

TRIAG

INTERNATIONAL

Spannlösungen für **MATSUURA**
Workholding solutions for **MATSUURA**

5-ACHSEN MASCHINEN

5-AXES MACHINES



Matsuura

MX-330 | MX-520 | MAM72-35V | MAM72-63V

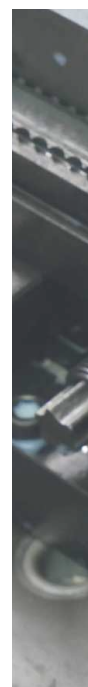
23.10.2019

Erwecken Sie das Potential Ihrer Maschine!

Unleash the potential of your machine!

Triag International unterstützt Sie dabei. Das erfahrene Spanntechnik-Spezialistenteam hat eine Auswahl an Spannlösungen zusammengestellt. Im Fokus stand dabei, den grösstmöglichen Nutzen Ihrer Maschine zu erzielen!

Triag International supports you. The experienced workholding specialist team has created a selection of workholding solutions, which will help you to achieve the maximum efficiency and utilisation of your machines!

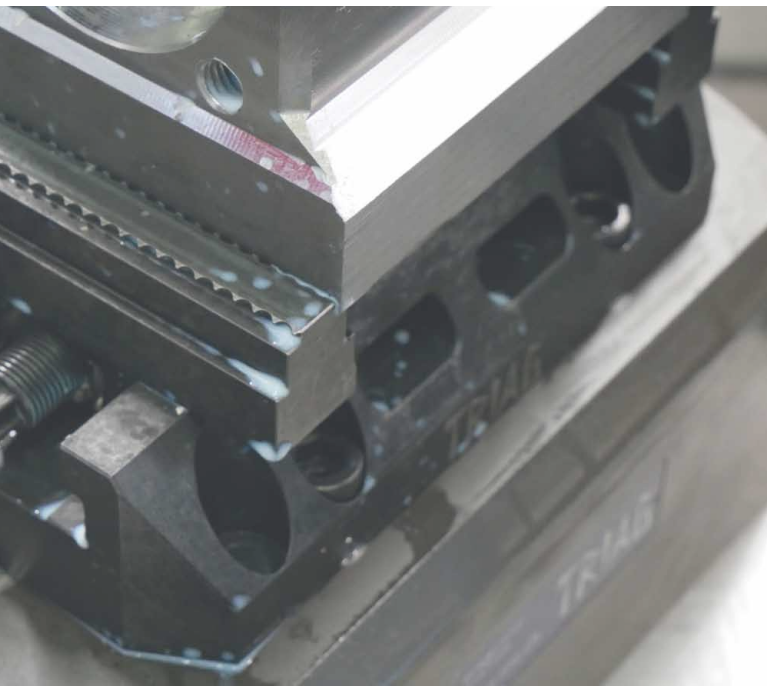


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Spannlösungen mit Vorteilen: *Workholding solutions with benefits:*

- ✓ Optimale Nutzung des Maschinenraumes
- ✓ Erhöhte Maschinenlaufzeit (Unbemannt)
- ✓ Maschinenschonende Bearbeitung
- ✓ Hochflexible und modulare Spannsysteme
- ✓ Hohe Spanndichte dank kompakter Bauweise

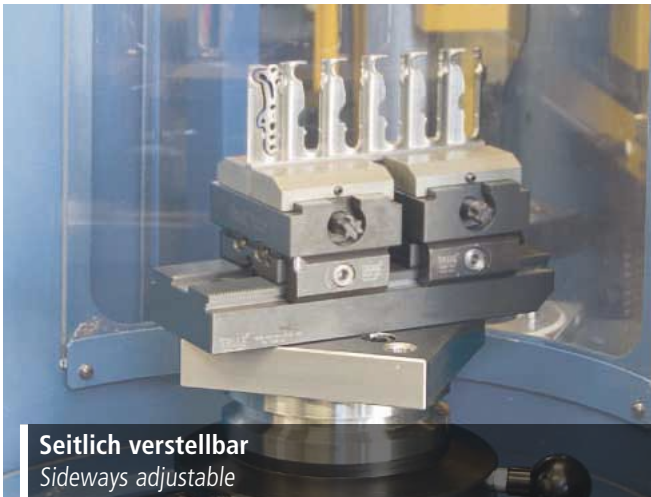
- ✓ Optimum use of machine space
- ✓ Increased running time (unmanned)
- ✓ Sparingly machining
- ✓ High-flexible and modular workholding systems
- ✓ High workholding density (compact design)



Sputnik I
Sputnik I



PCT-Turm
PCT-tombstone



Seitlich verstellbar
Sideways adjustable



Für kleine und grosse Werkstücke
For small and big parts

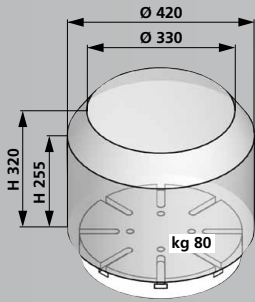


Vorrichtung auf PCT
Clamping fixture on PCT



Vorrichtung mit microCLAMP
Clamping fixture with microCLAMP

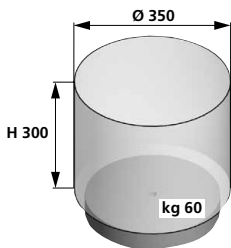
Matsuura MX-330



- ✓ **Einfacher und präziser Einstieg in die 5-Achsenbearbeitung**
Easy and precise entry into the 5-axis machining
- ✓ **Allseits bekannte Matsuura Qualität**
Well-known Matsuura quality
- ✓ **Ergonomisch und dynamisch angepasstes Design sichert die Produktivität**
The ergonomic and dynamic design ensures productivity
- ✓ **10 fach-Paletten Automatisierung (erweiterbar)**
Matsuura automation with 10 pallets (expandable)
- ✓ **Werkzeugspeicher optional bis 90 Werkzeuge**
Tool storage option up to 90 tools



Matsuura MAM72-35V



- ✓ **Das Matsuura Flaggschiff für die unbemannte 5-Achs Bearbeitungstechnologie**
The flagship of Matsuura Advanced Manufacturing
- ✓ **Höchste Präzision und Produktivität in der unbemannten Produktion**
Highest precision and productivity in unmanned production
- ✓ **Bis zu 40 Palettenplätze und 520 Werkzeuge**
Capacity up to 40 pallets and 520 tools
- ✓ **Platzsparend / Space-saving**
- ✓ **Für mannlose Fertigung unterschiedlicher Teile bis 72h**
Unmanned production of different parts up to 72h

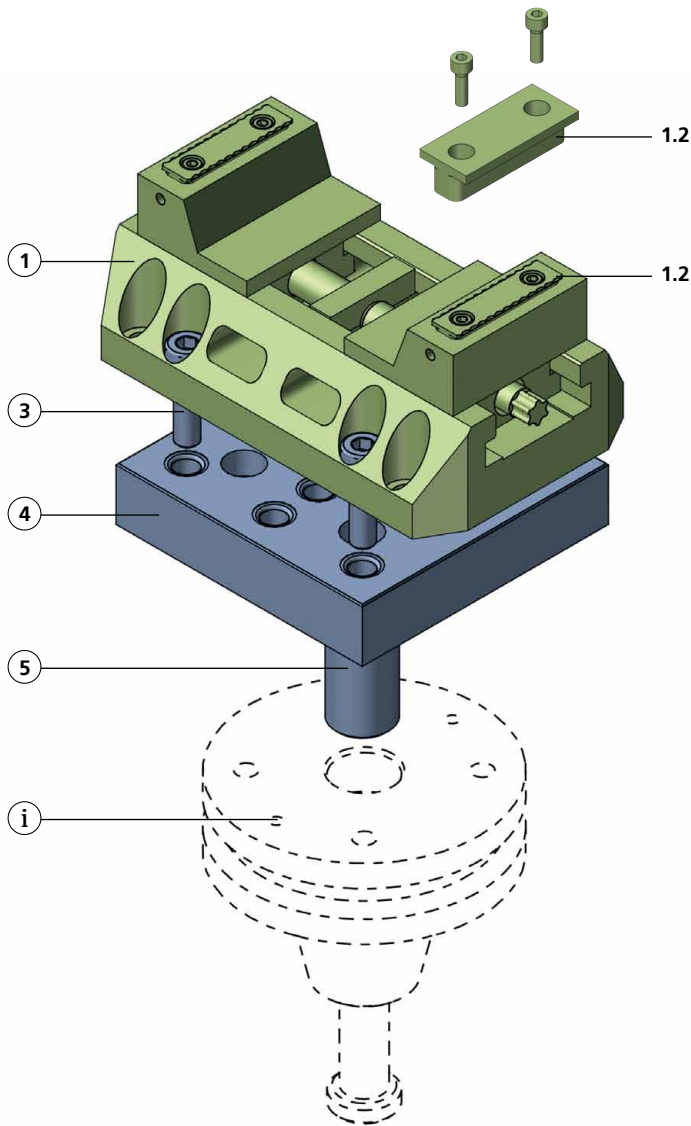


Spannlösungen
Workholding solutions

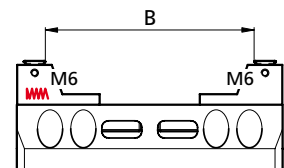
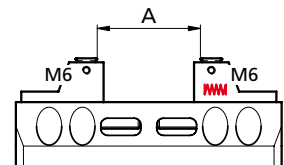
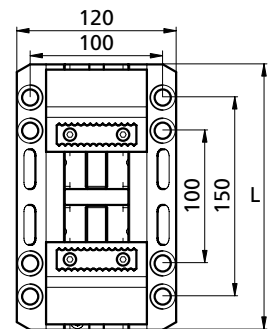
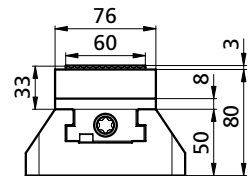
6-13



Zentrischspanner ZSX mit schmalen Direkt-Prägebacken
Self centering vise ZSX with narrow direct stamping jaws



Drehmoment/Torque		Spannkraft/Workolding force	
10 Nm	lb-ft 7,4	= 0,2 t	200 daN
20 Nm	lb-ft 14,8	= 0,5 t	500 daN
30 Nm	lb-ft 22,2	= 1,0 t	1'000 daN
40 Nm	lb-ft 29,6	= 1,3 t	1'300 daN
50 Nm	lb-ft 37,0	= 1,6 t	1'600 daN
60 Nm	lb-ft 44,4	= 1,8 t	1'800 daN
70 Nm	lb-ft 51,8	= 2,1 t	2'100 daN



	Mit Krafterhaltung With conservation of force	A	B	L	kg
	ZSX140L50UPRG-NS17	10-64	62-118	140	~ 7,1
	ZSX160L50UPRG-NS17	10-84	62-138	160	~ 7,7
	ZSX180L50UPRG-NS17	10-104	62-158	180	~ 8,1
	ZSX200L50UPRG-NS17	10-124	62-178	200	~ 8,8
1.2	Inkl. 4x Backen / Incl. 4x jaws				

	Ohne Krafterhaltung Without conservation of force	A	B	L	kg
	ZSX140L50UPRGNF-NS17	10-64	62-118	140	~ 7,1
	ZSX160L50UPRGNF-NS17	10-84	62-138	160	~ 7,7
	ZSX180L50UPRGNF-NS17	10-104	62-158	180	~ 8,1
	ZSX200L50UPRGNF-NS17	10-124	62-178	200	~ 8,8
1.2	Inkl. 4x Backen / Incl. 4x jaws				

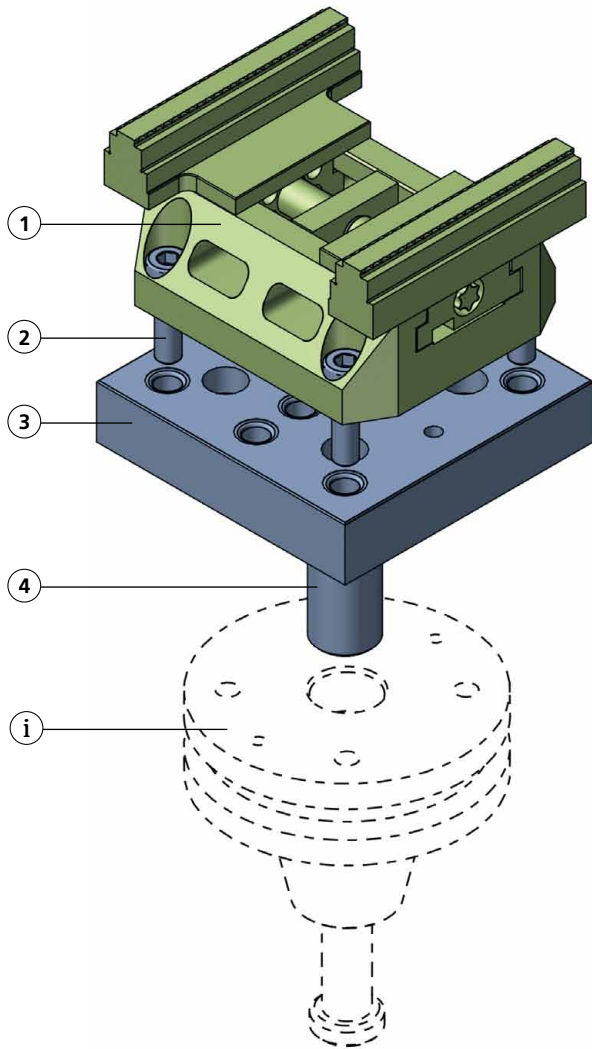
	Befestigungspaket / Mounting package	Menge / Quantity	kg
	TWPAS1240	4x	~ 0,2
	GPL140-R100-MATS	1x	~ 4,0
	TK140130	1x	~ 0,2

