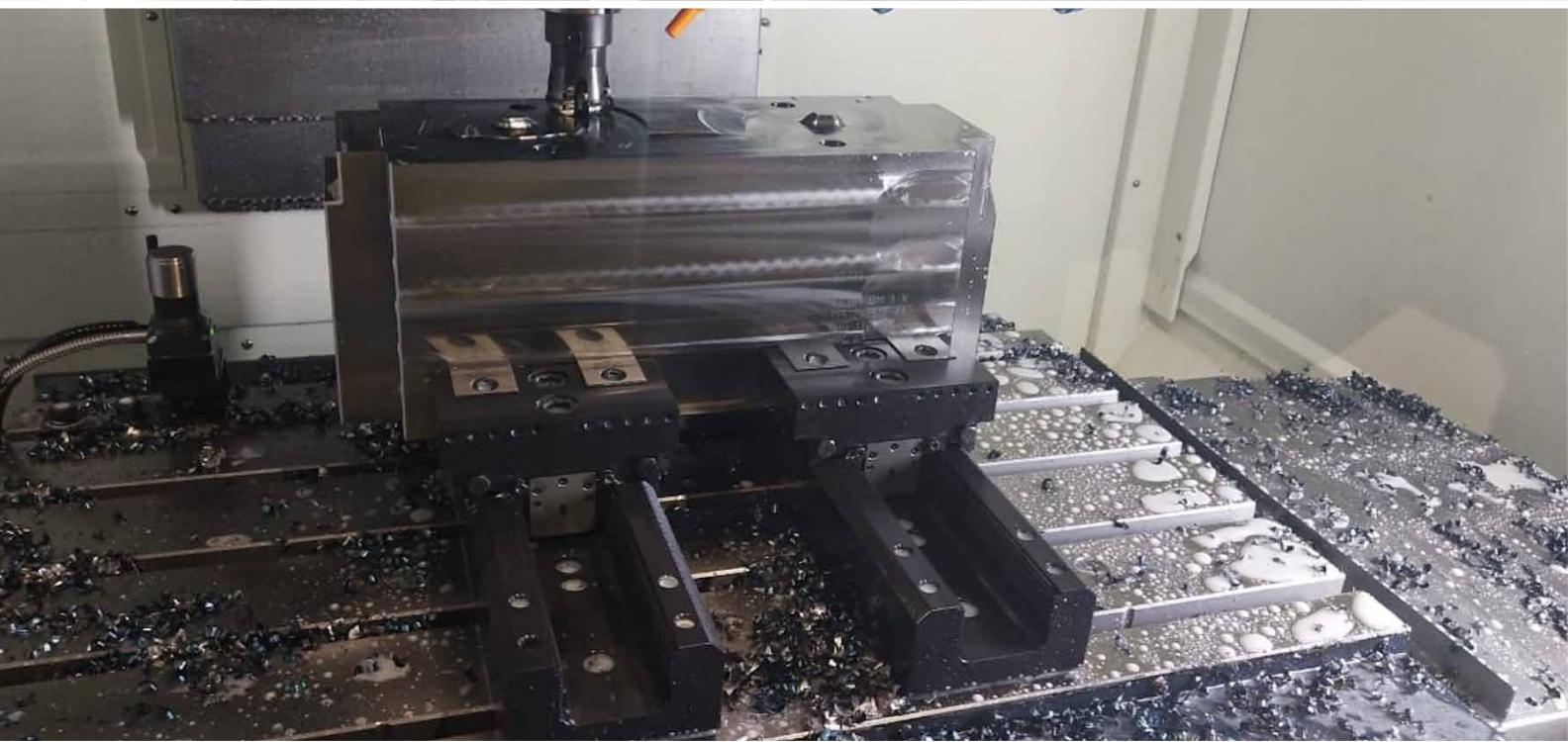
Spannmodul Breiten

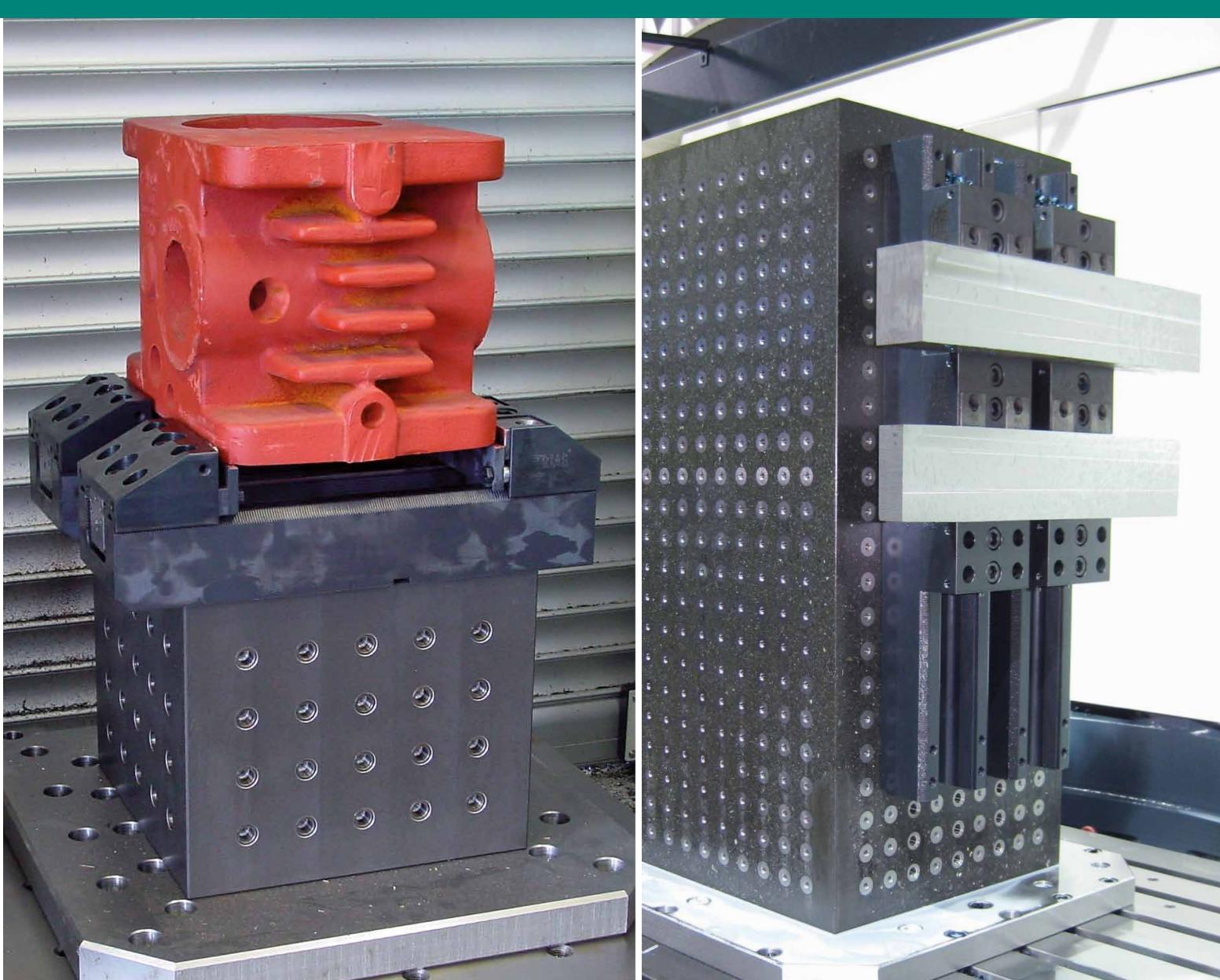
22-125 mm

Spannmodul Höhen

14-50 mm







aptoCLAMP



Die hohe Spannkraft dieses Systems ermöglicht den Einsatz für schwere Zerspanung.

The high clamping force of the aptoCLAMP enables heavy cuts.

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INTERNATIONAL

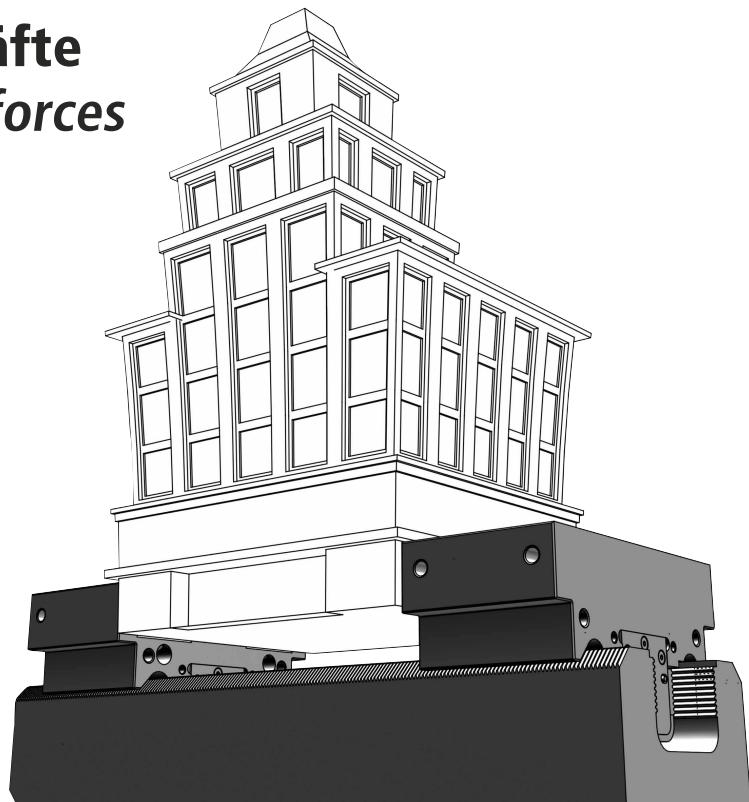


Hohe Spannkräfte *High clamping forces*

7000 daN

Niederzug: max. 7000 daN Spannkraft
 Linear: max. 3200 daN Spannkraft

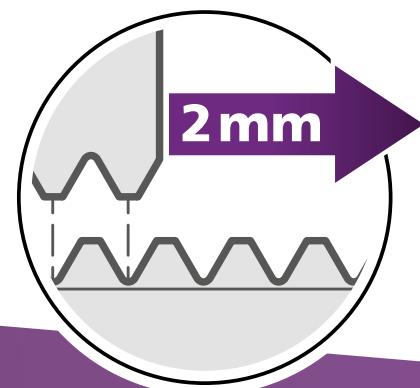
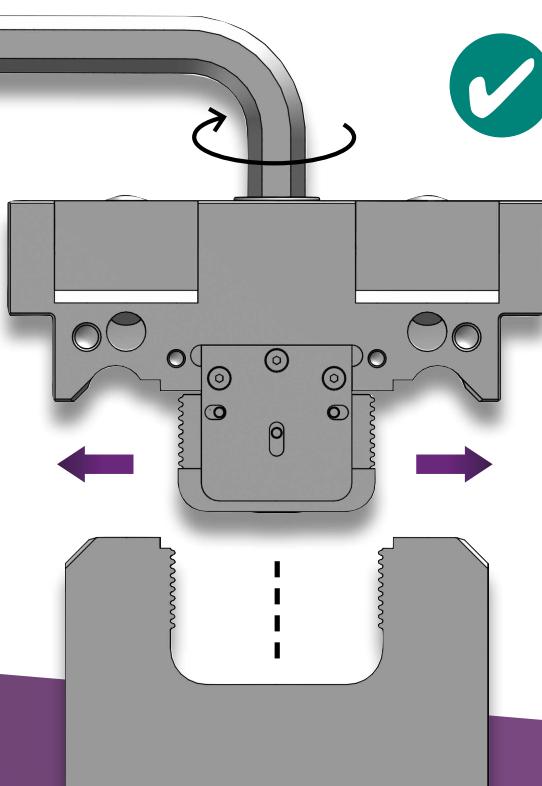
*Pull down: max. 7000 daN clamping force
 Linear: max. 3200 daN clamping force*