Ausrichtbohrungen empfohlen.
Siehe Fertigungszeichnung S. 29
 Positioning pin hole recommended.
See drawing p. 29

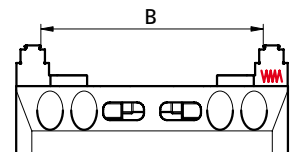
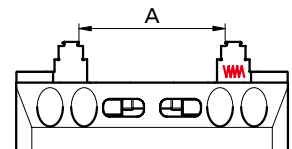
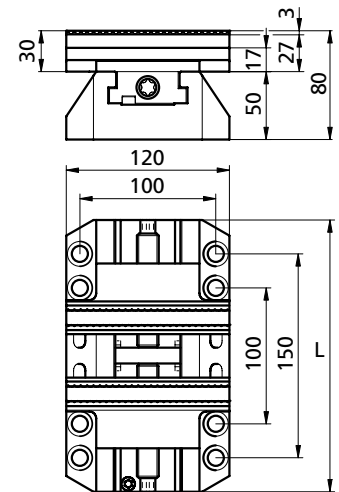
Zeichnung Adapterplatte S.26
 Drawing adapter plate p.26



Zentrischspanner ZSX mit breiten Direkt-Prägebacken
Self centering vise ZSX with wide direct stamping jaws



Drehmoment/Torque		Spannkraft/Workolding force		
10 Nm	lb-ft 7,4	= 0,2 t		200 daN
20 Nm	lb-ft 14,8	= 0,5 t		500 daN
30 Nm	lb-ft 22,2	= 1,0 t		1'000 daN
40 Nm	lb-ft 29,6	= 1,3 t		1'300 daN
50 Nm	lb-ft 37,0	= 1,6 t		1'600 daN
60 Nm	lb-ft 44,4	= 1,8 t		1'800 daN
70 Nm	lb-ft 51,8	= 2,1 t		2'100 daN



	Mit Kräftehaltung With conservation of force	A	B	L	kg
①	ZSX140L50PRG120-NS18	14-70	70-126	140	~ 6
①	ZSX160L50PRG120-NS18	14-90	70-146	160	~ 6,6
①	ZSX180L50PRG120-NS18	14-110	70-166	180	~ 7,2
①	ZSX200L50PRG120-NS18	14-130	70-186	200	~ 7,7

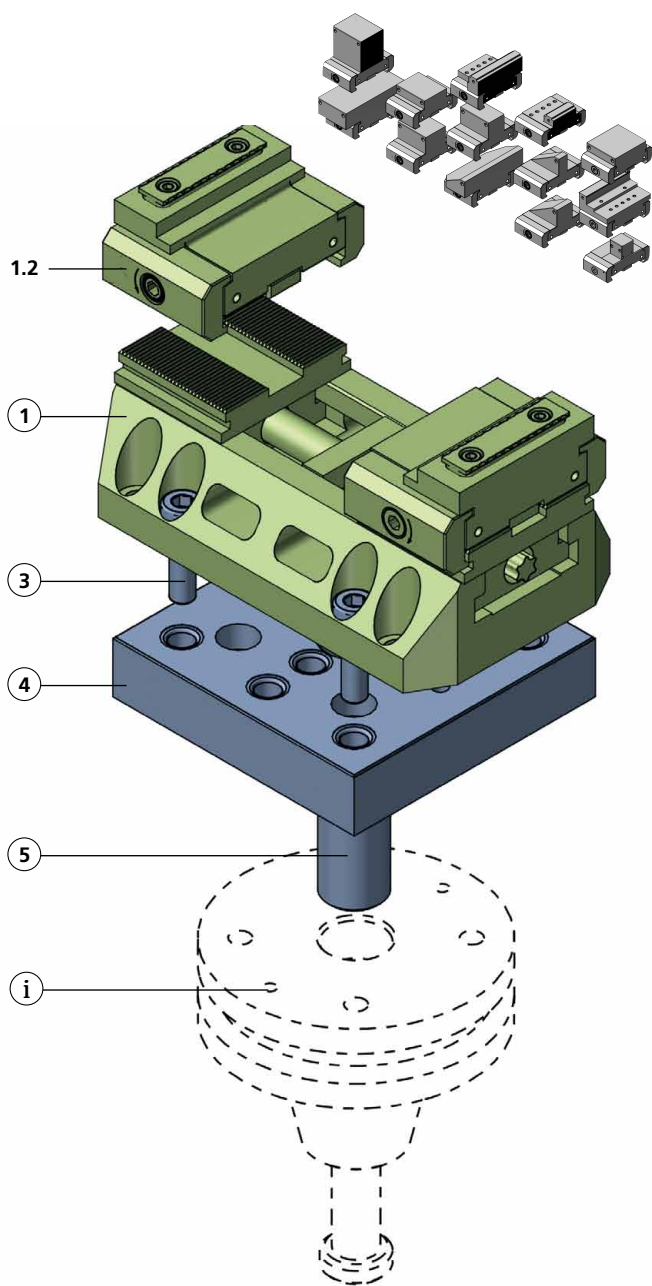
	Befestigungspaket / Mounting package	Menge / Quantity	kg
②	TWPAS1240	4x	~ 0,2
③	GPL140-R100-MATS	1x	~ 4,0
④	TK140130	1x	~ 0,2

① Ausrichtbohrungen empfohlen.
Siehe Fertigungszeichnung S. 29
① Positioning pin hole recommended.
See drawing p. 29

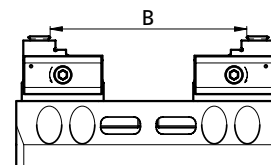
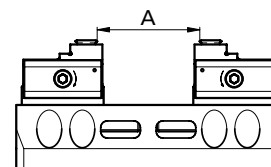
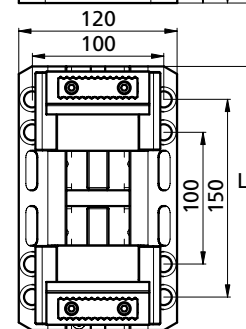
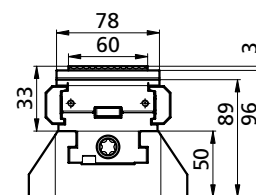
③ Zeichnung Adapterplatte S.26
③ Drawing adapter plate p.26



Modularer Zentrischspanner ZSM mit powerCLAMP Schnittstelle
 Modular self centering vise ZSM with powerCLAMP Interface



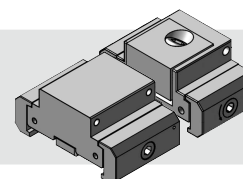
Drehmoment/Torque			Spannkraft/Workholding force		
10 Nm	lb-ft	7,4	=	0,2 t	200 daN
20 Nm	lb-ft	14,8	=	0,5 t	500 daN
30 Nm	lb-ft	22,2	=	1,0 t	1'000 daN
40 Nm	lb-ft	29,6	=	1,3 t	1'300 daN
50 Nm	lb-ft	37,0	=	1,6 t	1'600 daN
60 Nm	lb-ft	44,4	=	1,8 t	1'800 daN
70 Nm	lb-ft	51,8	=	2,1 t	2'100 daN



Spannmittel / Workholding devise		A	B	L	kg
1	ZSM140L50UPRG-NS17	10-64	60-115	140	~ 4
1	ZSM160L50UPRG-NS17	10-84	60-135	160	~ 4,5
1	ZSM180L50UPRG-NS17	10-104	60-155	180	~ 5,0
1	ZSM200L50UPRG-NS17	10-124	60-175	200	~ 5,6
1.2	Incl. 2x PAND78-34UPRG				

Befestigungspaket / Mounting package		Menge / Quantity	kg
3	TWPAS1240	4x	~ 0,2
4	GPL140-R100-MATS	1x	~ 4,0
5	TK140130	1x	~ 0,2

PowerCLAMP
 Module Seite 26/27
 PowerCLAMP
 modules page 26/27



powerCLAMP

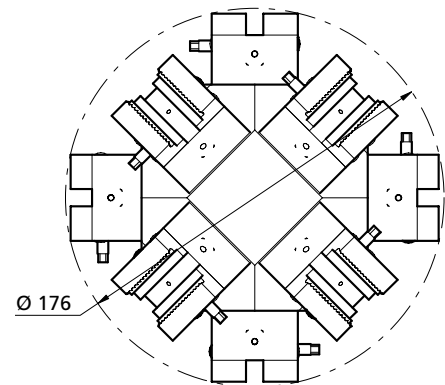
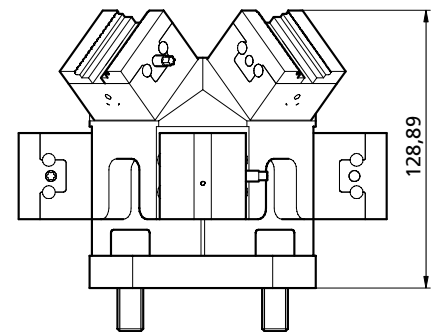
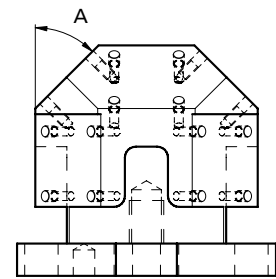
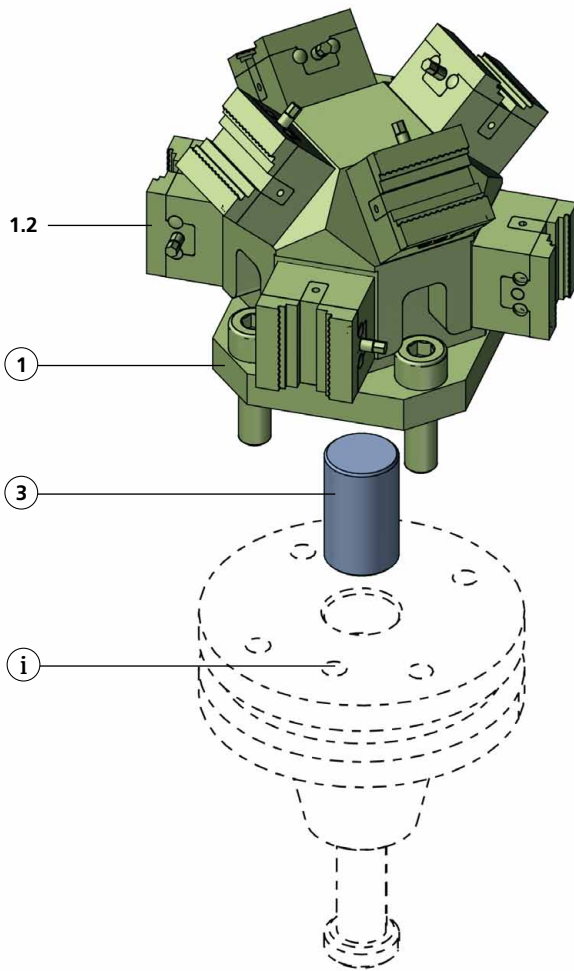
Ausrichtbohrungen empfohlen. Siehe Zeichnung S.29
 Positioning pin hole recommended. See drawing p.29

Zeichnung Adapterplatte S.26
 Drawing adapter plate p.26



5-Achsen Zentrischspannblock Sputnik I -4-8
5-axis self centering vise block Sputnik I -4-8

Drehmoment/Torque		Spannkraft/Workolding force		
4 Nm	lb-ft 3	=	0,46 t	457 daN
5 Nm	lb-ft 3,7	=	0,75 t	571 daN
6 Nm	lb-ft 4,4	=	0,69 t	686 daN
7 Nm	lb-ft 5,18	=	0,8 t	800 daN



Spannmittel / Workholding devise		A	kg
1	UB5AXMCZ40-45SET8	45°	~ 4,5
1	UB5AXMCZ40-45SET4	45°	~ 3,5
1	UB5AXMCZ40-35SET8	35°	~ 4,5
1	UB5AXMCZ40-35SET4	35°	~ 3,5
1.2	inkl. 8x Backen Ihrer Wahl auf S.29 Incl. 8x jaws of your choice on p.29		
Befestigungspaket / Mounting package		Menge / Quantity	kg
3	TK140130	1x	~ 0,2

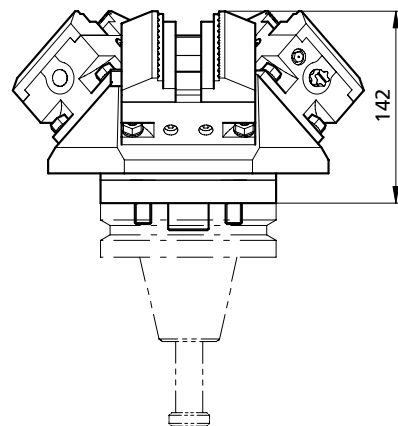
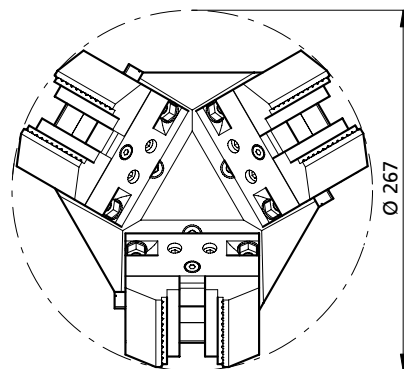
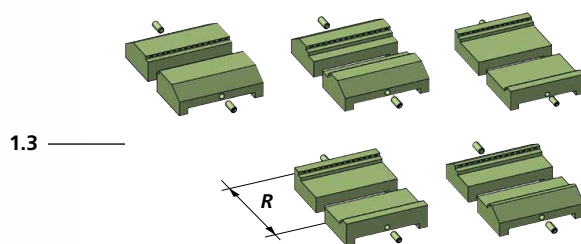
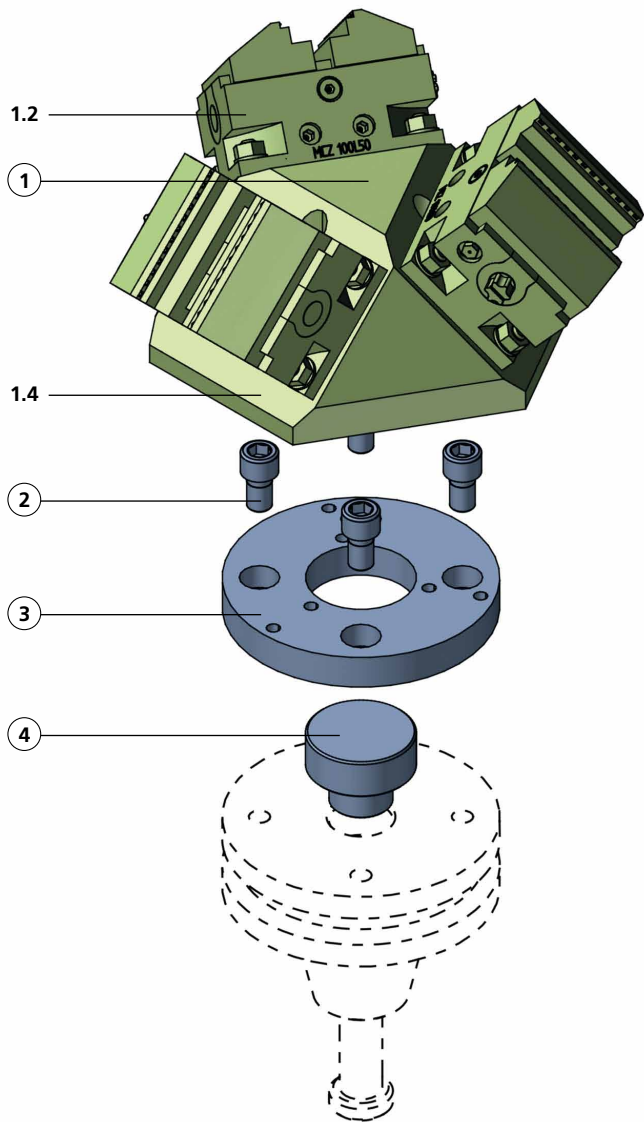
i Ausrichtbohrungen empfohlen. Siehe Zeichnung S.29
i Positioning pin hole recommended. See drawing p.29

Kein Adapterplatte erforderlich
No adapter plate needed



5-Achsen Zentrischspannblock Sputnik II-3
5-axis self centering vise block Sputnik II-3

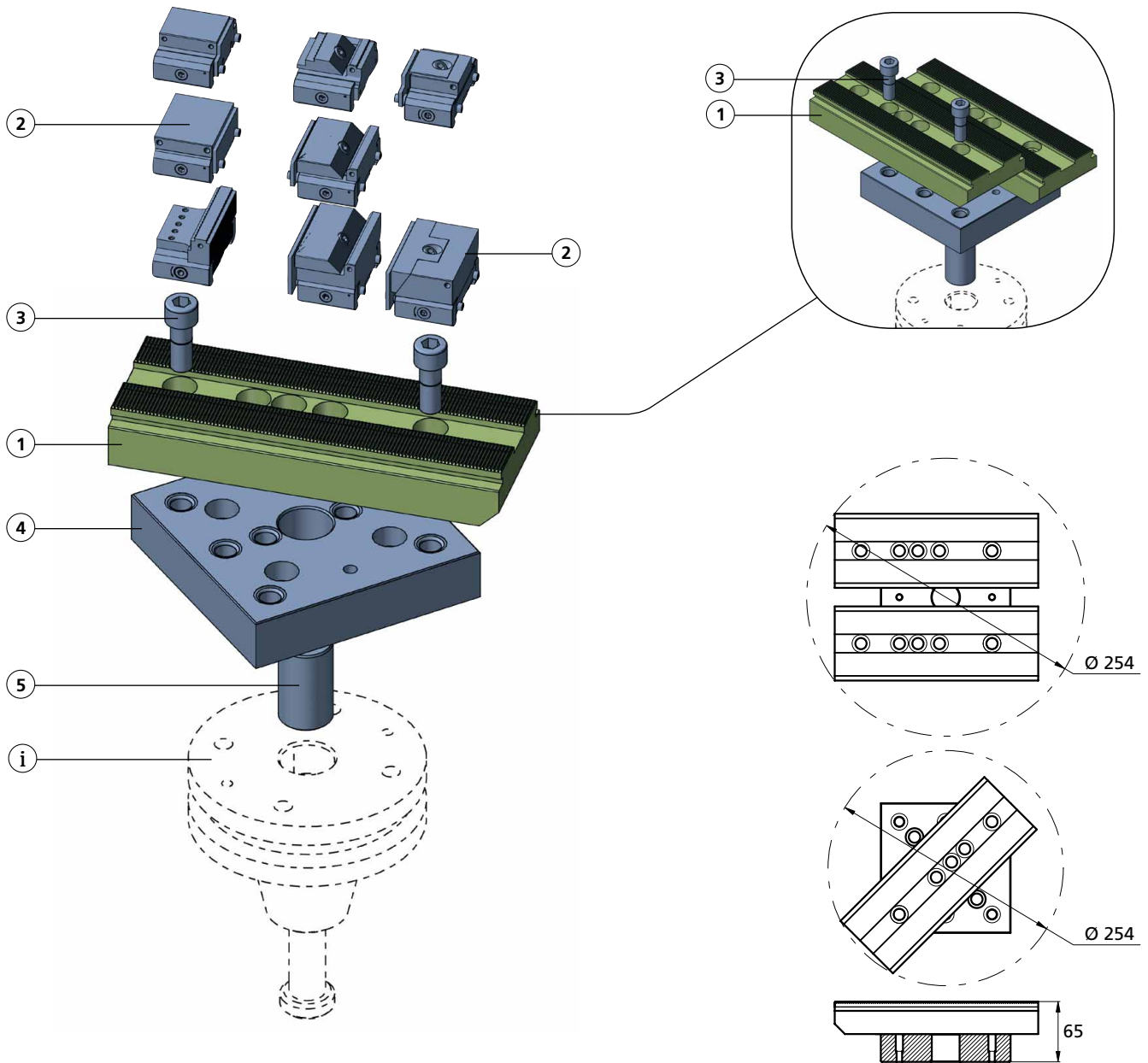
Drehmoment/Torque			Spannkraft/Workholding force		
10 Nm	lb-ft	7,4	=	0,2 t	200 daN
20 Nm	lb-ft	14,8	=	0,5 t	500 daN
30 Nm	lb-ft	22,2	=	1,0 t	1'000 daN
40 Nm	lb-ft	29,6	=	1,3 t	1'300 daN
50 Nm	lb-ft	37,0	=	1,6 t	1'600 daN



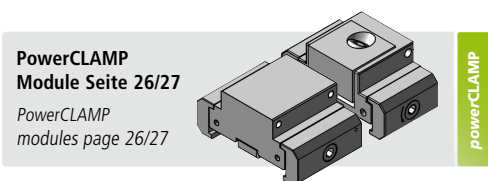
	Spannmittel / Workholding devise	Menge / Quantity	R	kg
①	SPUTNIK2SET18-3	1x	-	~ 27
1.2	MCZ100L50	3x	-	-
1.3	B175SET	3x	-	-
	B175-26	6x	6-26mm	-
	B175-45	6x	25-45mm	-
	B175-64	6x	44-64mm	-
	B175-83	6x	63-83mm	-
	B175-102	6x	82-102mm	-
1.4	TK161195	1x	-	-

	Befestigungspaket / Mounting package	Menge / Quantity	kg
②	TN100291	4x	~ 0,2
③	TK170030	1x	~
④	TK170015	1x	~

Adapterplatte in Befestigungspaket
Adapter plate in mounting package

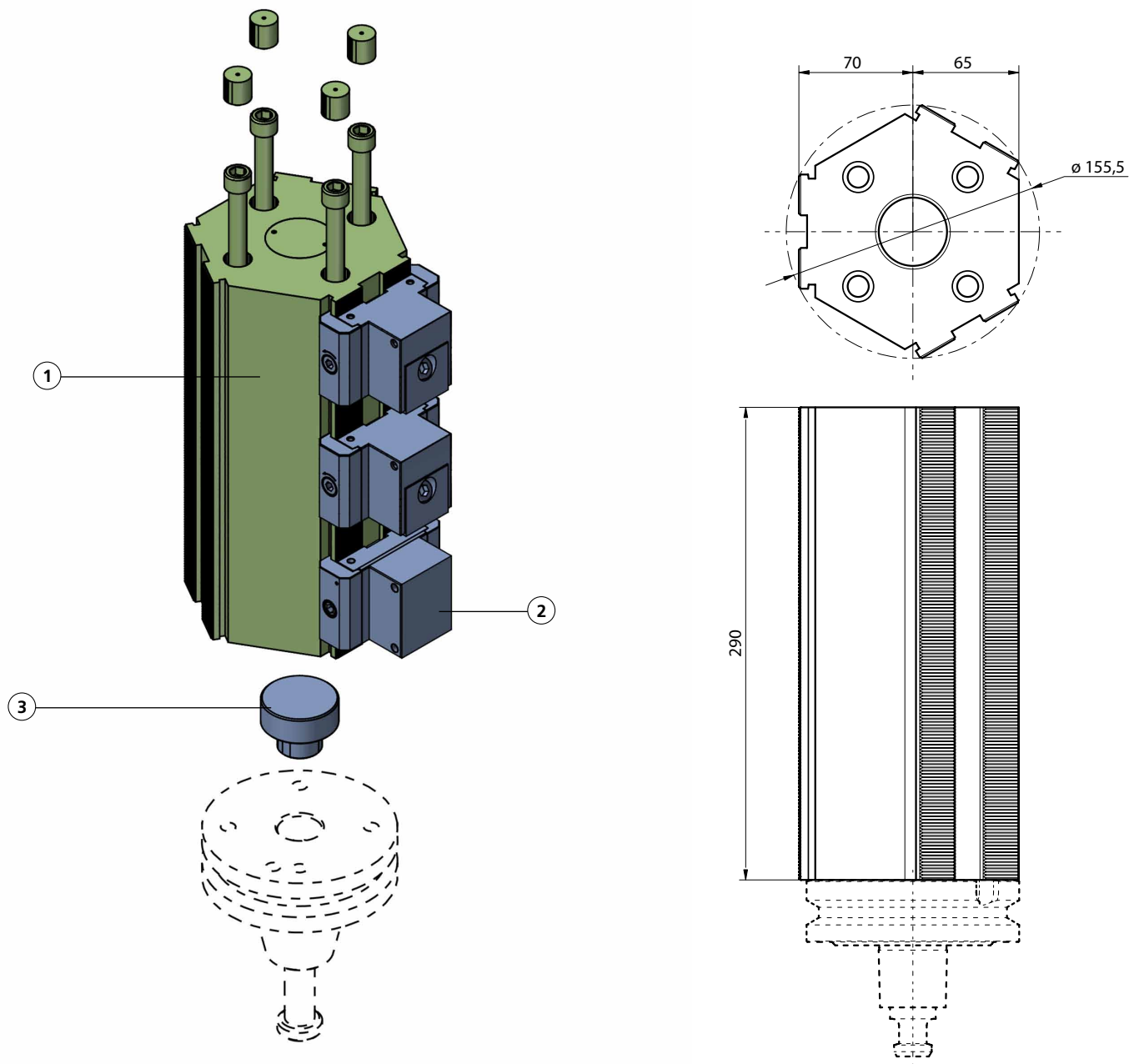


	Spannmittel / Workholding devise			kg
①	PCB4050220W2			~ 4,3
①	PCB2550250			~ 4,8
powerCLAMP Module / modules				
②	Wählbar / Selectable	Siehe Seite 26 / 27 - See page 26 / 27		
Befestigungspaket / Mounting package		Menge / Quantity	kg	
③	TWPAS1240	2x / 4x	~ 0,2	
④	GPL140-R100-MATS	1x	~ 4,0	
⑤	TK140130	1x	~ 0,2	



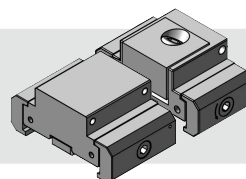
① Ausrichtbohrungen empfohlen. Siehe Zeichnung S.29
① Positioning pin hole recommended. See drawing p.29