Module senkrecht montierbar *Modules vertically mountable*

Positionierschritte von 2 mm
Positioning increments of 2 mm

Verzahnung nicht dem Werkstück ausgesetzt
Gearing not exposed to the workpiece

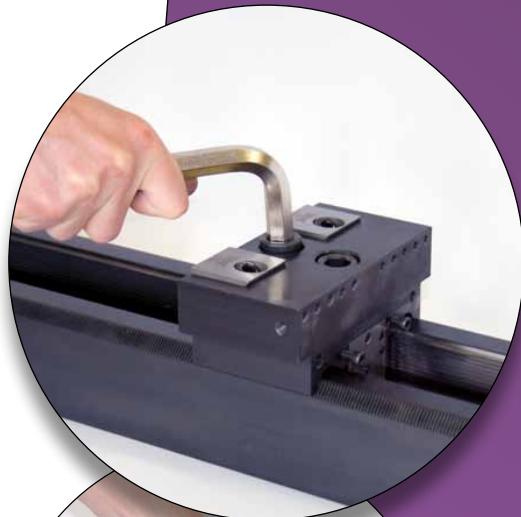




Einfache Handhabung *Easy handling*

1. Zwei Schrauben lösen
2. Abheben und neu positionieren
3. Zwei Schrauben anziehen

1. Loosen two screws
2. Lift and change position
3. Fasten two screws

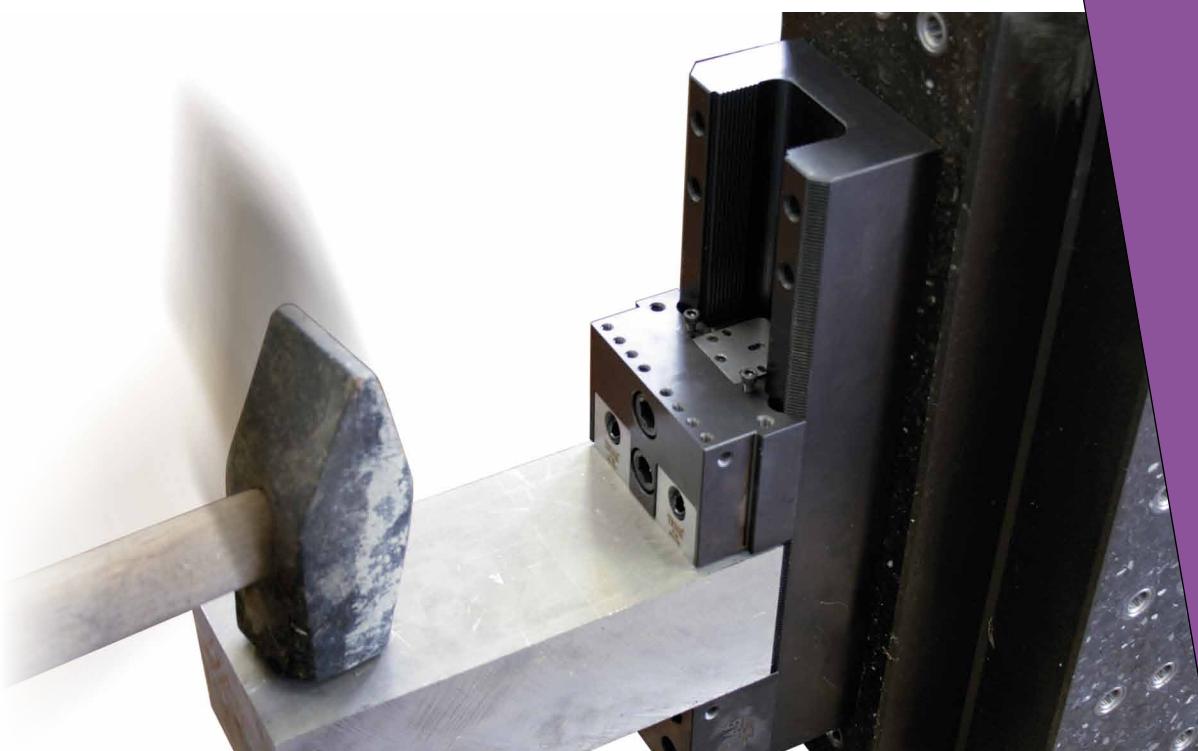


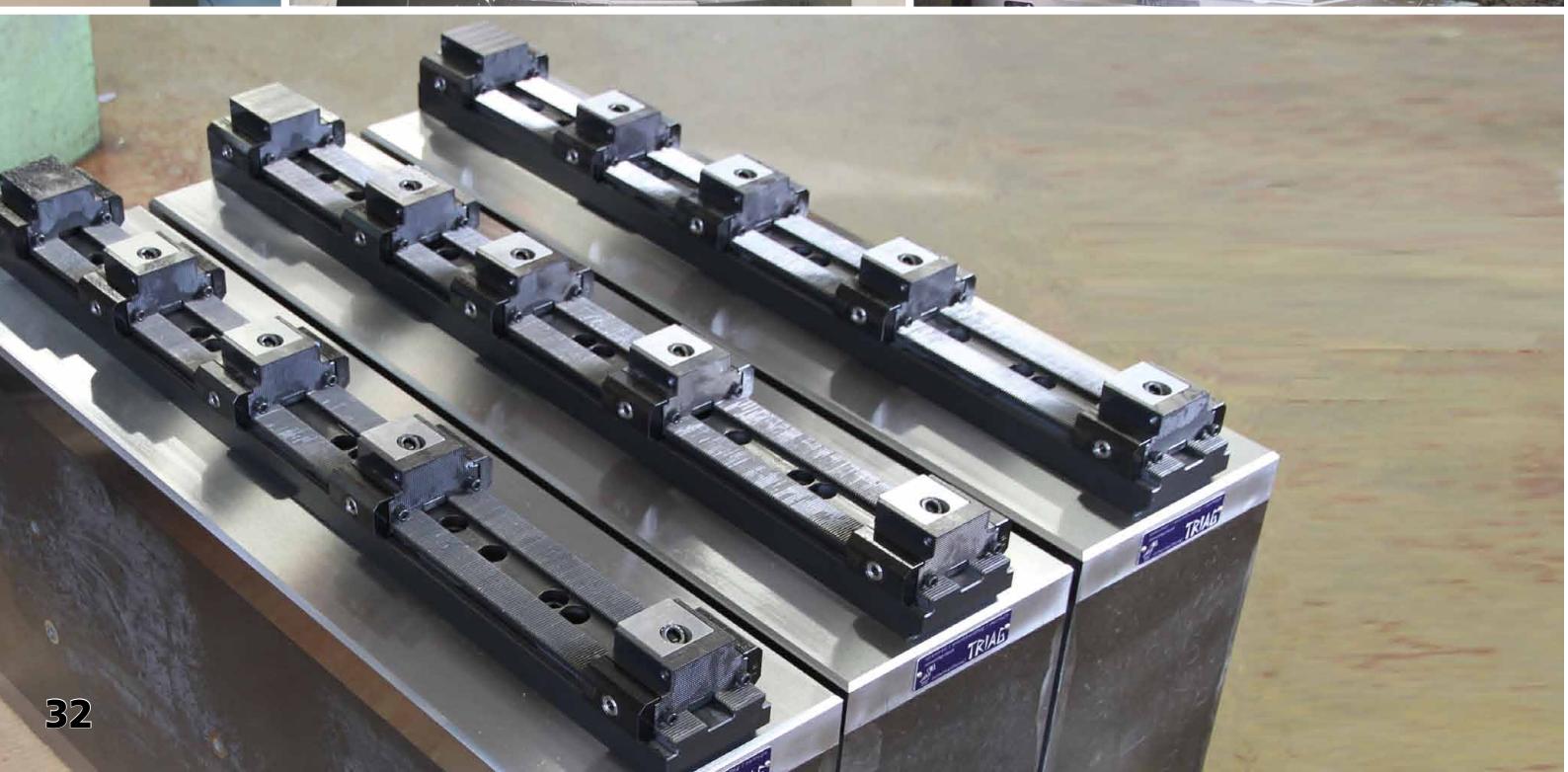
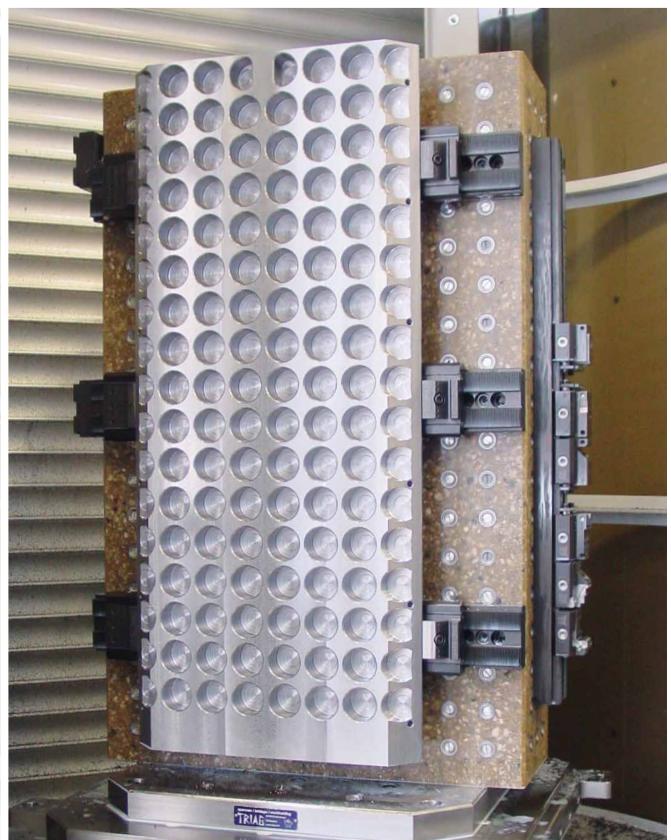
Modular *Modular*

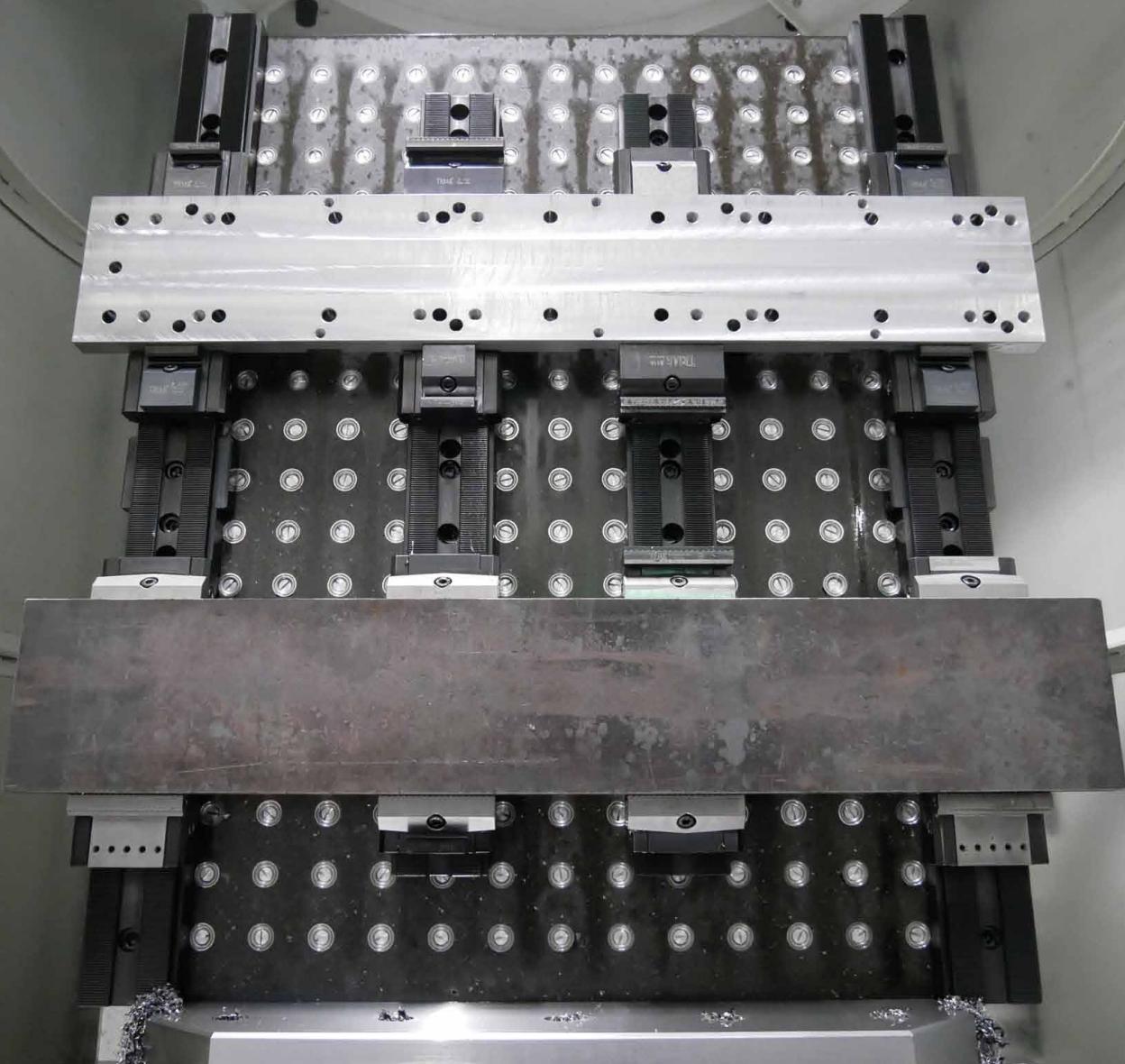
Baukastenprinzip mit eigener Schnittstelle
Modular design with own interface



Robuste und stabile Bauweise *Robust and stable design*







tripoxyMINERAL



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INTERNATIONAL

Spanntürme aus Mineralguss. Die Vibrationsdämpfung ist zehnmal besser als bei Grauguss. Das spezifische Gewicht ist hingegen kleiner als bei Aluminium. Erhältlich in vielen verschiedenen Formen.

Tombstones made of composite concrete. Vibration damping effect is ten times better than with cast iron. Specific weight on the other hand is less than aluminum. Available in many different shapes.



Mineralguss aus gutem Grund Epoxy mineral with good reason



Spezifisches Gewicht leichter als Aluminium
Specific weight lighter than aluminium



Vibrationsdämpfung 10 x besser als Grauguss und 100 x besser als Alu!
Vibration dampening 10 x better than cast iron 100 x better than alu!



Chemische Beständigkeit gegen Öle, Laugen, Säuren
Chemical resistance to oils, alkalis and acids



Hohe Formstabilität infolge tiefer Wärmeleitfähigkeit
High form stability due to low thermal conductivity



Rohstoff aus der Schweiz
Raw material from switzerland



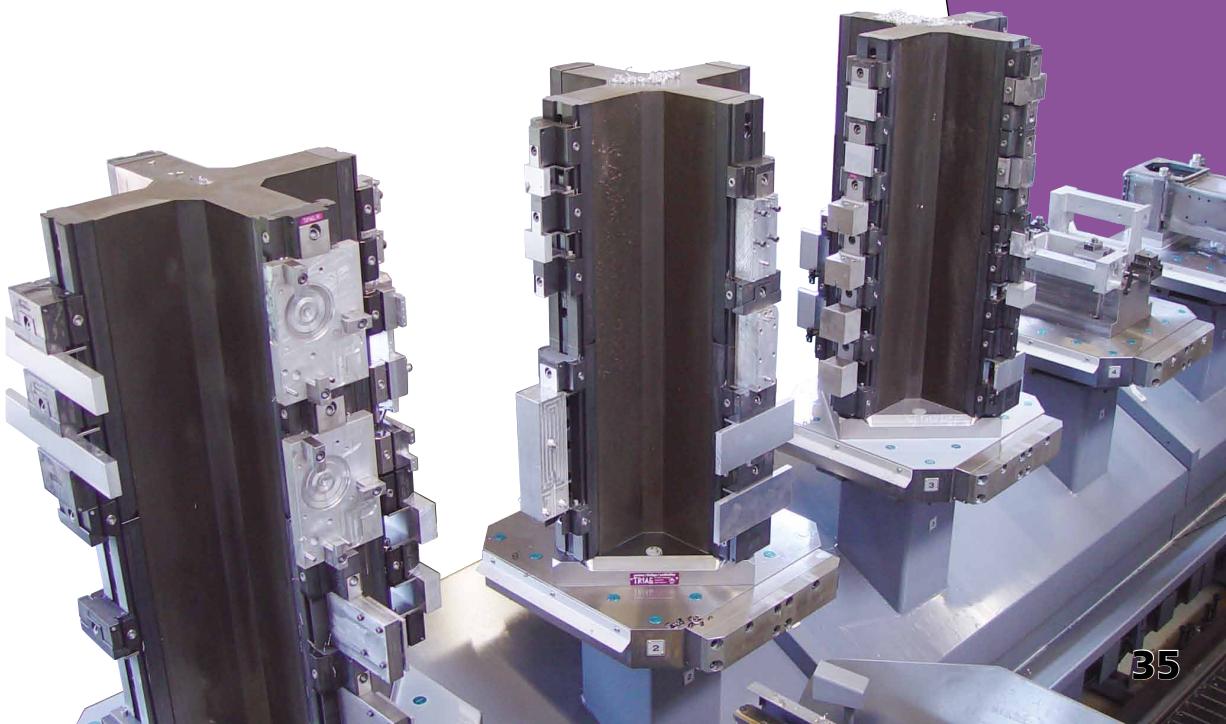
Eigenschaften / Features	Mineralguss / Epoxy mineral	GG20	Hochfestes Aluminium High density aluminum
Dichte / Density [kg/dm ³]	~ 2,4	~ 7,1 - 7,3	~ 2,76
Logarithmisches Dekrement (Vibrationsdämpfung) Logarithmic Decrement (Vibration dampening)	0,035	0,004	0,0004
Längenausdehnungs-koeffizient [1/K] Coefficient of linear expansion [1/K]	~ 12x10 ⁻⁶	~ 10x10 ⁻⁶	~ 23x10 ⁻⁶
Zugfestigkeit / Tensile strength [N/mm ²]	15 - 20	200 - 400	470 - 520
Wärmeleitfähigkeit [W/mK] Thermal conductivity [W/mK]	~ 2	~ 50	~ 140