④ Zeichnung Adapterplatte S.26
④ Drawing adapter plate p.26



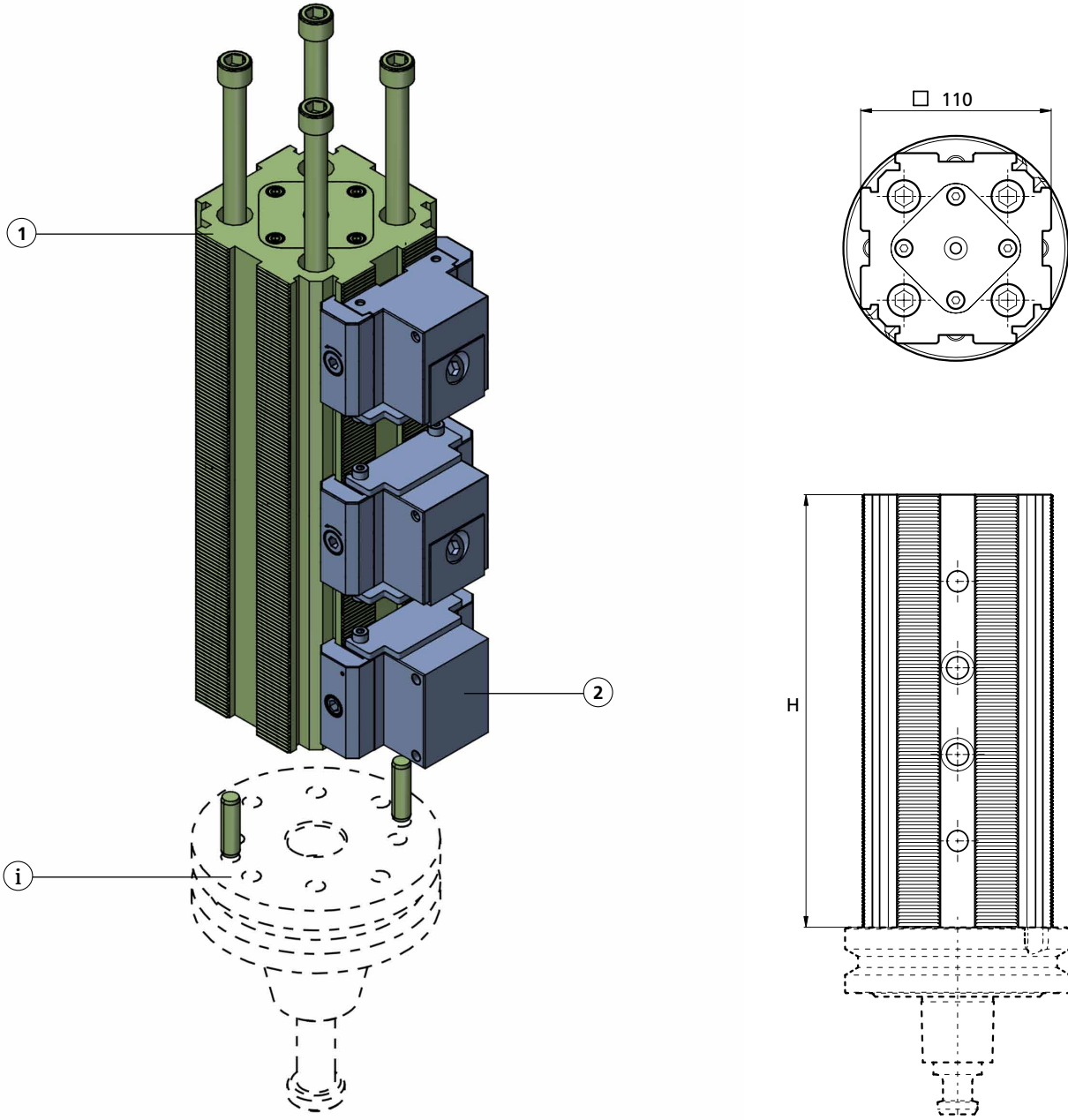
	Spannmittel / Workholding devise		kg
①	PCT155-290-3 MATS		~ 28,8
	powerCLAMP Module / modules		
②	Wählbar / Selectable	Siehe Seite 26 / 27 - See page 26 / 27	
	Befestigungspaket / Mounting package	Menge / Quantity	kg
③	TK170015	1x	~

PowerCLAMP
 Module Seite 26/27
 PowerCLAMP
 modules page 26/27



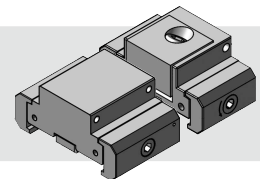
powerCLAMP

Kein Adapterplatte erforderlich
 No adapter plate needed



**PowerCLAMP
 Module Seite 26/27**

PowerCLAMP
 modules page 26/27



powerCLAMP

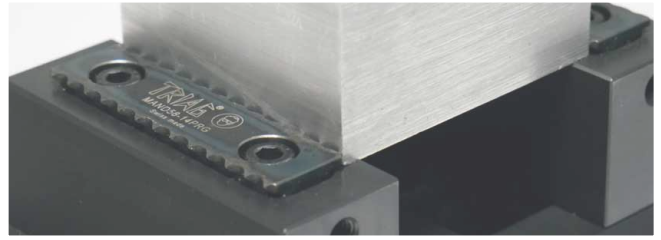
Spannmittel / Workholding devise		H	kg
①	PCT110-250 MATS	250	~ 20
①	PCT110-300 MATS	300	~ 24
powerCLAMP Module / modules			
②	Wählbar / Selectable	Siehe Seite 26 / 27 - See page 26 / 27	

① **Bearbeitung der Palette notwendig!**
 Siehe Fertigungszeichnung S.29
 ① **Palett must be machined!**
 See drawing p.29

Kein Adapterplatte erforderlich
 No adapter plate needed



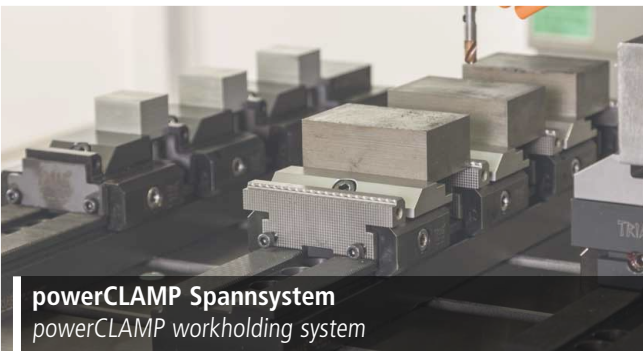
Zentrischspanner ZSX mit Mineralguss Erhöhung
Self centering vise block with epoxy riser block



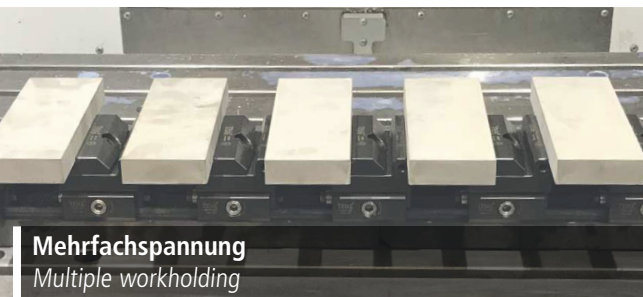
ZSM - Self centering vise „modular“
ZSM - Zentrischspanner „modular“



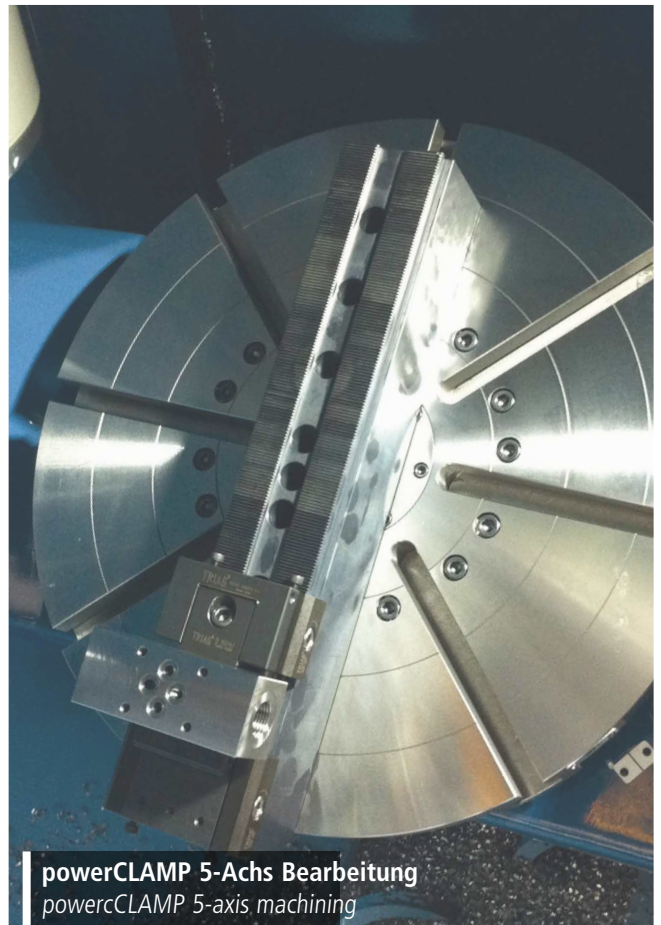
3mm Spanntiefe mit Direktprägebaken
3mm clamping depth with direct stamping jaws



powerCLAMP Spannsystem
powerCLAMP workholding system

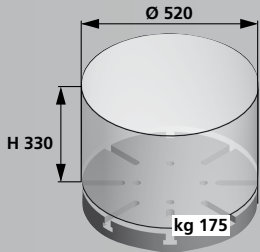


Mehrfachspannung
Multiple workholding



powerCLAMP 5-Achs Bearbeitung
powerCLAMP 5-axis machining

Matsuura MX-520



- ✓ **Grosser Arbeitsraum / Large workspace**
- ✓ **Optimale Zugänglichkeit und hohe Fräsleistung**
Optimal accessibility and high milling performance
- ✓ **Automationspaket mit Matsuura 4-fach-Paletten**
Matsuura automation package with 4 pallet system
- ✓ **12'000er Spindel mit verstärktem Drehmoment 187 Nm**
12'000 rpm Spindle with improved torque 187 Nm
- ✓ **Werkzeugspeicher für 90 Werkzeuge**
Tool storage for 90 tools
- ✓ **iHMI NC-Steuerung für den Erfolg in Ihrer Fertigung**
iHMI NC-Control for your production success

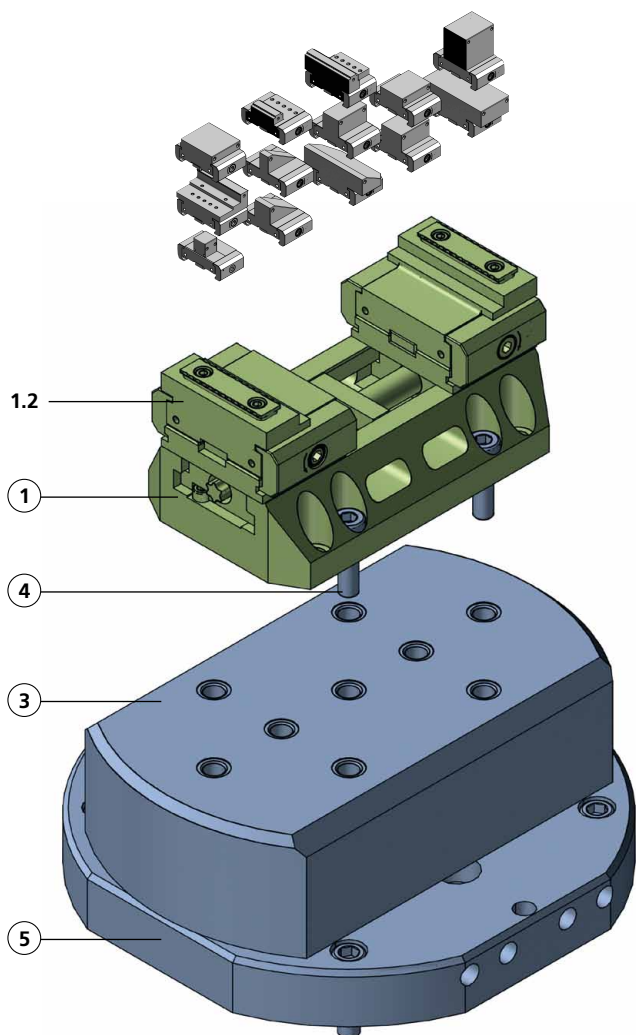


Spannlösungen
Workholding solutions

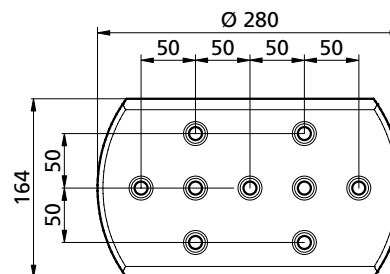
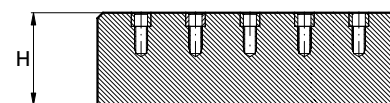
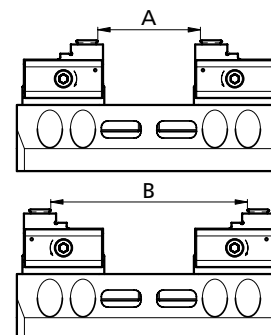
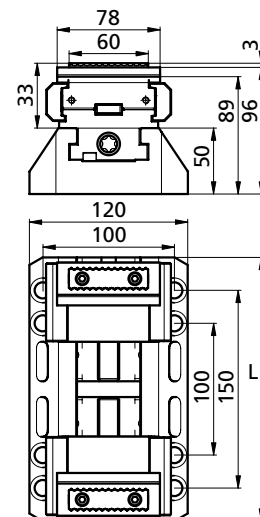
16-21



Modularer Zentrischspanner ZSM mit powerCLAMP-Schnittstelle
 Modular self centering vise ZSM with powerCLAMP-Interface



Drehmoment/Torque		Spannkraft/Workholding force		
10 Nm	lb-ft 7,4	= 0,2 t		200 daN
20 Nm	lb-ft 14,8	= 0,5 t		500 daN
30 Nm	lb-ft 22,2	= 1,0 t		1'000 daN
40 Nm	lb-ft 29,6	= 1,3 t		1'300 daN
50 Nm	lb-ft 37,0	= 1,6 t		1'600 daN