Anwendungsbereiche Mineralguss

Applications Epoxy Mineral

- **Spanntechnik**
Workholding
 - **Maschinenbetten**
Machine beds
 - **Maschinenständer und -portale**
Machine column and portals
 - **Als Alternative zu Grauguss
(Kosten, Umweltfreundlichkeit)**
*As an alternative to cast iron
(cost, environmental friendliness)*
 - **Als Alternative zu Schweisskonstruktionen**
As an alternative to welded constructions
 - **Als Alternative zu Natursteinanwendungen
(z.B. Messtische, Reinraumtechnologie)**
*As an alternative to natural stone applications
(eg, measuring tables, clean room technology)*
 - **Generell steifigkeits- und festigkeitsdimensionierte Strukturauteile**
General stiffness and strength-scale structural components
 - **Füllung von Mineralguss in Blechmantelkonstruktionen
(z.B. unsere Stahl-Mineralguss-Basisbahnen)**
*Filling of mineral cast in metal shell constructions
(eg, our steel rails with epoxy mineral cast base)*



Materialien

Materials

Mineralguss *Epoxy mineral*

Stahlmineralguss

Steel epoxy mineral



Hohe Variantenvielfalt

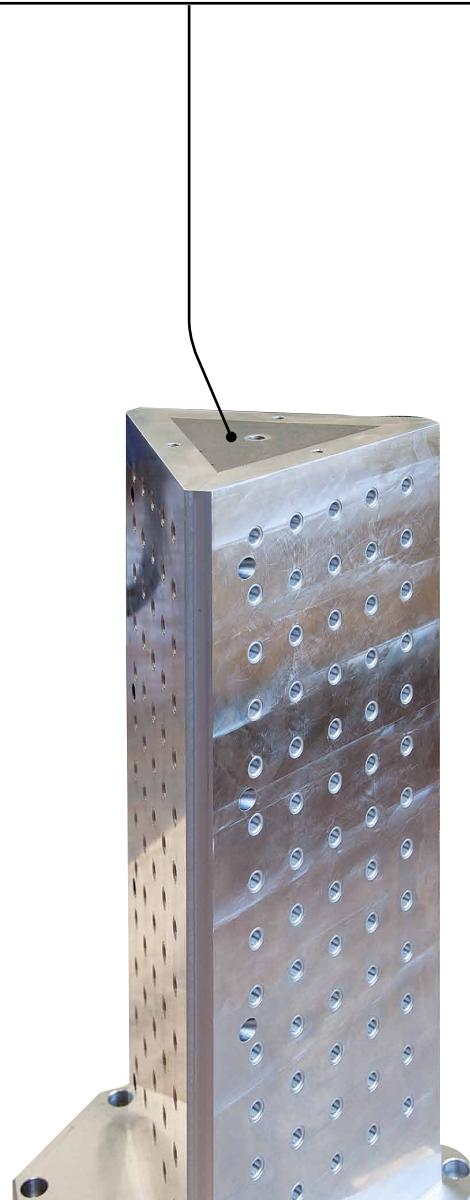
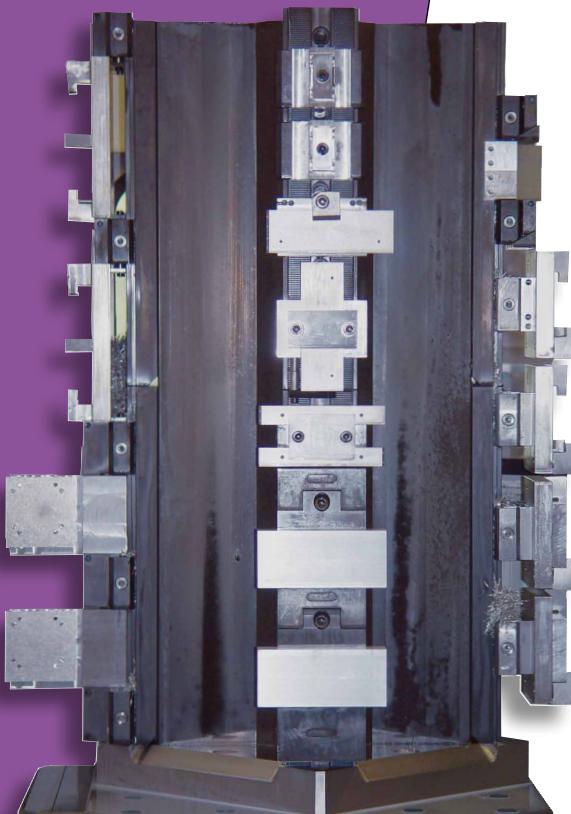
High number of variants

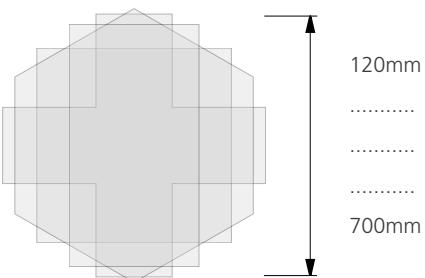
Integrierte Funktionalität

Integrated functionality

Eingiessen von Schläuchen, Ventilen, Elektrik, Lastanker etc. möglich. (Auch nachträglich).

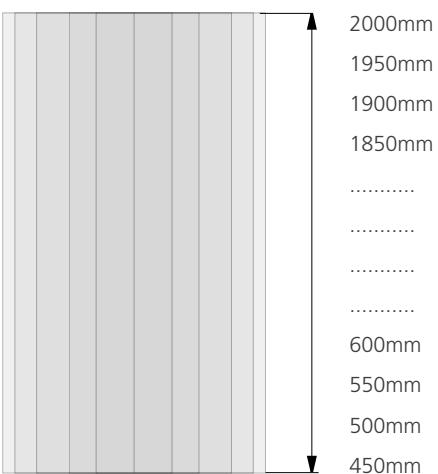
Pouring of hoses, valves, electrical, anchor load, etc. possible. (Also subsequent).





Schlüsselweiten
Major widths

120 - 700mm

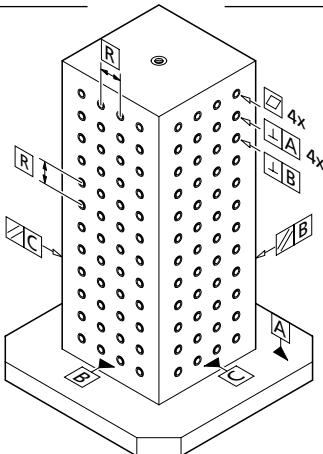


Standarthöhen
Standard heights

450 - 2000mm

Massgenauigkeit
Dimensional accuracy

	Lagetoleranz Rasterbohrungen <i>Positioning tolerance holes</i>	0 - 500 mm \pm 0,01 501 - 1000 mm \pm 0,02
	Ebenheit <i>Flatness</i>	0,01 mm / 300 mm
	Parallelität <i>Parallelism</i>	0,01 mm / 300 mm
	Winkligkeit <i>Deviation of angle</i>	0,01 mm / 200 mm



Kreuz
Cross



Rechteck
Rectangle



Quadrat
Square



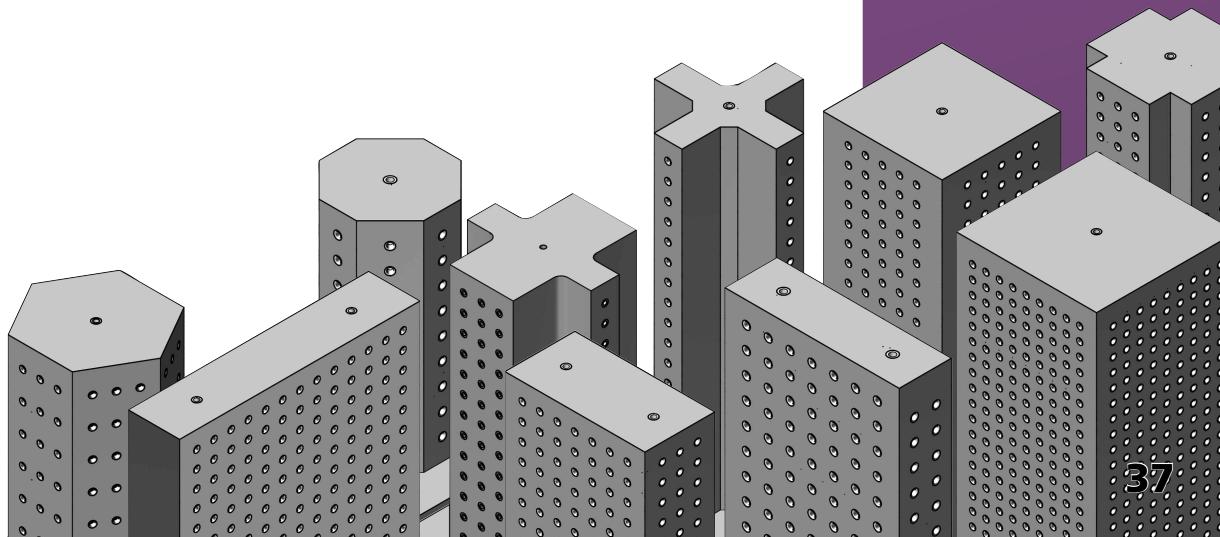
Sechseck
Hexagon

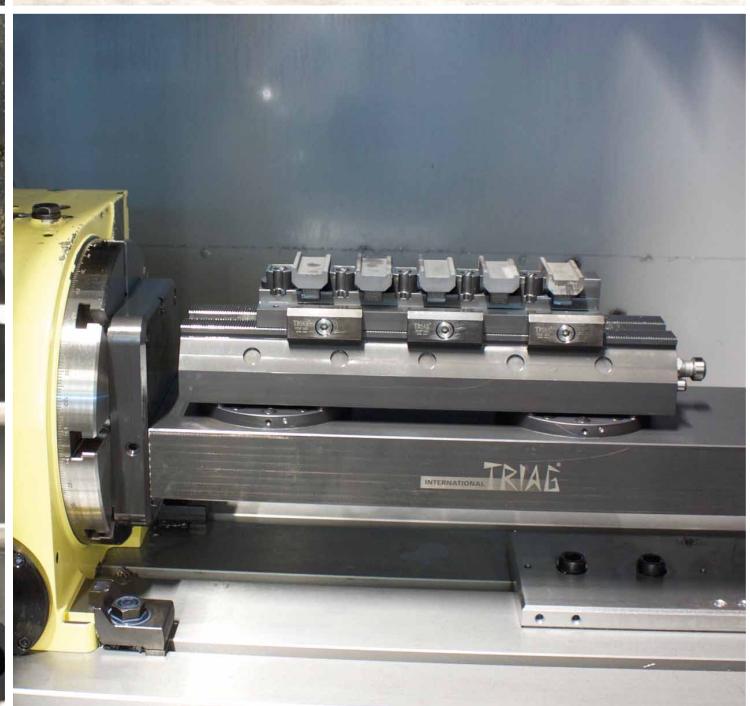
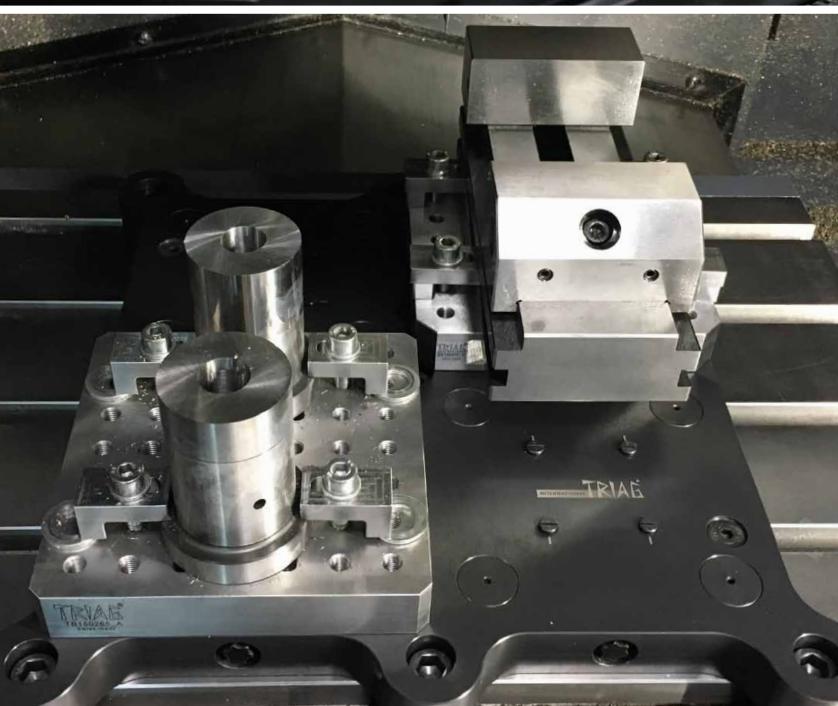
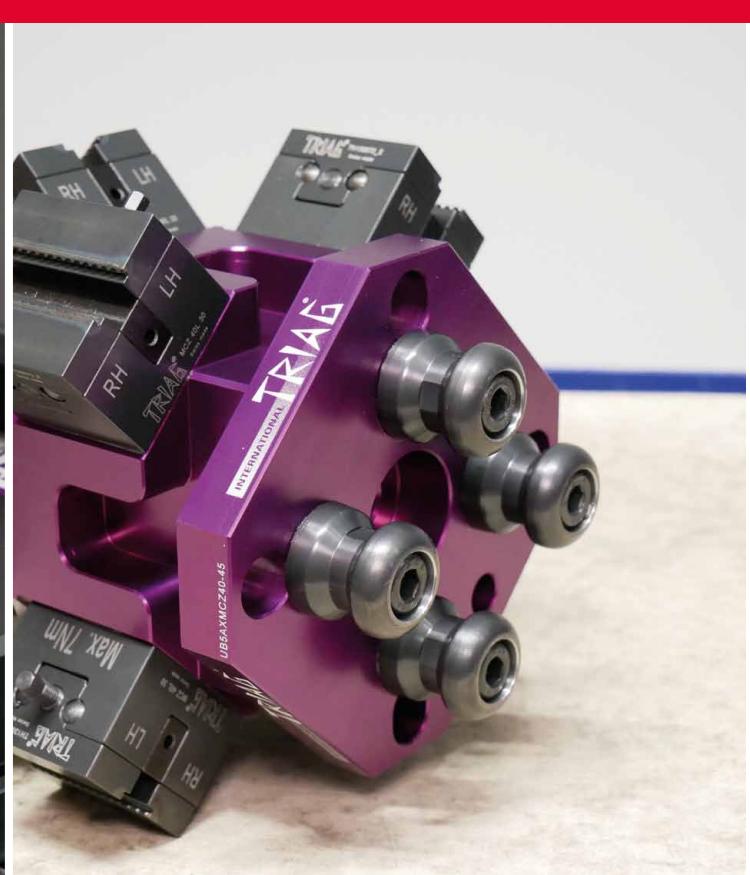


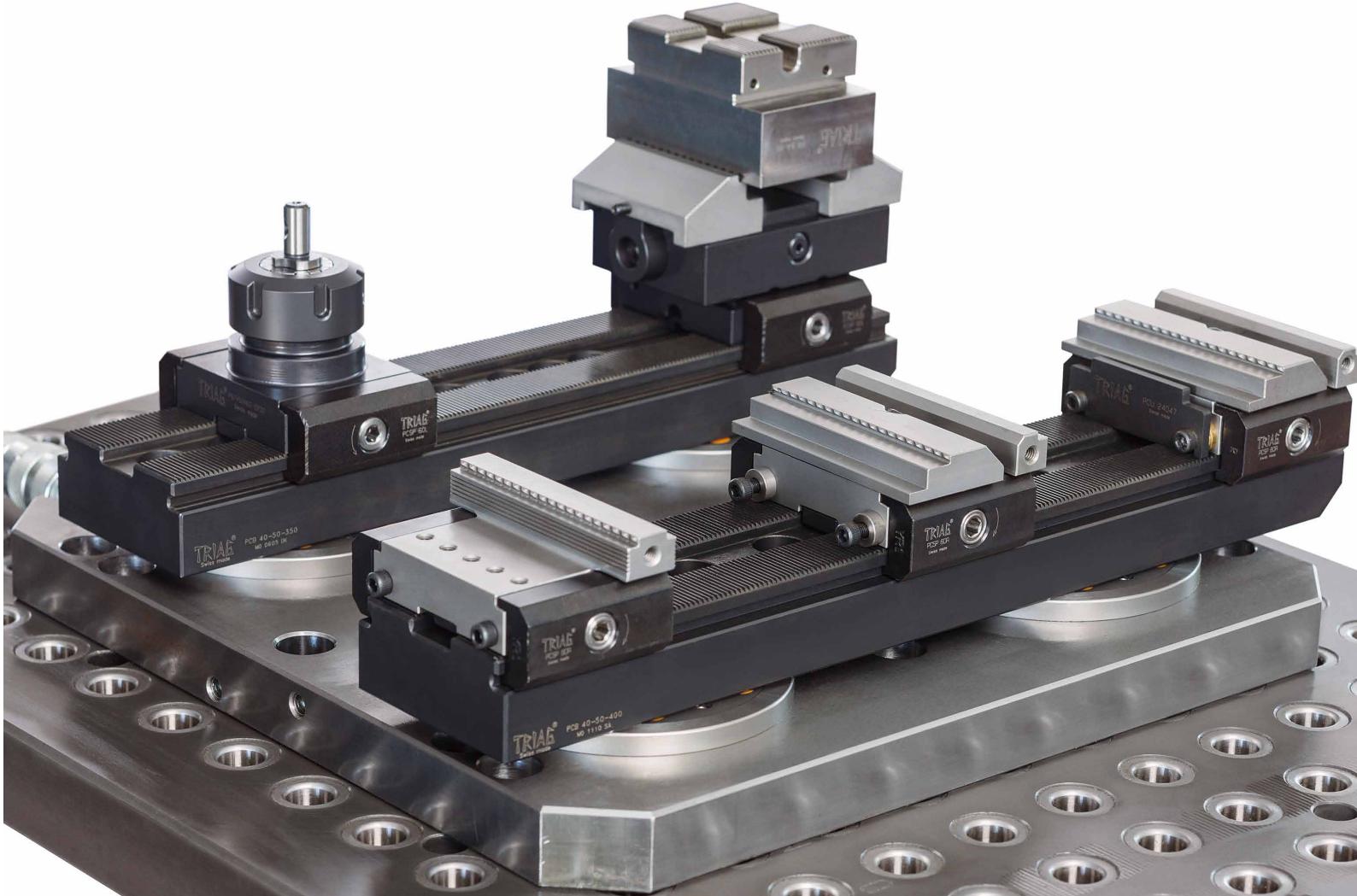
Achteck
Octagon



Dreieck
Triangle







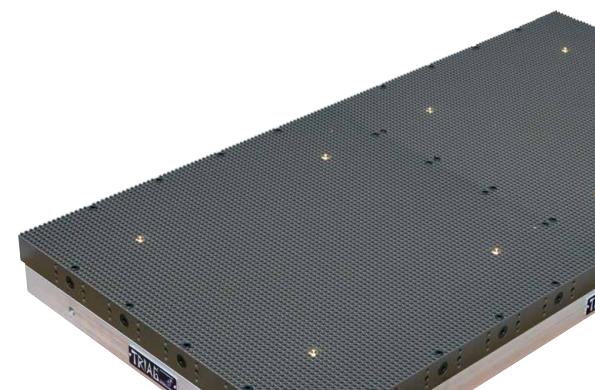
oppSYSTEM



Unser Nullpunkt-Palettiersystem ermöglicht ein genaues Positionieren von Mehrfachspannysystemen, Schraubstöcken und Vorrichtungen auf Maschinentischen oder Spanntürmen.

Our zero-point palletting system allows exact positioning of multiple workholding systems, vices and dedicated fixtures on machining tables or tombstones.

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INTERNATIONAL



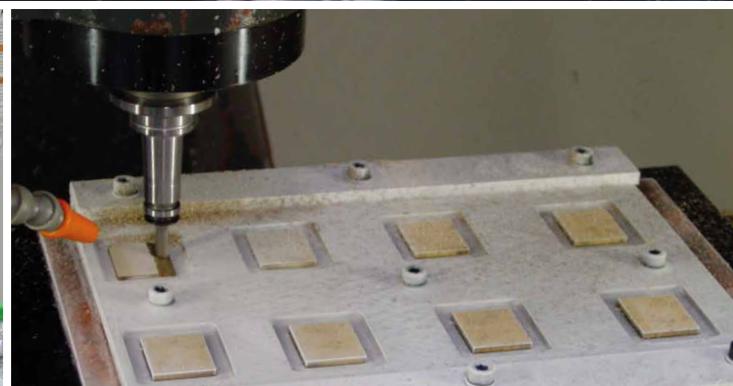
trivaCLAMP



TRIAG
INTERNATIONAL

Vakuumspannsystem: Bestens geeignet für plattenförmige Werkstücke (auch nicht magnetische). Es können sowohl Druckstellen als auch Deformationen an labilen Teilen vermieden werden.

Workholding by vacuum: Suited for plateshaped workpieces (also for non magnetic). Pressure marks as well as deformations on soft parts can be avoided.



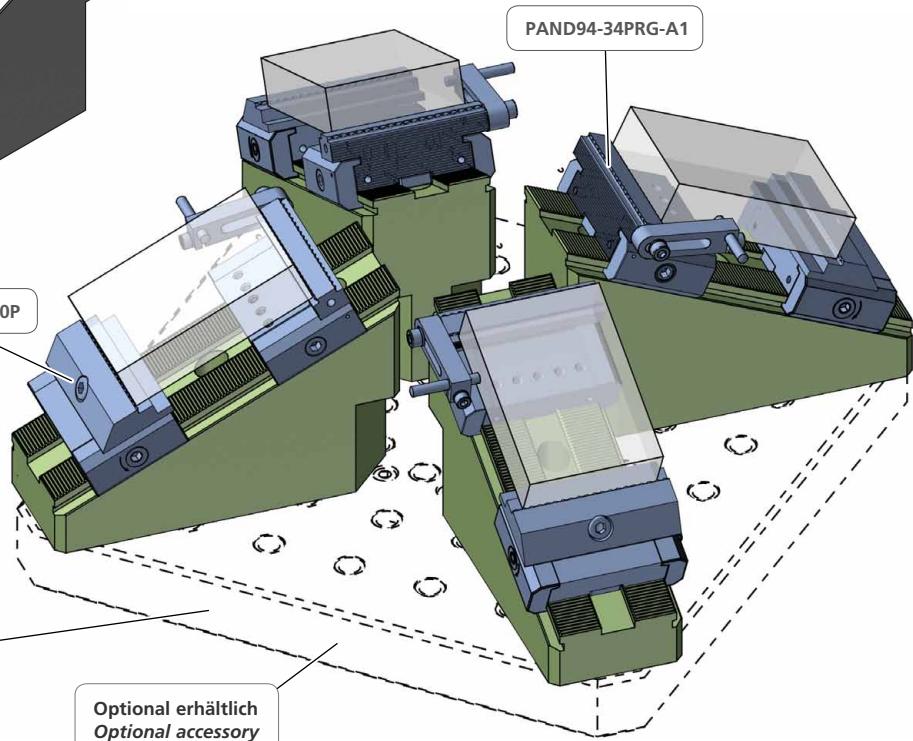
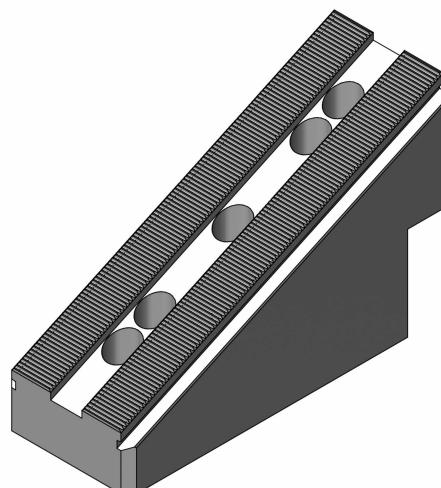
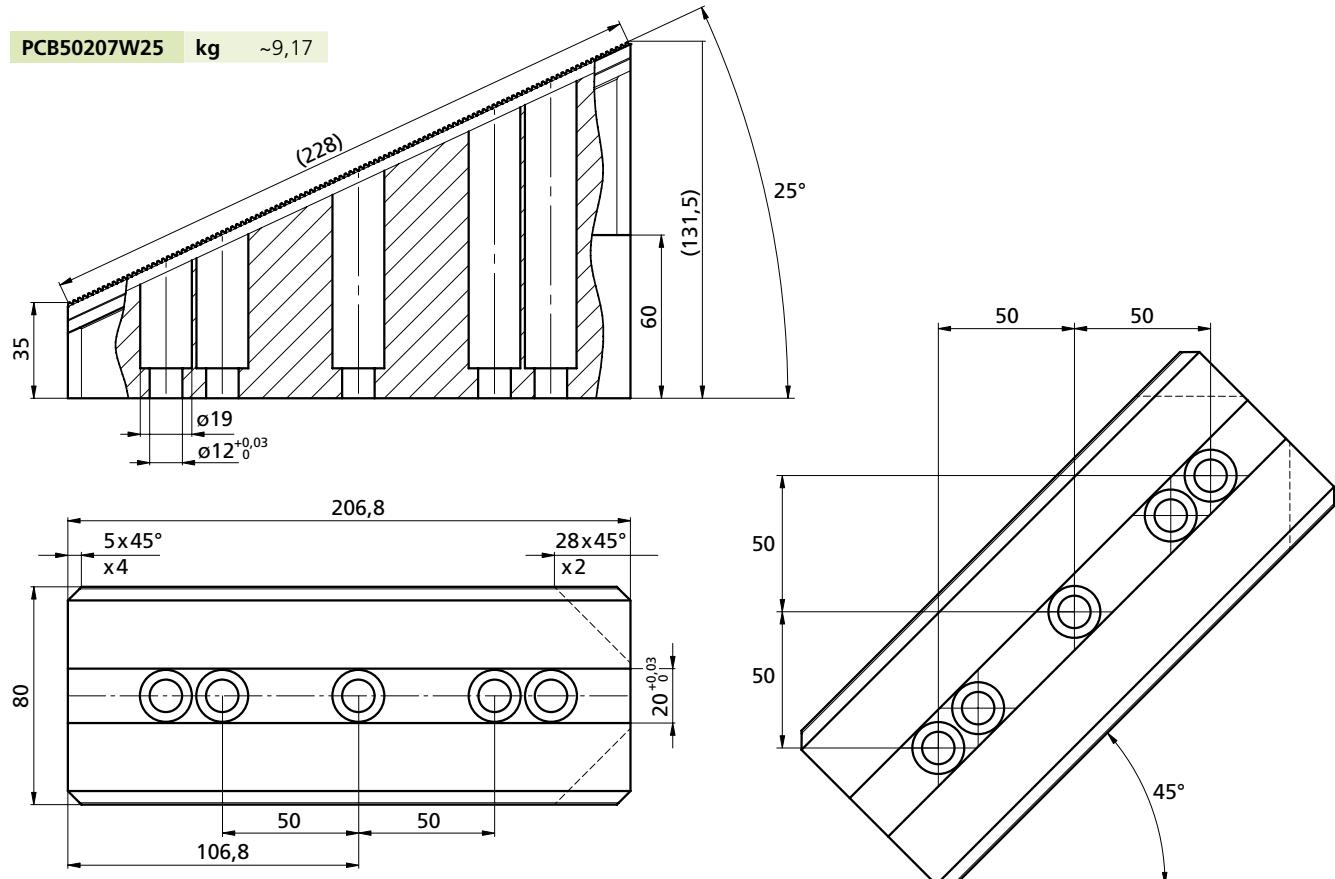
triGEL



Unser Gefrierspannsystem. Sehr gut geeignet für unformige Teile. Es erlaubt mehrseitiges Bearbeiten ohne Neuspannen. Das Haftvermögen ist sehr gross, wobei die Gefrier- und Auftauzeiten sehr gering sind.

Workholding by freezing: Well suited for strangely shaped parts. It allows processing from more than one side without unclamping. Holding effects are very strong whereas freezing and defrosting times are very short.