	Spannmittel / Workholding devise	A	B	L	kg
1	ZSM140L50UPRG-NS17	10-64	60-115	140	~ 4
1	ZSM160L50UPRG-NS17	10-84	60-135	160	~ 4,5
1	ZSM180L50UPRG-NS17	10-104	60-155	180	~ 5,0
1	ZSM200L50UPRG-NS17	10-124	60-175	200	~ 5,6
1.2	Incl. 2x PAND78-34UPRG				

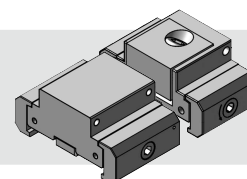
	Erhöhung / Riser block	H	kg
3	MUB2817-H85	85	~ 10
3	MUB2817-H100	100	~ 12
3	MUB2817-H125	125	~ 15

	Passschraube / Dowel screws	Menge / Quantity	kg
4	TWPAS1240	4x	~ 0,2

	Befestigungspaket / Mounting package	Maschinentisch / Machine table	kg
5	ZF181111	Standart - Ø300	~ 16,5
5	ZF181115	PC4 - Ø400	~ 16,4
5	ZF181113	PC1 - Ø500	~ 16,7

PowerCLAMP
 Module Seite 26/27

PowerCLAMP
 modules page 26/27



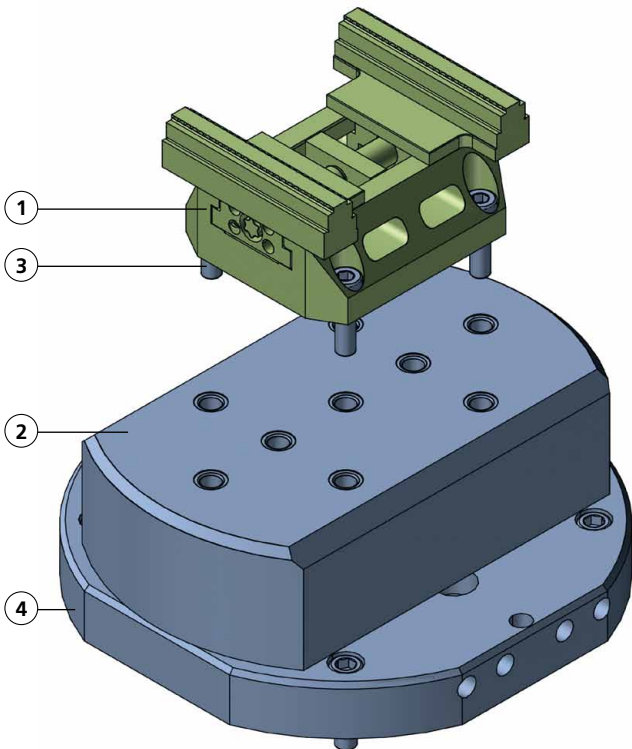
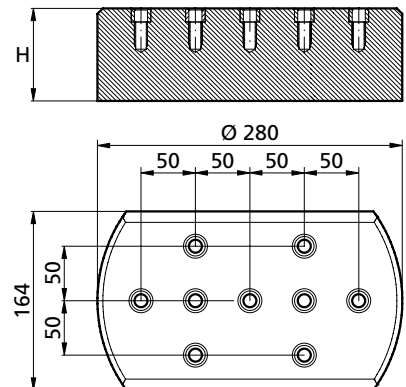
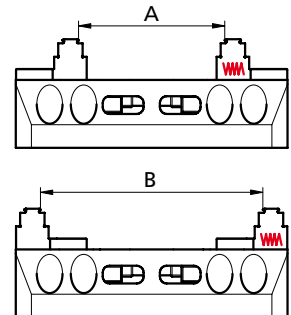
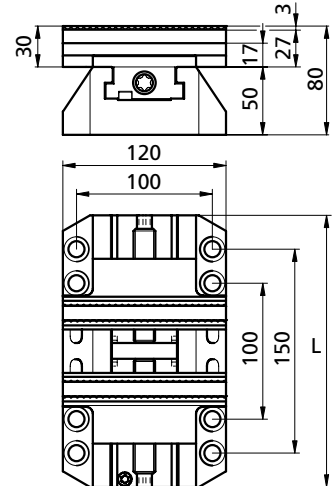
powerCLAMP

4 Zeichnung Adapterplatte 5.26
 4 Drawing adapter plate p.26



Zentrischspanner ZSX mit breiten Direkt-Prägebacken
Self centering vise ZSX with wide direct stamping jaws

Drehmoment/Torque		Spannkraft/Workolding force		
10 Nm	lb-ft 7,4	= 0,2 t		200 daN
20 Nm	lb-ft 14,8	= 0,5 t		500 daN
30 Nm	lb-ft 22,2	= 1,0 t		1'000 daN
40 Nm	lb-ft 29,6	= 1,3 t		1'300 daN
50 Nm	lb-ft 37,0	= 1,6 t		1'600 daN



MWM	Mit Kräftehaltung With conservation of force	A	B	L	kg
1	ZSX140L50PRG120-NS18	14-70	70-126	140	~ 6
1	ZSX160L50PRG120-NS18	14-90	70-146	160	~ 6,6
1	ZSX180L50PRG120-NS18	14-110	70-166	180	~ 7,2
1	ZSX200L50PRG120-NS18	14-130	70-186	200	~ 7,7

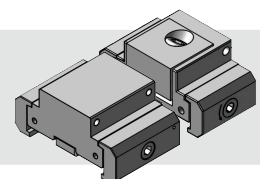
	Erhöhung / Riser block	H	kg
2	MUB2817-H85	85	~ 10
2	MUB2817-H100	100	~ 12
2	MUB2817-H125	125	~ 15

	Passschraube / Dowel screws	Menge / Quantity	kg
3	TWPAS1240	4x	~ 0,2

	Befestigungspaket / Mounting package	Maschinentisch / Machine table	kg
4	ZF181111	Standart - Ø300	~ 16,5
4	ZF181115	PC4 - Ø400	~ 16,4
4	ZF181113	PC1 - Ø500	~ 16,7

PowerCLAMP
Module Seite 26/27

PowerCLAMP
modules page 26/27



powerCLAMP

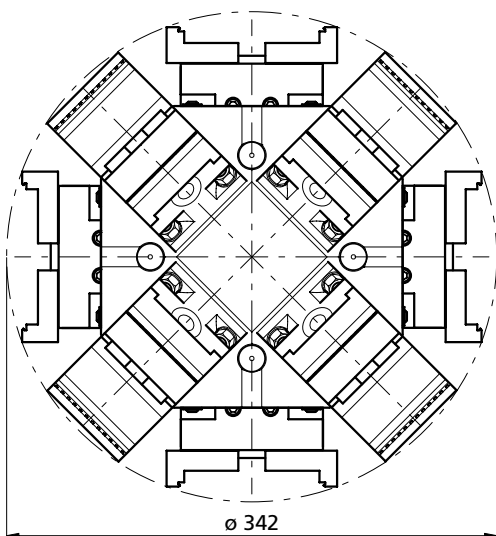
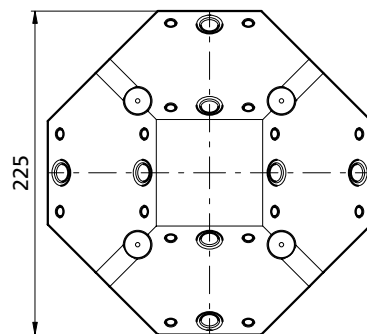
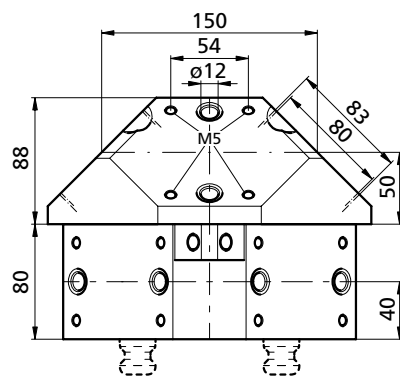
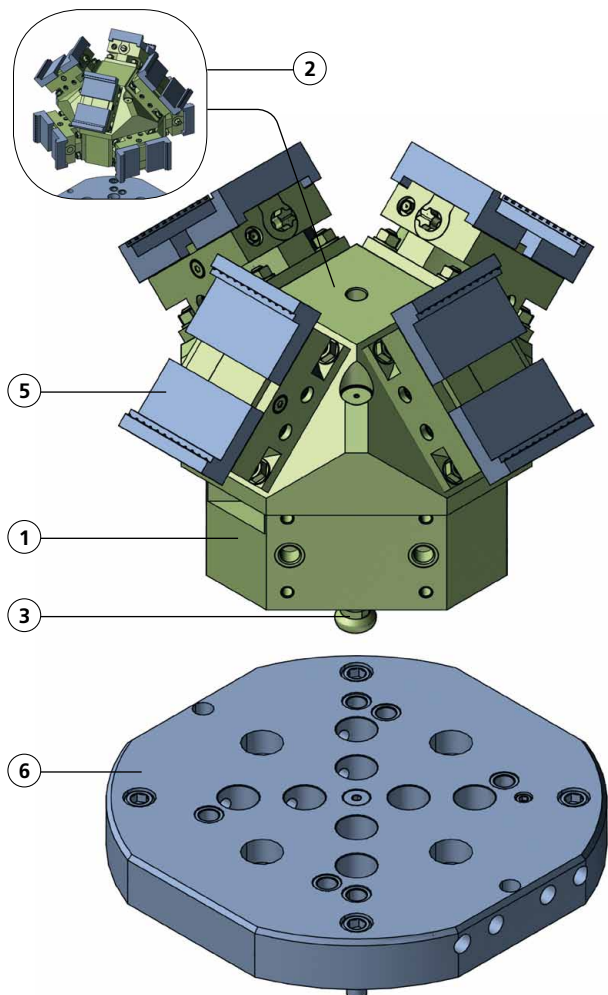
4 Zeichnung Adapterplatte 5.26
4 Drawing adapter plate p.26



Matsuura | MX-520

5-Achsen Zentrischspannblock Sputnik II -4-8
5-axis self centering vise block Sputnik II -4-8

Drehmoment/Torque		Spannkraft/Workholding force		
10 Nm	lb-ft 7,4	=	0,2 t	200 daN
20 Nm	lb-ft 14,8	=	0,5 t	500 daN
30 Nm	lb-ft 22,2	=	1,0 t	1'000 daN
40 Nm	lb-ft 29,6	=	1,3 t	1'300 daN
50 Nm	lb-ft 37,0	=	1,6 t	1'600 daN



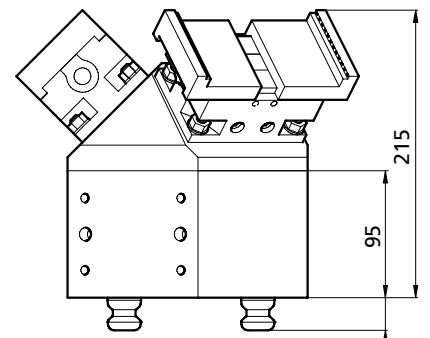
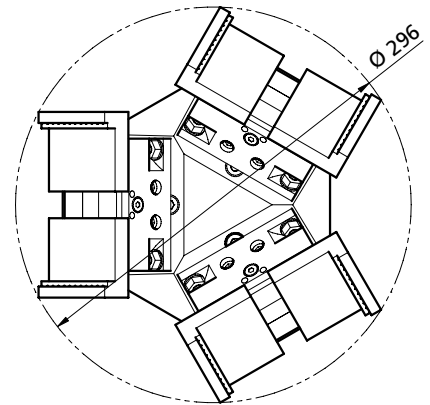
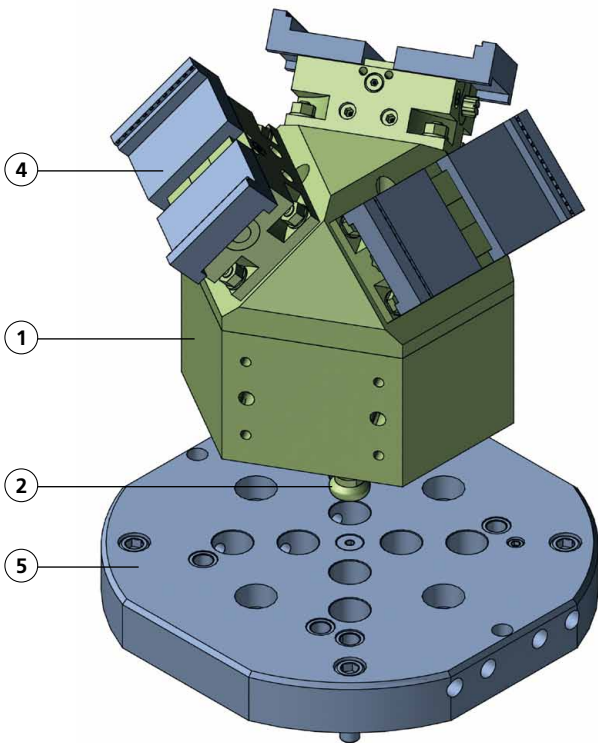
	Spannmittel / Workholding devise			kg
①	5AXMCZ100-45-4H			~ 43
②	5AXMCZ100-45-8			~ 56
	Nullpunktzapfen / Zero point pull studs	Menge / Quantity		kg
③	OPMB18M12	4x		~
	Gewindestift / Grub screw	Menge / Quantity		kg
④	M12 x 25 DIN913	4x		~
	Backen / Jaws			
⑤	Wählbar / Selectable	Siehe Seite 28 / 29 - See page 28 / 29		
	Befestigungspaket / Mounting package	Maschinentisch / Machine table		kg
⑥	ZF181111	Standart - Ø300		~ 16,5
⑥	ZF181115	PC4 - Ø400		~ 16,4
⑥	ZF181113	PC1 - Ø500		~ 16,7