TRIAG
INTERNATIONAL



Bestellbeispiel / Ordering example: **PCB50207W25**





	kg	A	H
MBT-TRI-UQ600	~40	620	1025

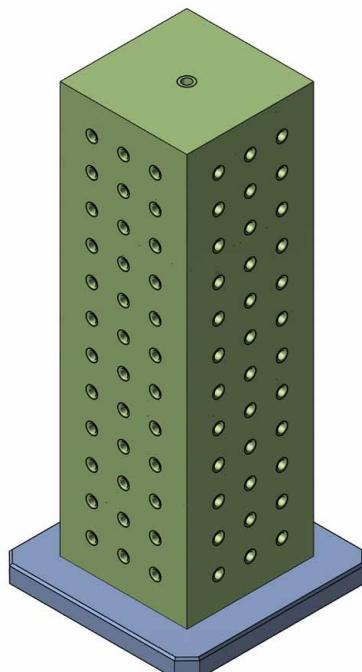
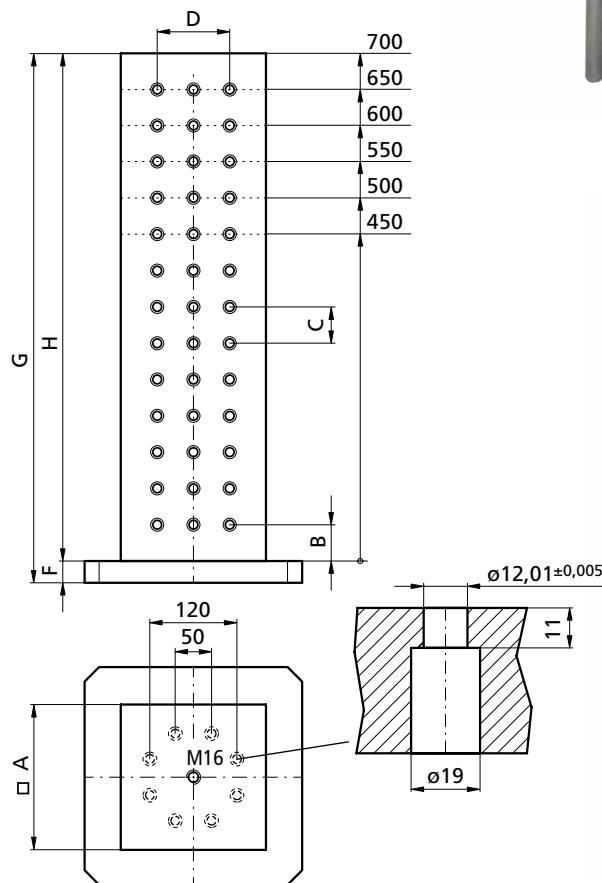
Freie Gestaltung Ihres Motivs
Free design of your motif



A



Patent pending

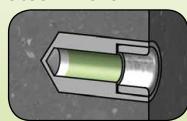


Grundplatte wird passend zu Ihrer Maschinenpalette hergestellt und muss separat bestellt werden!

Base plate according to your machine configuration please order extra!

Mineralgussturm mit Stahldübel

Epoxy Mineral with Steel Anchor

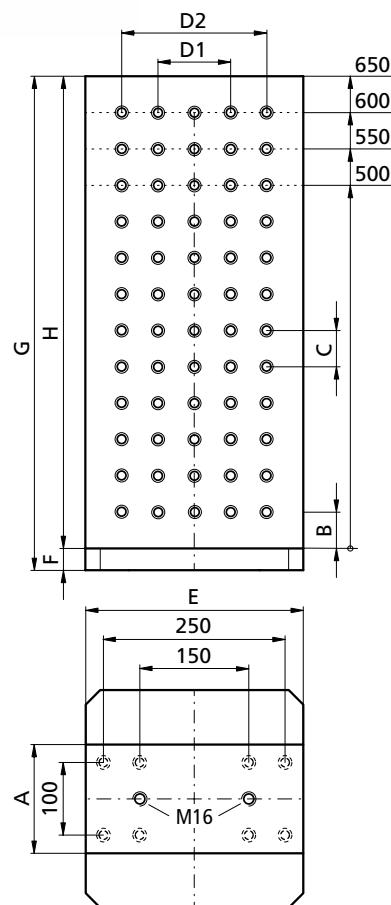
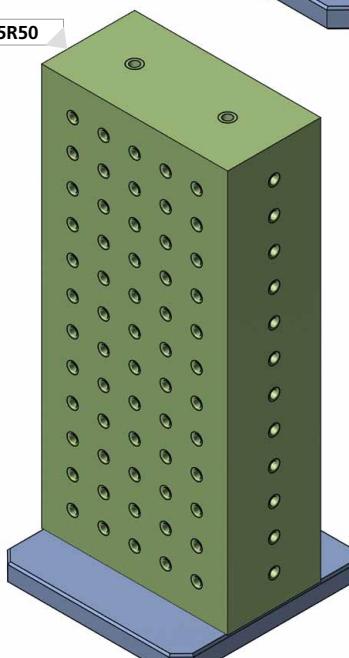
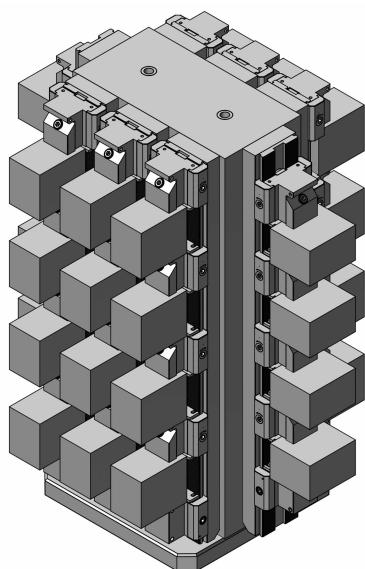
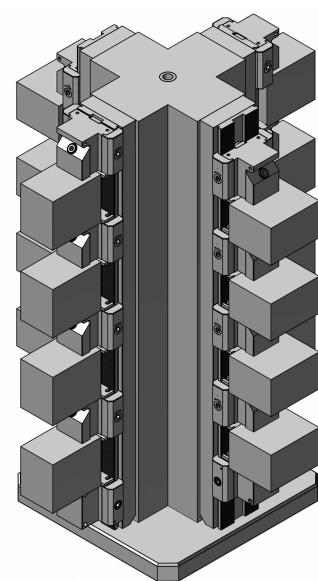
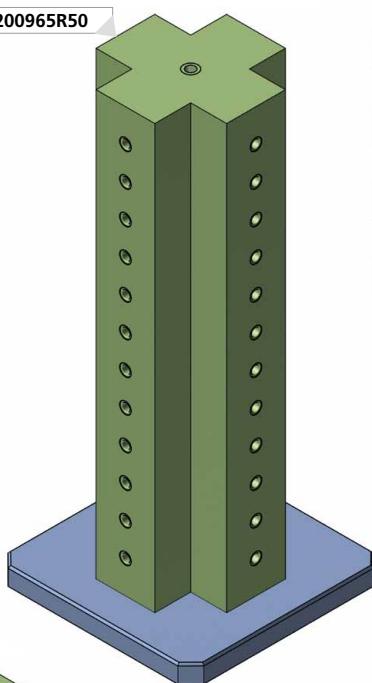
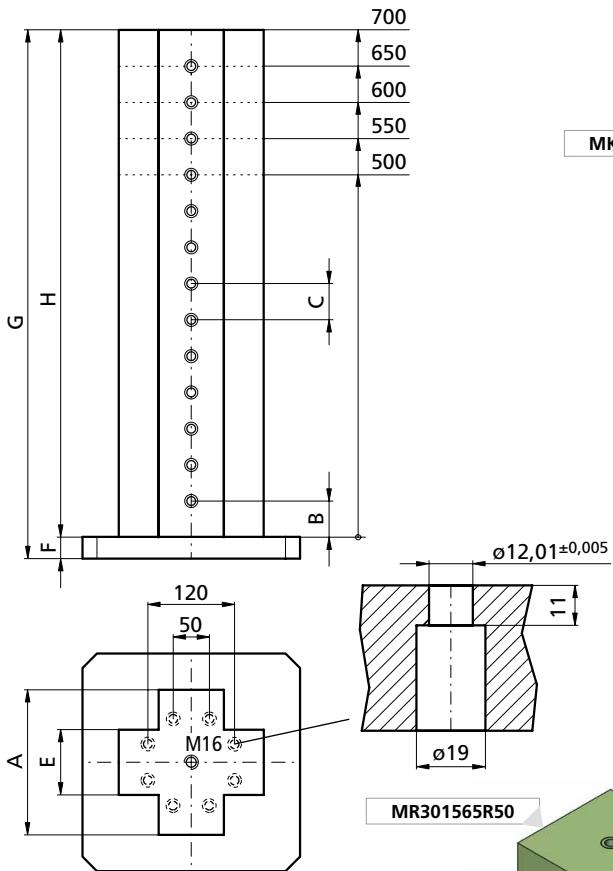


kg*

Bestellbeispiel
Ordering example: MQ202065R50 & _____

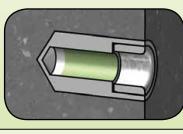
		A	B	C	D	F	G	H	Raster / Grid
MQ202045R50	~53		200	50	50	100		(30) (430)	450
MQ202050R50	~59		200	50	50	100		(30) (530)	500
MQ202055R50	~64		200	50	50	100		(30) (580)	550
MQ202060R50	~70		200	50	50	100		(30) (630)	600
MQ202065R50	~76		200	50	50	100		(30) (630)	600
MQ202070R50	~81		200	50	50	100		(30) (730)	700

* Gewicht ohne Grundplatte! / Weight without baseplate!



Mineralgussturm mit
Stahldübel

Epoxy Mineral with
Steel Anchor

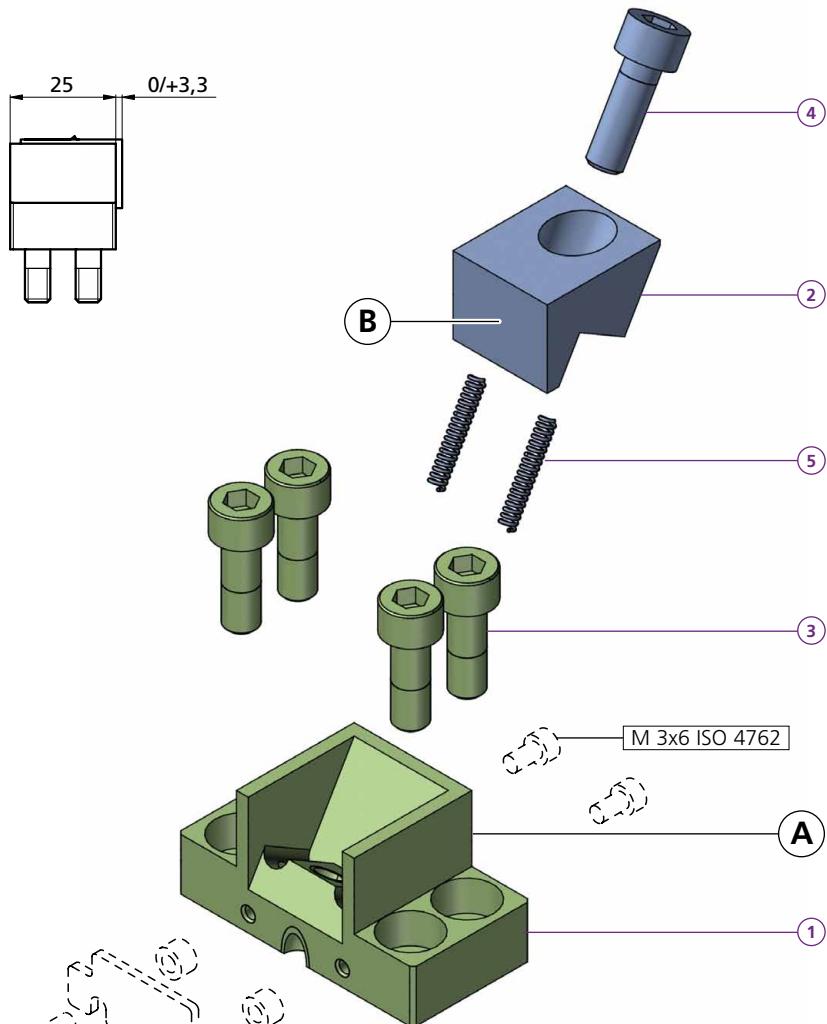
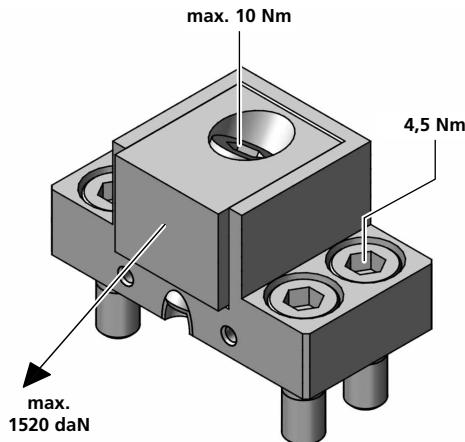
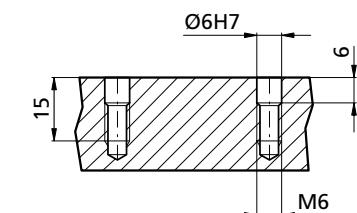
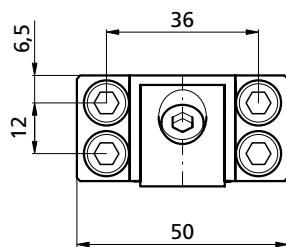
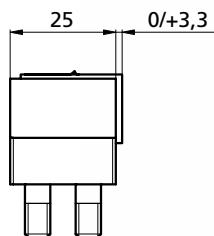
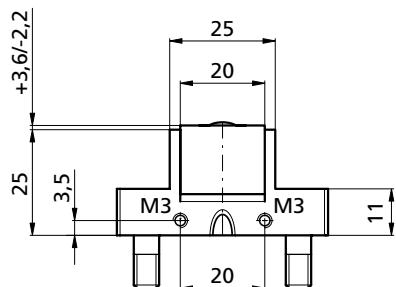


Bestellbeispiel
Ordering example: **MK200965R50 &**

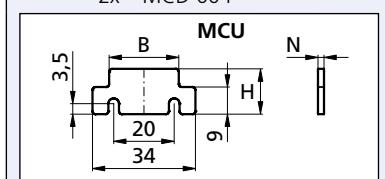
	kg*	A	B	C	E	F	G	H	Raster / Grid
MK200950R50	~38				200	50	50	90	(30) (530) 500 36 x M12/12F7
MK200955R50	~42				200	50	50	90	(30) (580) 550 40 x M12/12F7
MK200960R50	~45				200	50	50	90	(30) (630) 600 44 x M12/12F7
MK200965R50	~49				200	50	50	90	(30) (680) 650 48 x M12/12F7
MK200970R50	~53				200	50	50	90	(30) (780) 700 48 x M12/12F7
MR301550R50	~65				150	50	50	300	(30) (530) 500 63 x M12/12F7
MR301555R50	~72				150	50	50	300	(30) (580) 550 70 x M12/12F7
MR301560R50	~78				150	50	50	300	(30) (630) 600 77 x M12/12F7
MR301565R50	~85				150	50	50	300	(30) (680) 650 84 x M12/12F7

* Gewicht ohne Grundplatte! / Weight without baseplate!