④ Zeichnung Adapterplatte S.26
④ Drawing adapter plate p.26



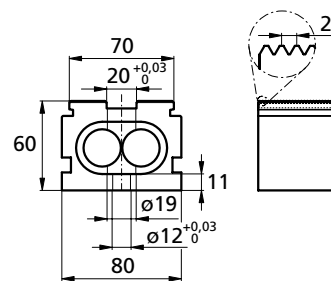
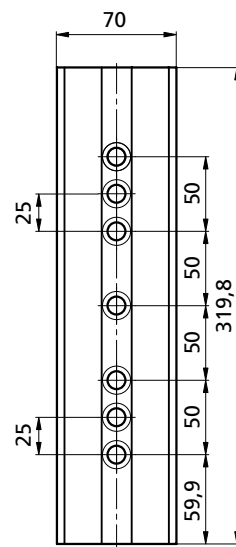
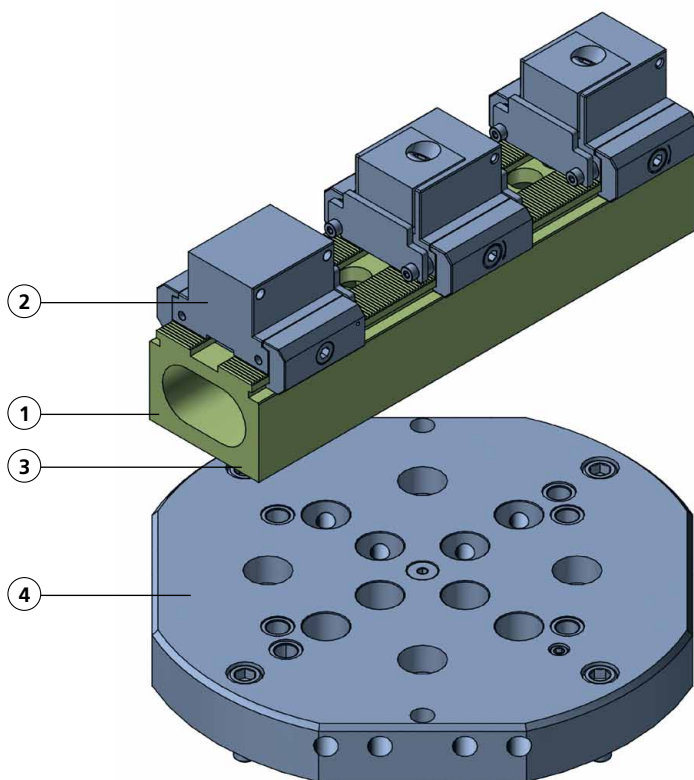
5-Achsen Zentrischspannblock Sputnik II-3
5-axis self centering vise block Sputnik II-3

Drehmoment/Torque			Spannkraft/Workolding force		
10 Nm	lb-ft	7,4	=	0,2 t	200 daN
20 Nm	lb-ft	14,8	=	0,5 t	500 daN
30 Nm	lb-ft	22,2	=	1,0 t	1'000 daN
40 Nm	lb-ft	29,6	=	1,3 t	1'300 daN
50 Nm	lb-ft	37,0	=	1,6 t	1'600 daN



	Spannmittel / Workholding devise				kg
	5AXMCZ100-45-3H				~ 41
	Nullpunktzapfen / Zero point pull studs	Menge / Quantity			kg
	OPMB18M12	4x			~
	Gewindestift / Grub screw	Menge / Quantity			kg
	M12 x 25 DIN913	4x			~
	Backen / Jaws				
	Wählbar / Selectable	Siehe Seite 28 / 29 - See page 28 / 29			
	Befestigungspaket / Mounting package	Maschinentisch / Machine table			kg
	ZF181111	Standart - Ø300			~ 16,5
	ZF181115	PC4 - Ø400			~ 16,4
	ZF181113	PC1 - Ø500			~ 16,7

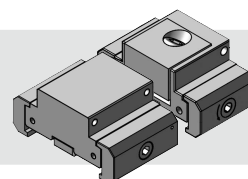
④ Zeichnung Adapterplatte S.26
④ Drawing adapter plate p.26



Spannmittel / Workholding devise				kg
1	PCB50320H60			~ 6,9
powerCLAMP Module / modules				
2	Wählbar / Selectable	Siehe Seite 26 / 27 - See page 26 / 27		
Passschraube / Dowel screws		Menge / Quantity	kg	
3	TWPAS1240	2x	~ 0,2	
Befestigungspaket / Mounting package		Maschinentisch / Machine table	kg	
4	ZF181111	Standart - Ø300	~ 16,5	
4	ZF181115	PC4 - Ø400	~ 16,4	
4	ZF181113	PC1 - Ø500	~ 16,7	

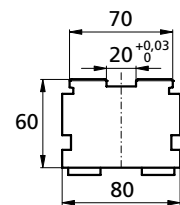
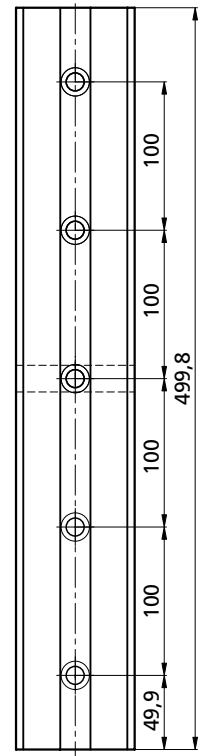
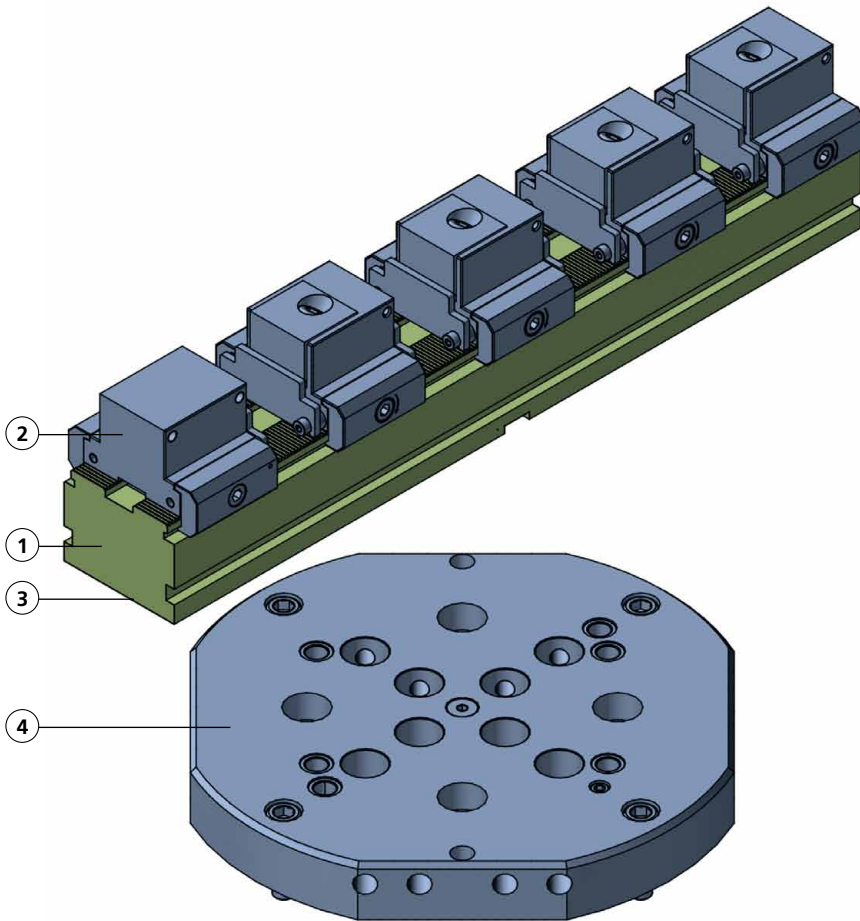
PowerCLAMP
Module Seite 26/27

PowerCLAMP
modules page 26/27



powerCLAMP

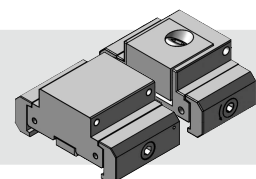
4 Zeichnung Adapterplatte S.26
4 Drawing adapter plate p.26



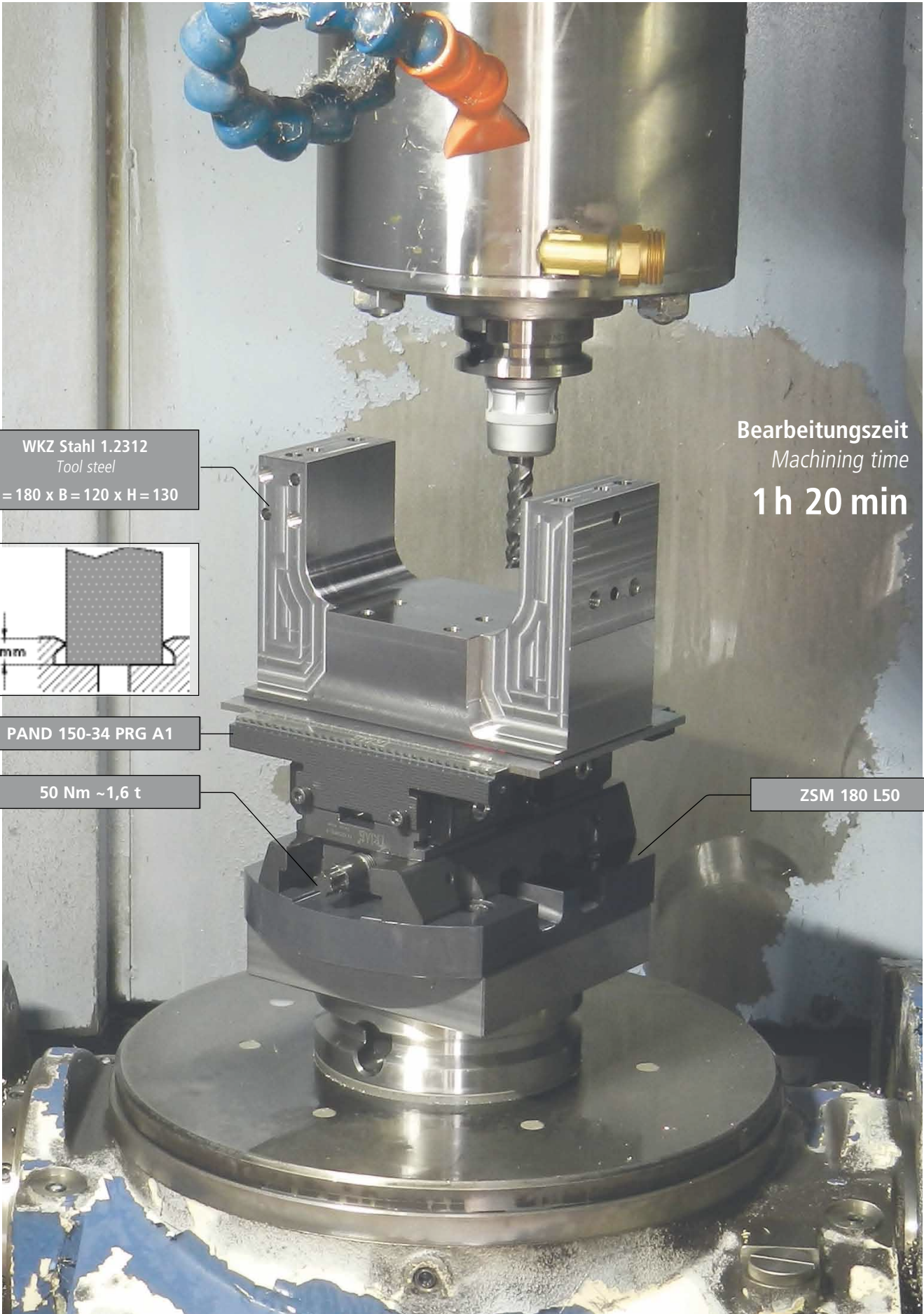
	Spannmittel / Workholding devise			kg
1	PCB100500H60			~ 17,4
2	powerCLAMP Module / modules			
	Wählbar / Selectable	Siehe Seite 26 / 27 - See page 26 / 27		
3	Passschraube / Dowel screws	Menge / Quantity		kg
	TWPAS1240	2x		~ 0,2
4	Befestigungspaket / Mounting package	Maschinentisch / Machine table		kg
	ZF181111	Standart - Ø300		~ 16,5
	ZF181115	PC4 - Ø400		~ 16,4
	ZF181113	PC1 - Ø500		~ 16,7