Separat bestellen / Separate order



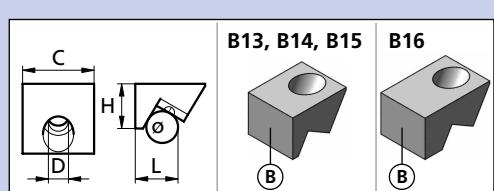
	H	B	N	kg
MCU11037	11	23	2	~0,004
MCU15037	15	23	2	~0,006
MCU18037	18	23	2	~0,008
MCU20037	20	23	2	~0,008
MCU22537	22,5	23	2	~0,008
2x M3x10 ISO 4262				
2x M3x6 ISO 4262				
2x MCD 004				



Achtung: Bei Spannkräften über 400 daN (0,4t) sollte das Spannmodul in eine Nut eingelassen werden (Nuttiefe mindestens 1mm)
Remark: Using forces higher than 400 daN, clamps must be mounted into a slot (depth min. 1 mm)

MS1F25N25-13	
①	1x TF140714
MS1R25N25-13	
①	1x TF140715
②	1x —
③	4x MS60
④	1x M6x16 ISO 4762
⑤	2x FED03018
kg	~0,165

	B	Bestellbeispiel / Ordering example: 1x MS1F25N25-13 & 1x B14			
		B13	B14	B15	B16
C	20	20	20	20	
H	16	16	16	16	
L	13,8	13,8	13,8	19	
D	6,5	6,5	6,5	6,5	
Ø	10	10	10	10	
i	HV700 x0,2mm x0,2mm	HV700 *	*	*	
kg	~0,05	~0,05	~0,05	~0,06	





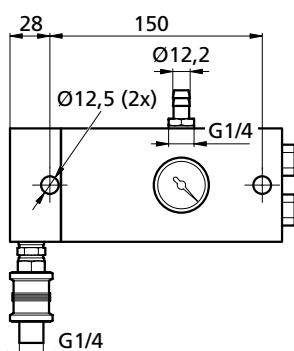
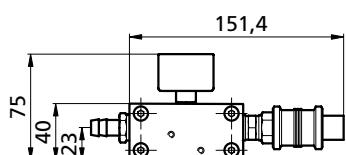
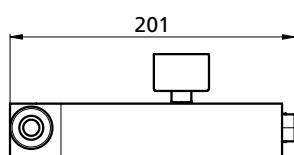
Injektorpumpe Injector pump

UPB1JN

**Maximaler zulässiger Spei-
sedruck: 7 bar**
**Maximal erreichbares Vaku-
um: 0,92 bar**

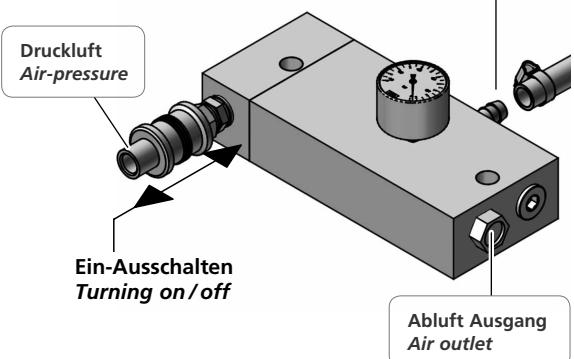
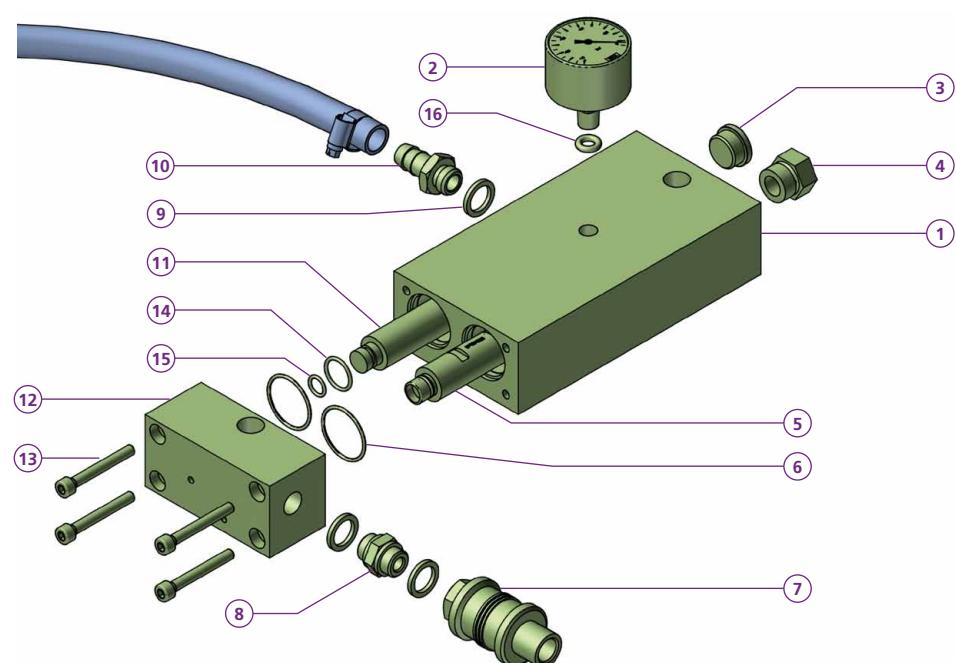
Der Normalliter (NL) entspricht dem Volumen, das eine bestimmte Menge (Masse) Gas bei atmosphärischem Druck einnehmen würde. Die Durchflussmenge wird berechnet aus Volumen pro Zeit (NL/s) unter Normalbedingungen (atmosphärischer Druck, 20°C).
The normal litres (NL) is the volume that would take a certain amount (mass) of gas at atmospheric pressure. The flow rate is calculated as volume per time (NL/s) under normal conditions (atmospheric pressure, 20°C).

Typ Type	Speisedruck Feed pressure	Luft- verbrauch Air con- sumption	Saugleistung bei 50% Vakuum Vacuum suction power at 50%	Saugleistung bei 90% Vakuum Vacuum suction power at 90%
			NL/s	NL/s
UPB1JN	5 6		2,0 2,3	0,6 0,5
				0,02 0,03



UPB1JN	
1	1x TW090057
2	1x TN100667
3	1x TN100660
4	1x TN100199
5	1x TN100665
6	2x 25x1,5 O-Ring DIN3771
7	1x TN100668
8	1x TN100671
9	3x TN100642
10	1x TN100664
11	1x TW090057
12	1x TW90057-02
13	4x M5x40 DIN912
14	1x TN100691
15	1x TN100163
16	1x TN100654
kg	~1,61

Vakuumanschluss (zur Spannplatte)
Vacuum adapter (to clamping plate)



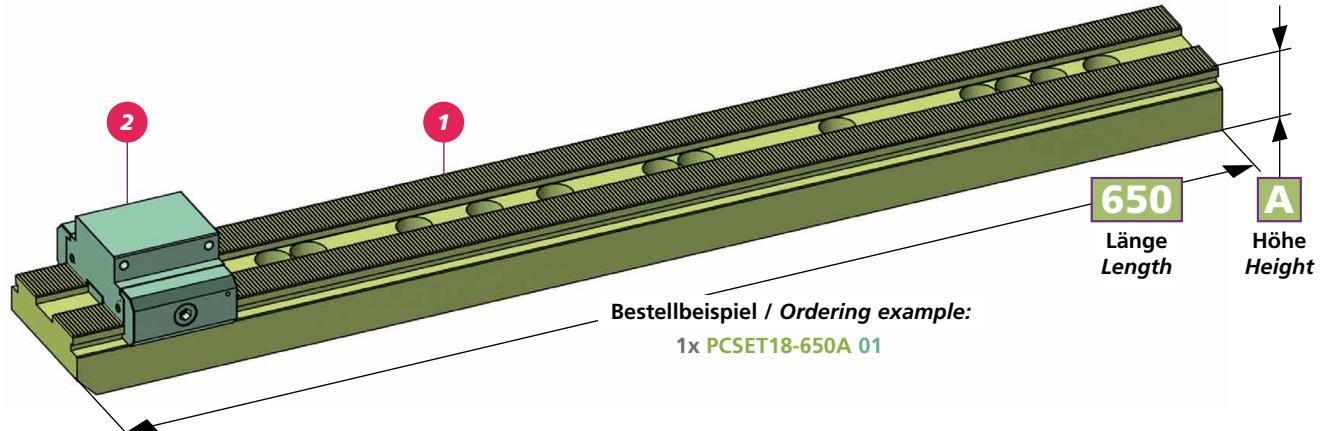
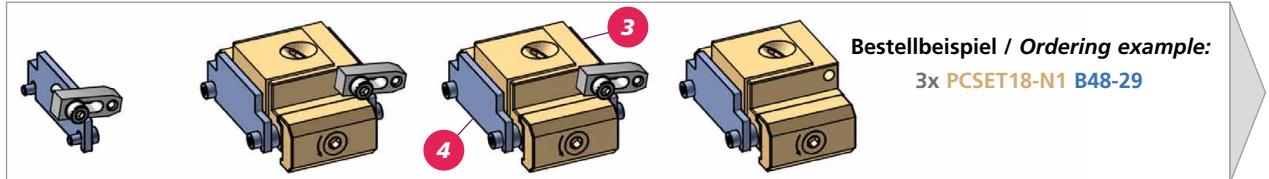
Bestellbeispiel / Ordering example: UPB2JN

...X

PCSET18-650A

01

Stellen Sie Ihre eigenen Sets zusammen / Set up your own starter kits



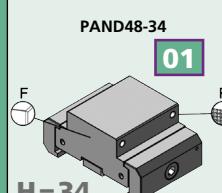
1

Zu jeder Basisschiene gehört 1 Anschlagmodul «Tabelle 2» nach Ihrer Wahl!
To each base rail one end module «table 2» of your choice is included!

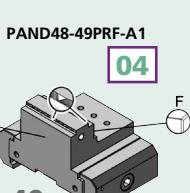
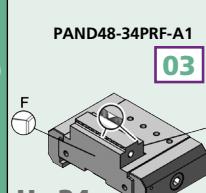
Basis schienen / Base-rails	PCSET18-250A	PCB2550250	PCSET18-500A	PCB4050500	PCSET18-700A	PCB4050700	A = H35
	PCSET18-350A	PCB4050350	PCSET18-550A	PCB4050550	PCSET18-750A	PCB4050750	
	PCSET18-400A	PCB4050400	PCSET18-600A	PCB4050600	PCSET18-800A	PCB4050800	
	PCSET18-450A	PCB4050450	PCSET18-650A	PCB4050650			
Anschlagmodule / End modules	PCSET18-320B	PCB50-320H60	PCSET18-650B	PCB100-650H60			B = H60
	PCSET18-400B	PCB100-400H60	PCSET18-690B	PCB100-690H60			
	PCSET18-500B	PCB100-500H60	PCSET18-850B	PCB100-850H60			
	PCSET18-600B	PCB100-600H60					

2

Breite / Width 48 mm



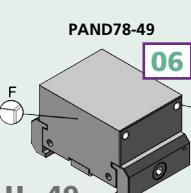
prägen / stamping



Breite / Width 78 mm



prägen / stamping

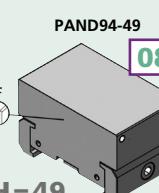


prägen / stamping

Breite / Width 94 mm



prägen / stamping



prägen / stamping



...X

PCSET18-N1

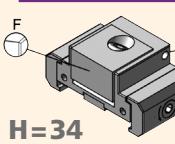
B48-29

3

Breite / Width 48mm

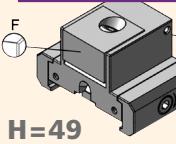
PS1 R 48N34 B80N

PCSET18-N1



PS1 R 48N49 B80N

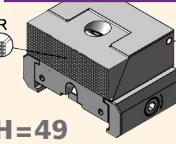
PCSET18-N2



Breite / Width 78mm

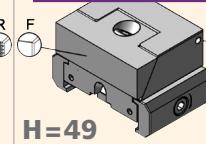
PS1 R 78N49 B90R78

PCSET18-N5



PS1 F 78N49 B90F78

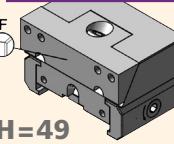
PCSET18-N6



Breite / Width 94mm

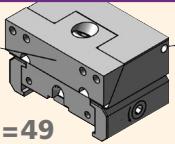
PS1 R 94N49 B90

PCSET18-N7



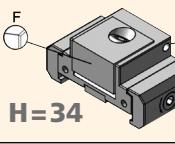
PS1 F 94N49 B90

PCSET18-N8



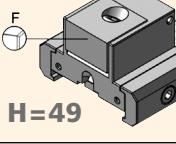
PS1 F 48N34 B80N

PCSET18-N3



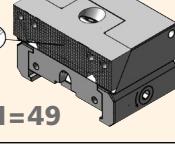
PS1 F 48N49 B80N

PCSET18-N4



PS1 R 94N49 B93

PCSET18-N9

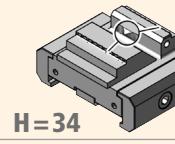


Breite / Width 48mm

prägen / stamping

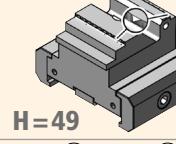
PS1 PF 48L34 B115P

PCSET18-L1



PS1 PF 48L49 B115P

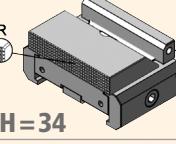
PCSET18-L2



Breite / Width 78mm

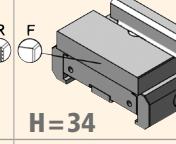
PS1 R 78L34 B141

PCSET18-L5



PS1 F 78L34 B140

PCSET18-L6

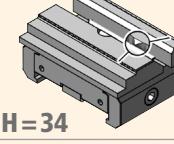


Breite / Width 94mm

prägen / stamping

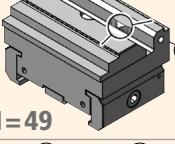
PS1 PF 94L34 B120P

PCSET18-L9



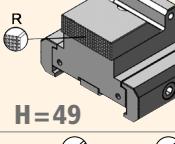
PS1 PF 94L49 B120P

PCSET18-L11



PS1 R 48L49 B106

PCSET18-L3



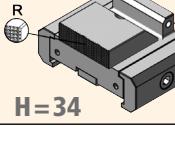
PS1 F 48L49 B105

PCSET18-L4



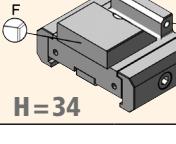
PS1 R 48L34 B106

PCSET18-L16



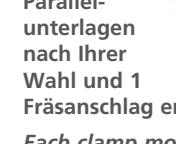
PS1 F 48L34 B105

PCSET18-L17



PS1 R 78L49 B141

PCSET18-L7



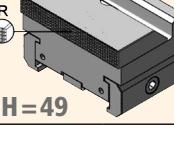
PS1 F 78L49 B140

PCSET18-L8



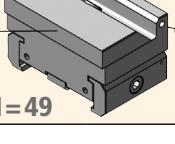
PS1 R 94L34 B111

PCSET18-L12



PS1 F 94L34 B110

PCSET18-L13



* Bei jedem Spannmodul sind 2 Parallelunterlagen nach Ihrer Wahl und 1 Fräsanschlag enthalten