PowerCLAMP
Module Seite 26/27

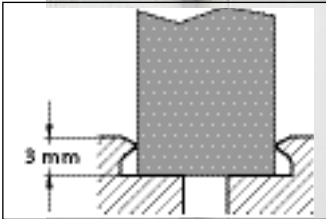
PowerCLAMP
modules page 26/27



4 Zeichnung Adapterplatte S.26
4 Drawing adapter plate p.26



WKZ Stahl 1.2312
Tool steel
L = 180 x B = 120 x H = 130



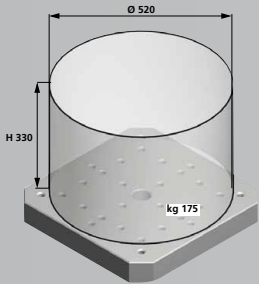
PAND 150-34 PRG A1

50 Nm ~1,6 t

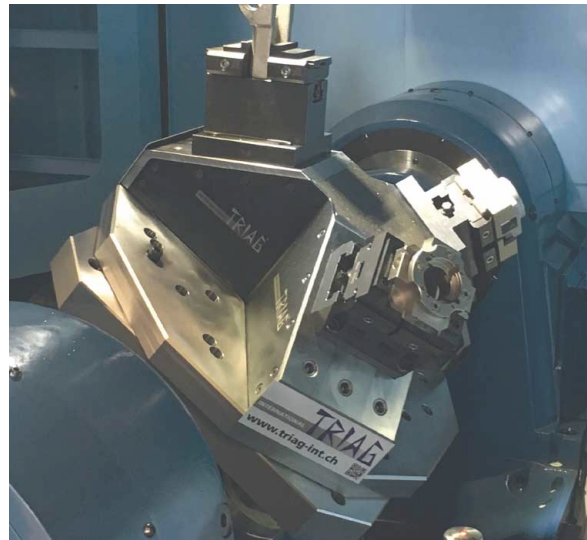
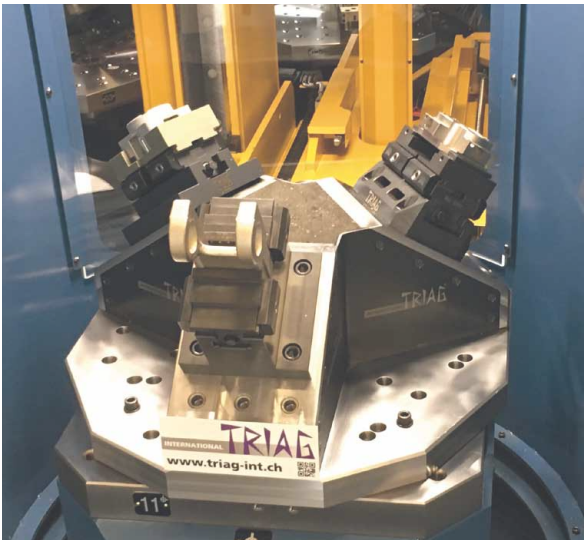
Bearbeitungszeit
Machining time
1 h 20 min

ZSM 180 L50

Matsuura MAM72-63V



- ✓ **Hochproduktive 5-Achsenbearbeitung für Werkstücke bis zu einer Größe von $\varnothing 630 \times H 450$**
Highly productive 5-axis machining for workpieces up to a size of $\varnothing 630 \times H 450$
- ✓ **Bis zu 72 Stunden mannlose und kontinuierliche Fertigung**
Up to 72 hours continuous unmanned production
- ✓ **Mannlose Fertigung von variierenden Teilen, „just in time“ Fertigung ohne Einrichtzeiten / Manless production of variable parts, (just-in-time) manufacturing without set-up times**
- ✓ **Präzisions Bearbeitung in einer Aufspannung**
Precision machining in one clamping set up



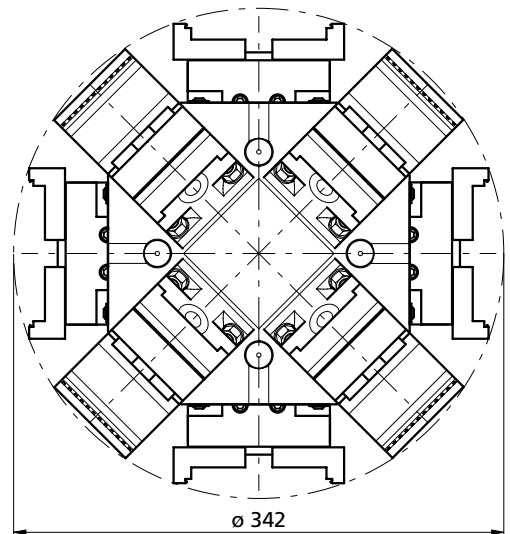
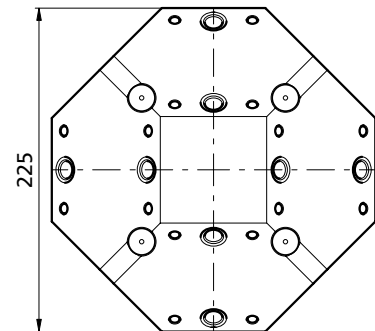
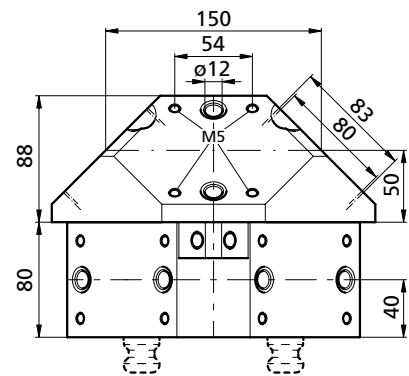
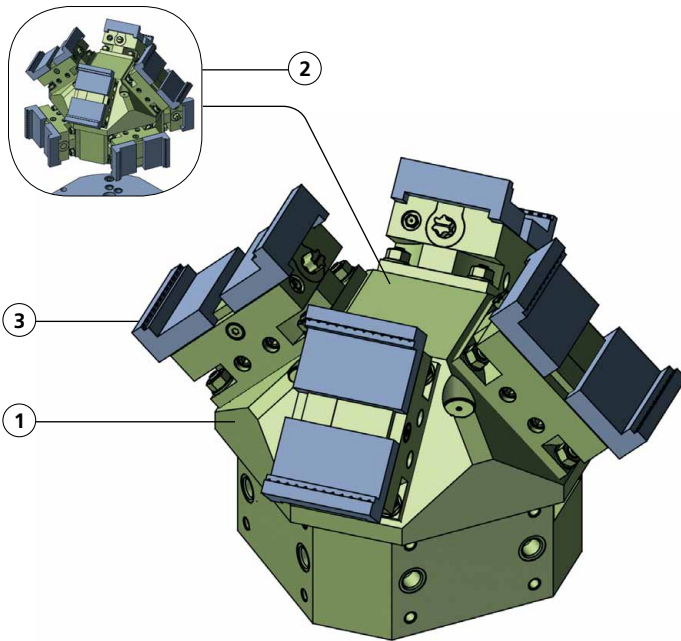
Spannlösungen
Workholding solutions

24-25



5-Achsen Zentrischspannblock Sputnik II -4-8
5-axis self centering vise block Sputnik II -4-8

Drehmoment/Torque		Spannkraft/Workholding force		
10 Nm	lb-ft 7,4	=	0,2 t	200 daN
20 Nm	lb-ft 14,8	=	0,5 t	500 daN
30 Nm	lb-ft 22,2	=	1,0 t	1'000 daN
40 Nm	lb-ft 29,6	=	1,3 t	1'300 daN
50 Nm	lb-ft 37,0	=	1,6 t	1'600 daN



Spannmittel / Workholding devise				kg
①	5AXMCZ100-45-4H			~ 43
②	5AXMCZ100-45-8			~ 56
Backen / Jaws				
③	Wählbar / Selectable	Siehe Seite 28 / 29 - See page 28 / 29		

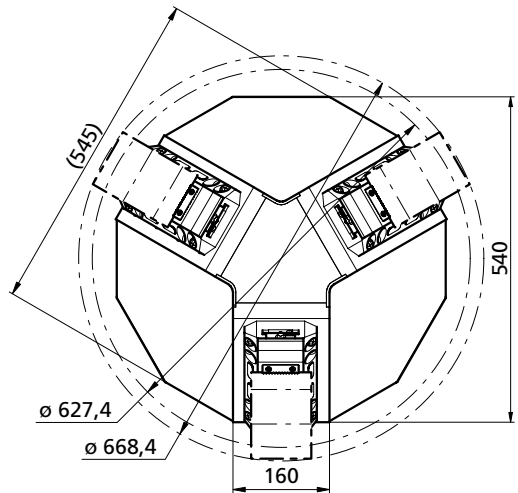
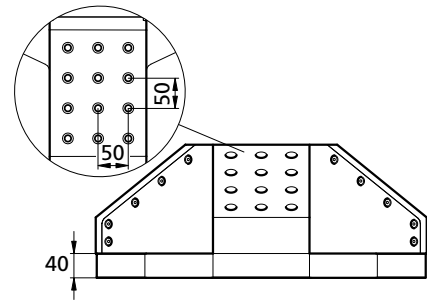
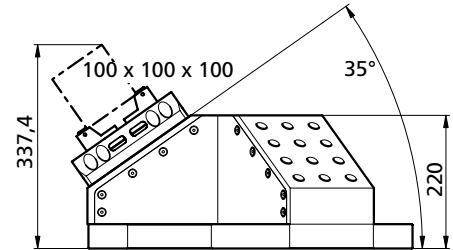
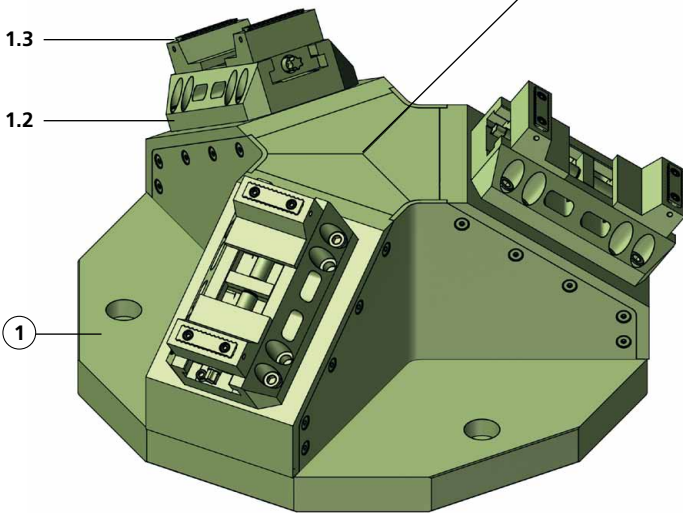


5-Achsen Zentrischspannblock Sputnik III -3
5-axis self centering vise block Sputnik III -3

Drehmoment/Torque		Spannkraft/Workholding force		
10 Nm	lb-ft 7,4	= 0,2 t		200 daN
20 Nm	lb-ft 14,8	= 0,5 t		500 daN
30 Nm	lb-ft 22,2	= 1,0 t		1'000 daN
40 Nm	lb-ft 29,6	= 1,3 t		1'300 daN
50 Nm	lb-ft 37,0	= 1,6 t		1'600 daN
60 Nm	lb-ft 44,4	= 1,8 t		1'800 daN
70 Nm	lb-ft 51,8	= 2,1 t		2'100 daN

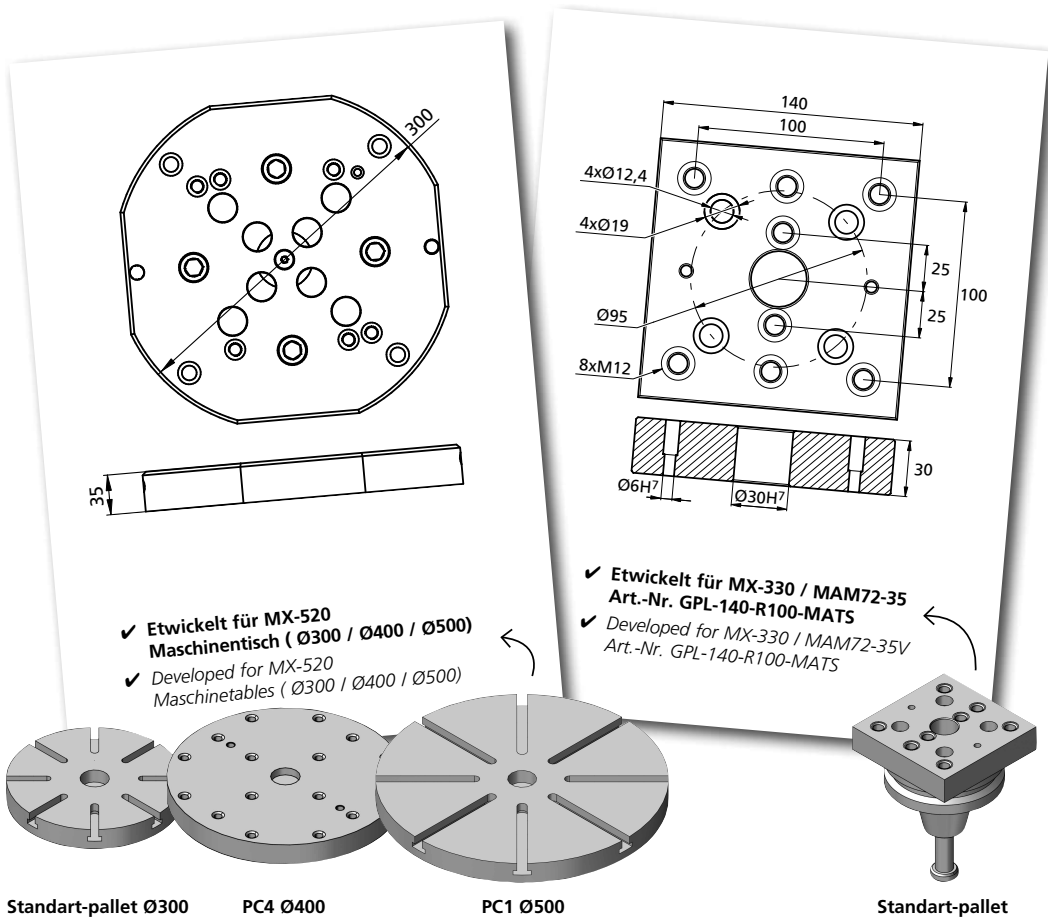


Stahl-Mineralguss
Steel-epoxy



	Spannmittel / Workholding devise				kg
①	5AXZSX35-3				~ 185
1.2	3x ZSX200L50UPRG				
1.3	6x MAND58-14PRG				