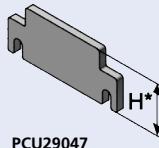
Each clamp module included 2 parallels of your choice and 1 milling buffer

4

Breite / Width 48mm

H*

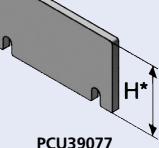
B48-	PCU	20	047
	PCU	24	047
	PCU	29	047
	PCU	31	047
	PCU	34	047
	PCU	39	047
	PCU	44	047
	PCU	46	047



Breite / Width 78mm

H*

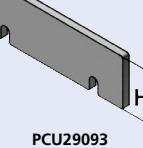
B78-	PCU	20	077
	PCU	24	077
	PCU	29	077
	PCU	31	077
	PCU	34	077
	PCU	39	077
	PCU	44	077



Breite / Width 94mm

H*

B94-	PCU	14	093
	PCU	20	093
	PCU	24	093
	PCU	29	093
	PCU	31	093
	PCU	34	093
	PCU	39	093
	PCU	44	093
	PCU	46	093
	PCU	47	093

Fräsanschlag
Milling buffer

1 x Inklusive / Included





Schnell gewechselt

Da die Anforderungen an „just in time“ Produktion in den letzten Jahren stetig gewachsen sind, ist ein modulares Nullpunkt Schnellwechselsystem der richtige Weg um lange Standzeiten der Werkzeugmaschine zu verhindern.

- ✓ Sehr tief Bauhöhe (28mm)
- ✓ Wiederholgenauigkeit 0.01mm
- ✓ 6000dAN Haltekraft
- ✓ Abhebefunktion ein- und ausschaltbar (3-4mm)

Changed quickly

Since the requirements for „just in time“ production have grown steadily in the recent years, a modular zero-point quick-change system is the right way to prevent long down time of a machine tool.

- ✓ Very low height (28mm)
- ✓ Repeat accuracy of 0.01mm
- ✓ 6000daN holding force
- ✓ Lift-off function can be switched on and off (3-4mm)

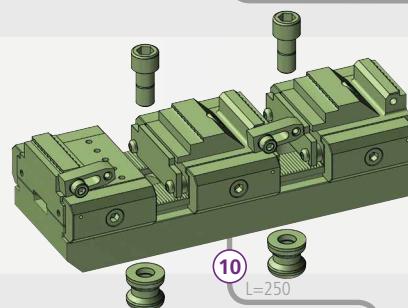
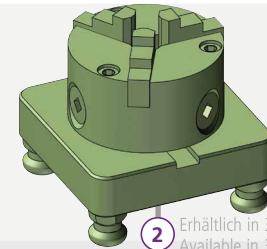
VERSCHIEDENE / VARIOUS

SPANNMITTEL WORKHOLDING

powerCLAMP

PALETTEN PALLETS ZUBEHÖR / ACCESSORIES

MECHANISCHES / MECHANICAL 0-PUNKT SYSTEM

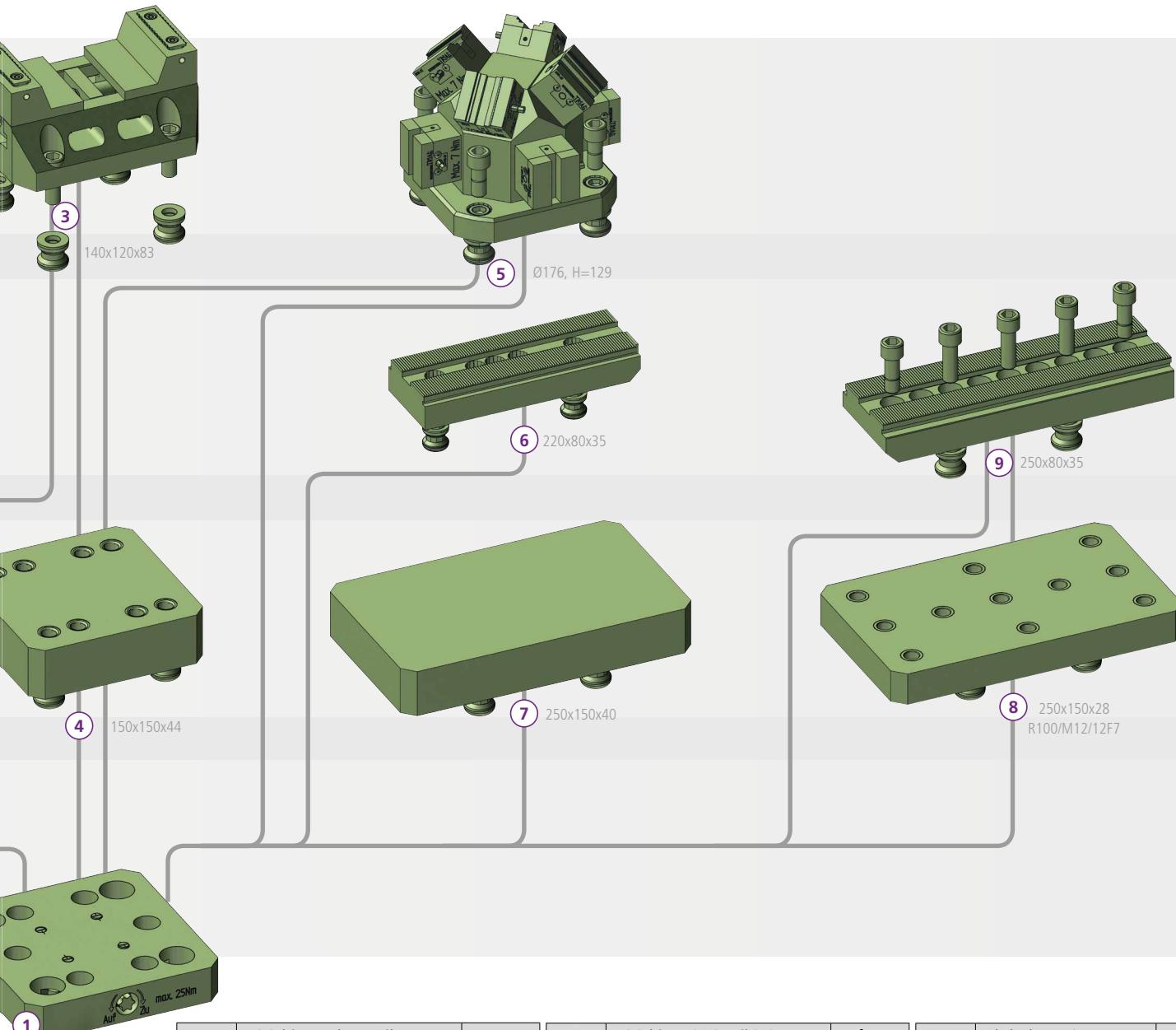


	0-Punkt Basis / 0-point Base	kg
1	OPBM4Q100R50	~ 3,8
	3-Backenfutter 3-jaw chuck	Spannbereich Clamping area Ø
	OPM3X80L75	3-76
	OPM3X100L82	3-100
	OPM3X125L88	3-125

	Zentrischspanner Self centering vise	Spannbereich Clamping area	kg
3	ZSX140L50UPRG-OPM	10-118	~ 7,1
	Erhöhung / raiser block		kg
4	OPUB150H44		~ 8,5
	Sputnik I		kg
5	UB5AXMCZ40-45-R100		~ 5,0

150x150x28

Schrauben und Bolzen in Bestellschlüssel inkl. Screws and pull studs in order code inclusive.	Nullpunkt Zentrier- und Klemmbolzen Zero point pull studs	Nullpunkt Schwerbolzen diamond pull studs	Klemmbolzen mit Untermass Pull studs with minus tolerance	Schutzbolzen Protection bolts
Fügeart 1 Joining mode 1				
Fügeart 2 Joining mode 2				

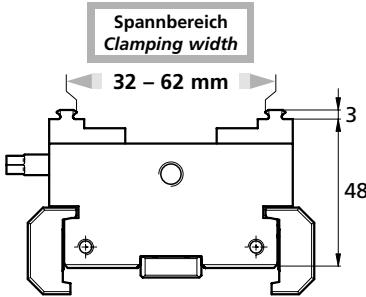
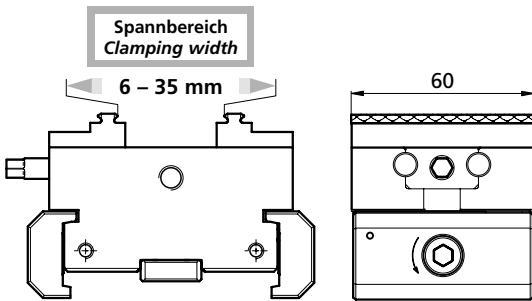


	PC Schiene, -baserail diagonal	kg
	PCSET18220W2-OPM	~ 4,3
	Aluminiumplatte -plate	kg
	OPM25-15RH40	~ 4,3
	Rasterplatte/ Grid plate	kg
	OPM25-15R50H28	~ 7,7

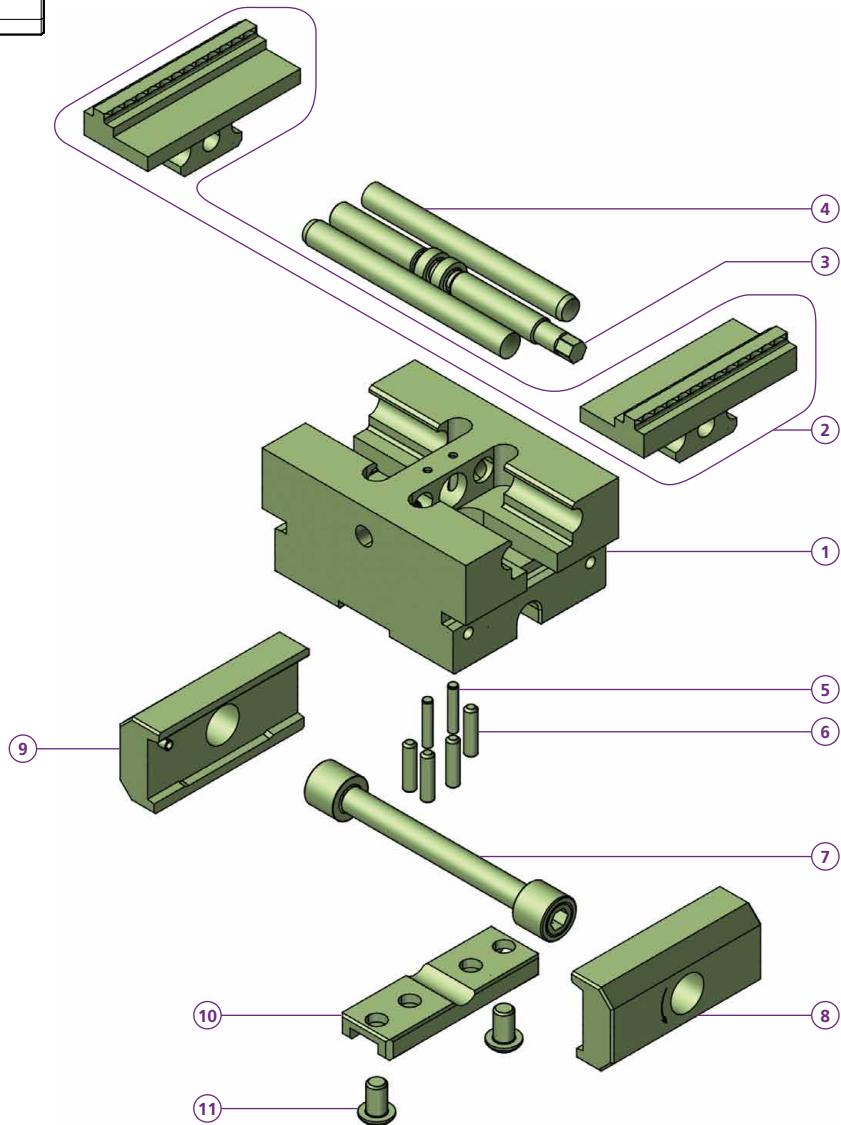
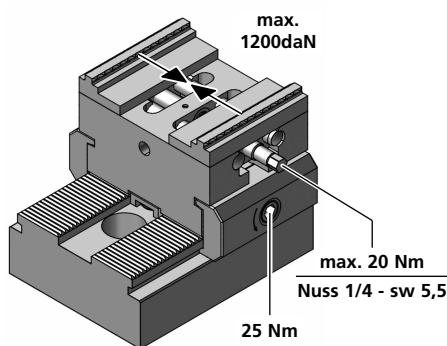
	PC Schiene / PC Rail 250mm	kg
	PCB2550250-OPM	~ 4,8
	PowerCLAMP Set	kg
	PCSET18250-OPM	-
	1x PCSET18-250A03	~ 5,9
	2x PCSET18-L1B48-20	~ 2,6

	Abdeckung / cover	kg
	OPM-AD	~ 0,8

Pfade zeigen mögliche Kombinationsmöglichkeiten auf.
Paths show possible combinations.
Je nach Kombination werden die passenden Schrauben oder Nullpunkt Bolzen mitgeliefert. (Im Bestellschlüssel inkl.)
Depending on the combination, the matching screws or pull studs are supplied. (In the order code incl.)



powerCLAMP

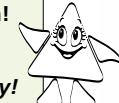


Drehmoment <i>Torque</i>		Spannkraft <i>Workholding force</i>		
Nm <i>(lb-ft)</i>	~daN <i>=</i>	~(lb) <i>=</i>	~t <i>=</i>	
5	3,7	410	900	0,41
10	7,4	830	1'830	0,83
15	11,0	1'250	2'760	1,25
20	14,8	1'650	3'640	1,65

PCZ80L40PRG62	
①	1x TF180182
②	1x B210-62
③	1x TB150998
④	2x 8h6x80 DIN6325
⑤	2x 3h6x16 DIN6325
⑥	4x M4x8 DIN913
⑦	1x PCS14
⑧	1x PCSP60R
⑨	1x PCSP60L
⑩	1x PCGUW20
⑪	2x M6x10 ISO7380
kg	~1,71

WICHTIG!
Bitte separat bestellen!
IMPORTANT!
Please order separately!

Nuss 1/4 - sw 5,5





Der kleine Helfer

Der Neuankömmling in der Sputnik Baureihe, zeichnet sich durch seine noch kompaktere Bauweise aus.

Entwickelt für die effiziente 5-Achs Bearbeitung, beweist er in der Praxis, ein grandioser kleiner Helfer zu sein.

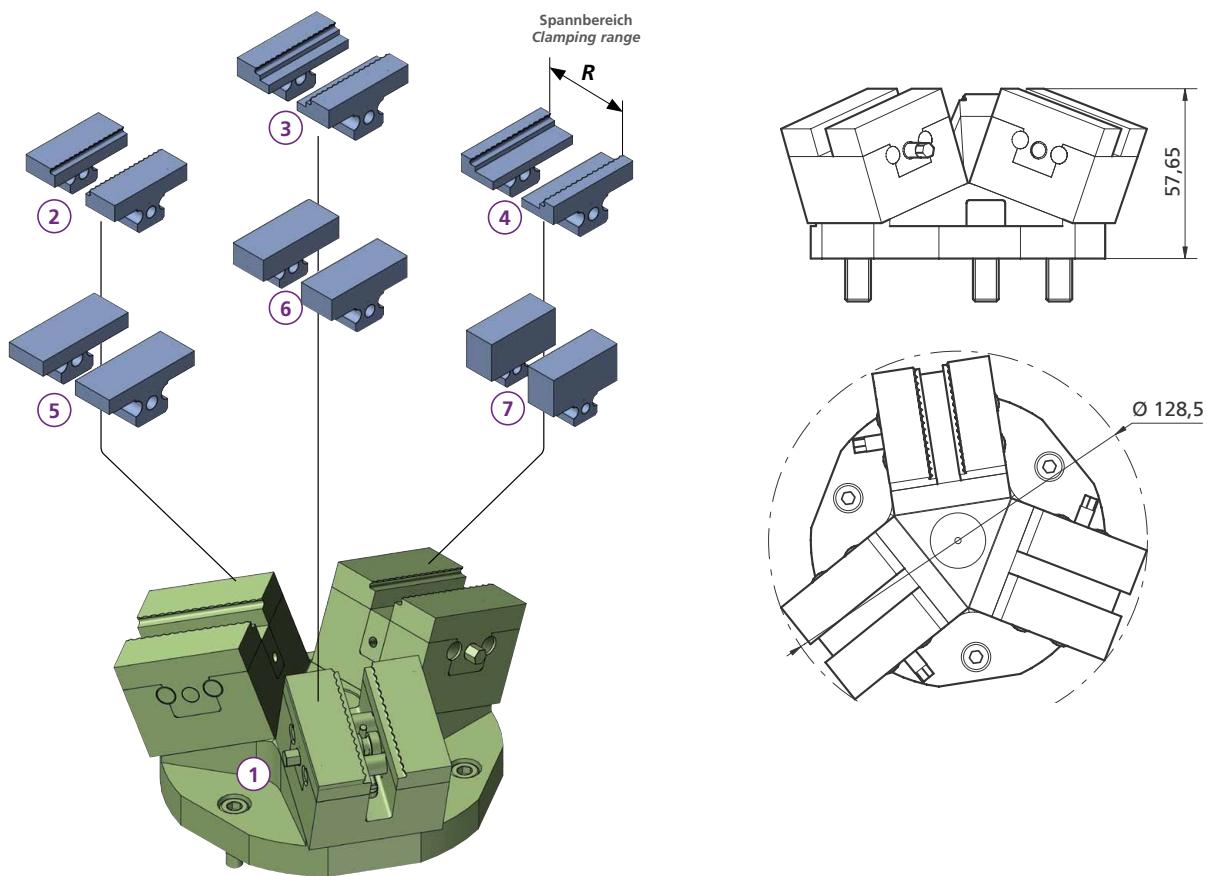
Dank der breitgefächerten Backenvielfalt, ist er bestens geeignet sich verschiedensten Bedürfnissen anzupassen.

The small helper

The newcomer in the Sputnik series is characterized by its even more compact design.

Developed for efficient 5-axis machining, it proves to be a small big helper.

Thanks to the wide variety of jaws, it is ideally suited to adapt to the most diverse needs.



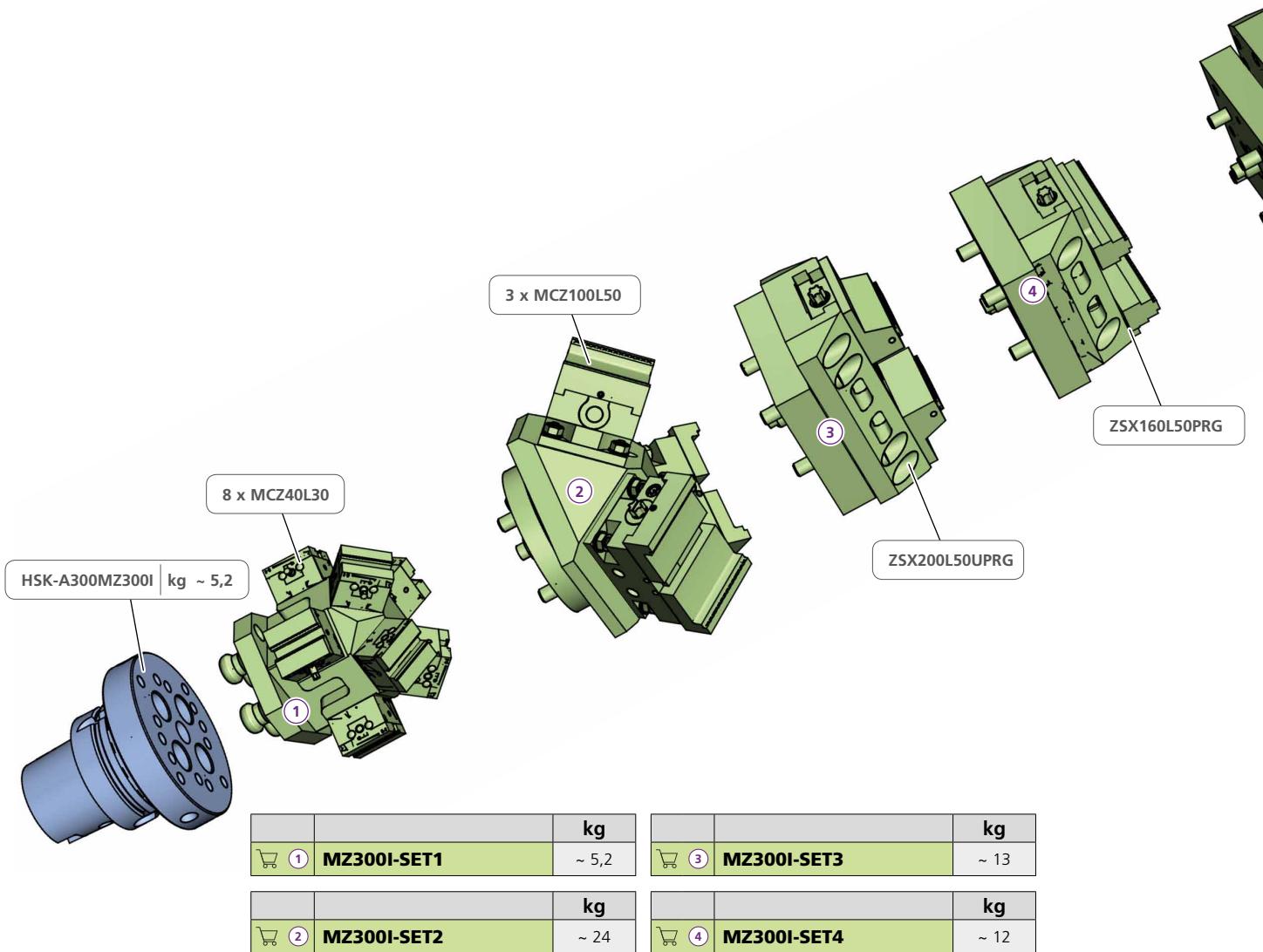
		Kg	R
🛒 ①	UB5AXSET18-3	~ 1,5	20°
🛒 ② - ⑦	+ 3x Backensets Ihrer Wahl + 3x sets of jaws of your choice	-	-

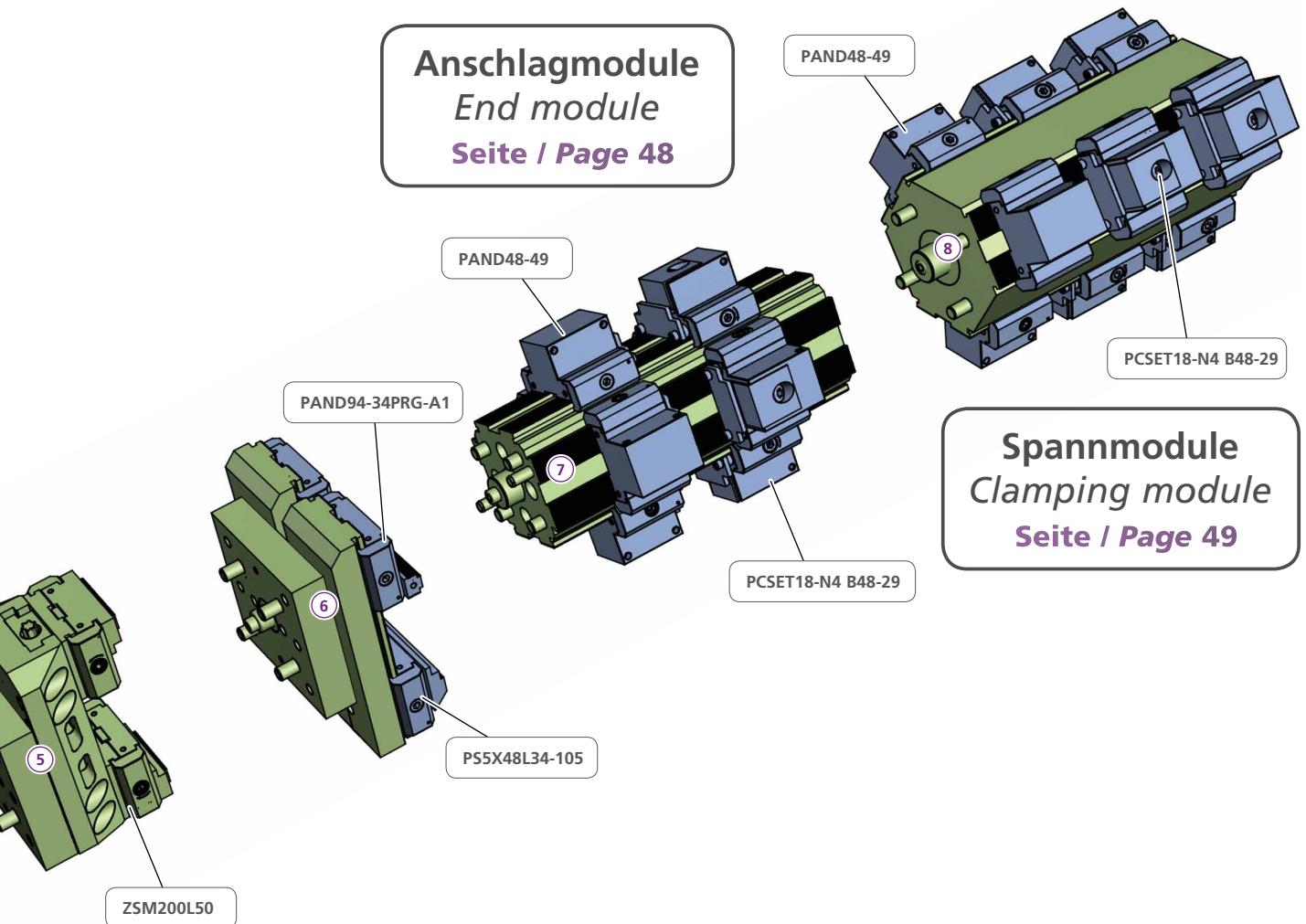
	Prägebacken / Stamping jaws	Kg	R
🛒 ②	B190-13	~ 0,1	3-13mm
🛒 ③	B190-22	~ 0,08	12-22mm
🛒 ④	B190-31	~ 0,08	21-31mm
	Weiche Backen / Soft jaws (1.7225)	Kg	
🛒 ⑤	B190W6-40	~ 0,08	-
🛒 ⑥	B190W10-40	~ 0,12	-
🛒 ⑦	B190W20-40	~ 0,22	-





VARIAXIS i-300 AWC





	kg
🛒 ⑤ MZ300I-SET5	~ 15

	kg
🛒 ⑦ MZ300I-SET7	~ 22

	kg
🛒 ⑥ MZ300I-SET6	~ 13

	kg
🛒 ⑧ MZ300I-SET8	~ 31

Bestellbeispiel / Ordering example : 1 x **MZ300I-SET7** & 4x **PCSET18-N4 B48-29** & 4x **PAND48-49**

Separat bestellen / Separate order



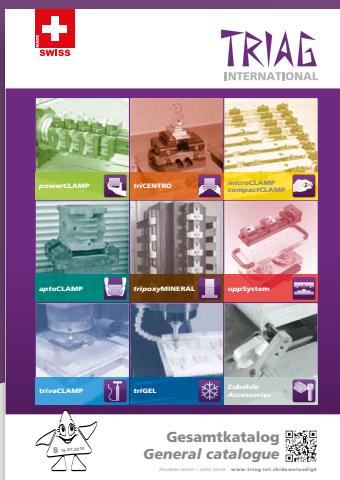
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Triag International



@triagint_workholding



Gesamtkatalog
General catalogue

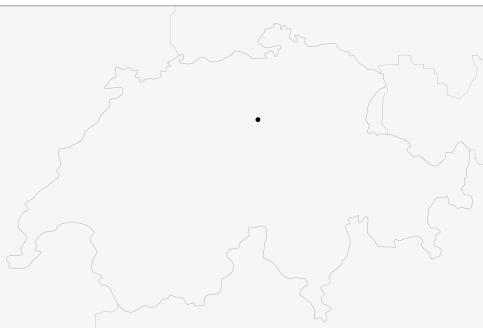
Triag International AG

Bösch 84 CH-6331 Hünenberg

✉ +41 41 727 27 77

✉ spannen@triag-int.ch

✉ clamping@triag-int.ch



Unser Vertriebspartner in Ihrer Nähe:
Our reseller in your area:



Mass- und Konstruktionsänderungen
bleiben uns vorbehalten. We reserve
the right to modify dimensions and
structural design.

triag-int.ch
Official Website



**12
19**