Adapterplatten Adapter plates



Anschlagmodule / Mini Zentrischspanner / Spannzangenfutter ER40 End modules / Mini-self centering vise / collet chuck ER40

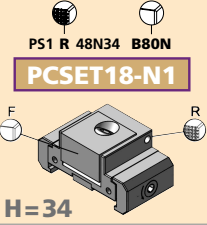
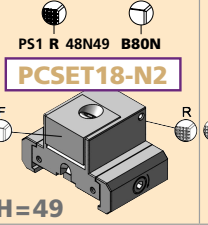
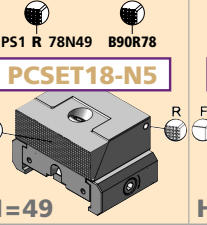
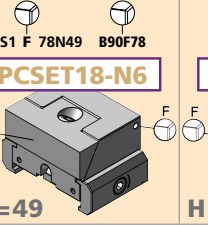
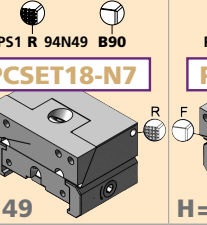
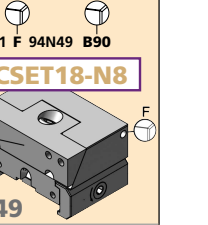
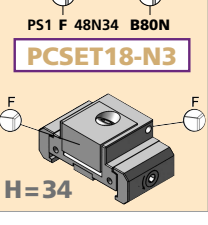
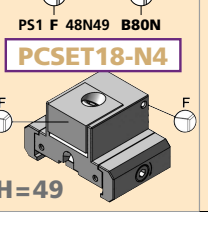
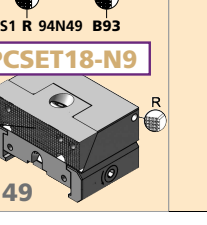
Anschlagmodule / End modules	Breite / Width 48 mm		Breite / Width 78 mm		Breite / Width 94 mm		Mini ZS / Mini SSV
	PAND48-34 H=34	PAND48-49 H=49	PAND78-34 H=34	PAND94-34 H=34	PAND94-49 H=49	PC2100L50 ER40	
prägen / stamping		prägen / stamping		prägen / stamping			
PAND48-34PRF-A1 H=34	PAND48-49PRF-A1 H=49	PAND78-49 H=49	PAND94-34PRF-A1 H=34	PAND94-49PRF-A1 H=49	PS1X63N100-ER40 		

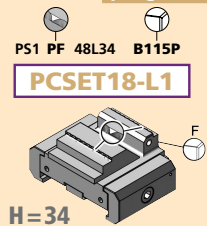
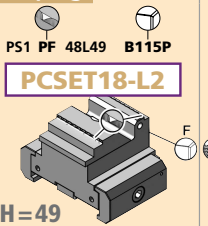
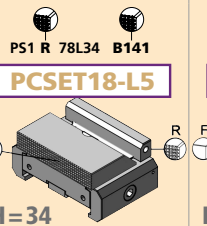
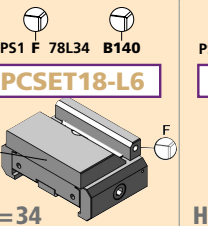
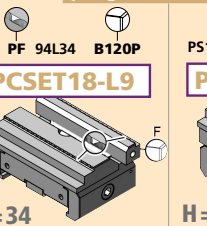
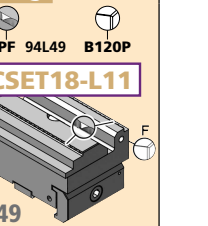
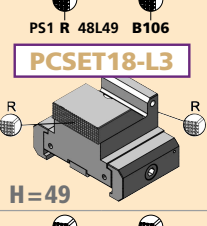
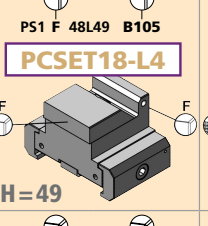
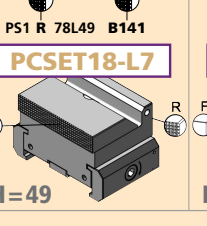
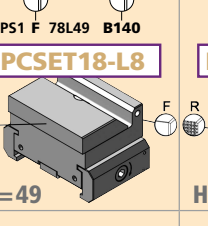
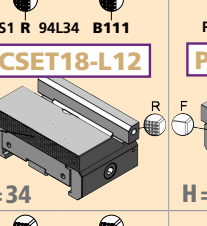
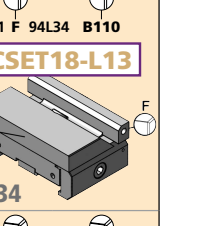
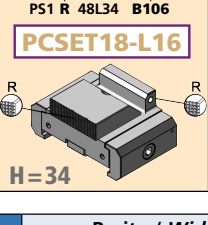
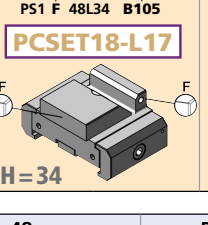
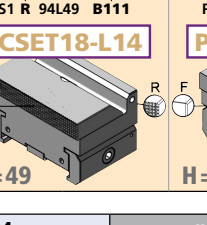



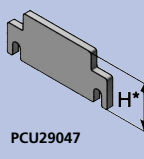
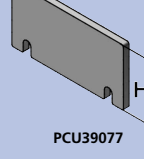
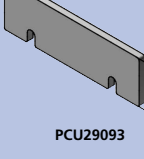
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More in general catalogue

PowerCLAMP Spannmodul-SET

PowerCLAMP clamping modules-SET

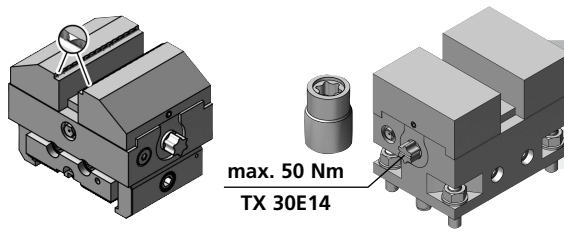
Niederzugspannmodule / Pull down clamp modules	Breite / Width 48mm		Breite / Width 78mm		Breite / Width 94mm	
	 PS1 R 48N34 B80N PCSET18-N1 H=34	 PS1 R 48N49 B80N PCSET18-N2 H=49	 PS1 R 78N49 B90R78 PCSET18-N5 H=49	 PS1 F 78N49 B90F78 PCSET18-N6 H=49	 PS1 R 94N49 B90 PCSET18-N7 H=49	 PS1 F 94N49 B90 PCSET18-N8 H=49
 PS1 F 48N34 B80N PCSET18-N3 H=34	 PS1 F 48N49 B80N PCSET18-N4 H=49			 PS1 R 94N49 B93 PCSET18-N9 H=49		

Linearspannmodule / Linear clamp modules	Breite / Width 48mm prägen / stamping		Breite / Width 78mm		Breite / Width 94mm prägen / stamping	
	 PS1 PF 48L34 B115P PCSET18-L1 H=34	 PS1 PF 48L49 B115P PCSET18-L2 H=49	 PS1 R 78L34 B141 PCSET18-L5 H=34	 PS1 F 78L34 B140 PCSET18-L6 H=34	 PS1 PF 94L34 B120P PCSET18-L9 H=34	 PS1 PF 94L49 B120P PCSET18-L11 H=49
 PS1 R 48L49 B106 PCSET18-L3 H=49	 PS1 F 48L49 B105 PCSET18-L4 H=49	 PS1 R 78L49 B141 PCSET18-L7 H=49	 PS1 F 78L49 B140 PCSET18-L8 H=49	 PS1 R 94L34 B111 PCSET18-L12 H=34	 PS1 F 94L34 B110 PCSET18-L13 H=34	
 PS1 R 48L34 B106 PCSET18-L16 H=34	 PS1 F 48L34 B105 PCSET18-L17 H=34	* Beim jedem Spannmodul sind 2 Unterlagen und 1 Fräsanschlag enthalten * Each clamp module you get 2 parallels of your choice and 1 milling buffer		 PS1 R 94L49 B111 PCSET18-L14 H=49	 PS1 F 94L49 B110 PCSET18-L15 H=49	

Inkl. 2 x Parallelunterlage Incl. 2 x Steel parallels	Breite / Width 48mm	Breite / Width 78mm	Breite / Width 94mm	Fräsanschlag Milling buffer																																																																																						
	 PCU29047	<table border="1"> <thead> <tr> <th>H*</th> <th>B48-</th> <th>047</th> </tr> </thead> <tbody> <tr><td>20</td><td>20</td><td>047</td></tr> <tr><td>24</td><td>24</td><td>047</td></tr> <tr><td>29</td><td>29</td><td>047</td></tr> <tr><td>31</td><td>31</td><td>047</td></tr> <tr><td>34</td><td>34</td><td>047</td></tr> <tr><td>39</td><td>39</td><td>047</td></tr> <tr><td>44</td><td>44</td><td>047</td></tr> <tr><td>46</td><td>46</td><td>047</td></tr> </tbody> </table>	H*	B48-	047	20	20	047	24	24	047	29	29	047	31	31	047	34	34	047	39	39	047	44	44	047	46	46	047	 PCU39077	<table border="1"> <thead> <tr> <th>H*</th> <th>B78-</th> <th>077</th> </tr> </thead> <tbody> <tr><td>20</td><td>20</td><td>077</td></tr> <tr><td>24</td><td>24</td><td>077</td></tr> <tr><td>29</td><td>29</td><td>077</td></tr> <tr><td>31</td><td>31</td><td>077</td></tr> <tr><td>34</td><td>34</td><td>077</td></tr> <tr><td>39</td><td>39</td><td>077</td></tr> <tr><td>44</td><td>44</td><td>077</td></tr> </tbody> </table>	H*	B78-	077	20	20	077	24	24	077	29	29	077	31	31	077	34	34	077	39	39	077	44	44	077	 PCU29093	<table border="1"> <thead> <tr> <th>H*</th> <th>B94-</th> <th>093</th> </tr> </thead> <tbody> <tr><td>14</td><td>14</td><td>093</td></tr> <tr><td>20</td><td>20</td><td>093</td></tr> <tr><td>24</td><td>24</td><td>093</td></tr> <tr><td>29</td><td>29</td><td>093</td></tr> <tr><td>31</td><td>31</td><td>093</td></tr> <tr><td>34</td><td>34</td><td>093</td></tr> <tr><td>39</td><td>39</td><td>093</td></tr> <tr><td>44</td><td>44</td><td>093</td></tr> <tr><td>46</td><td>46</td><td>093</td></tr> <tr><td>47</td><td>47</td><td>093</td></tr> </tbody> </table>	H*	B94-	093	14	14	093	20	20	093	24	24	093	29	29	093	31	31	093	34	34	093	39	39	093	44	44	093	46	46	093	47	47	093
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Backen zu Mini-Zentrischspanner
 Jaws for mini self centering vises

Drehmoment Torque		Spannkraft Workholding force	
10 Nm	lb-ft 7,4	= 0,2 t	200 daN
20 Nm	lb-ft 14,8	= 0,5 t	500 daN
30 Nm	lb-ft 22,2	= 1,0 t	1'000 daN
40 Nm	lb-ft 29,6	= 1,3 t	1'300 daN
50 Nm	lb-ft 37,0	= 1,6 t	1'600 daN



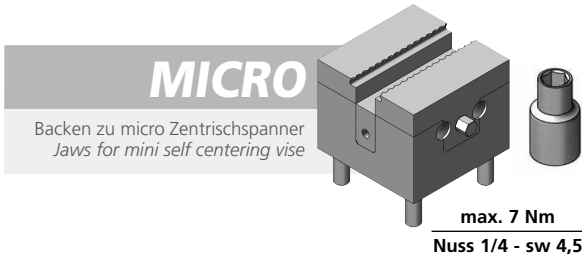
MINI

Backen zu Mini Zentrischspanner
 Jaws for mini self centering vise


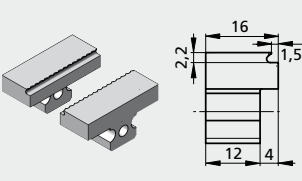
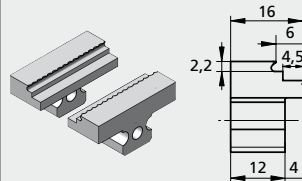
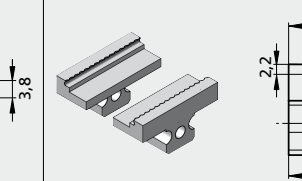

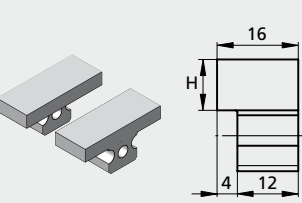
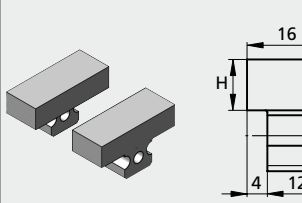
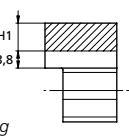
<p>Prägebacken Stamping jaws</p>	<p>B175-26</p> <p>Spannbereich / Clamping range 6-26 mm</p> <p>$C = 70$ $H = 20$ $L = 40$ $i = 57\text{HRC}$</p>	<p>B175-45</p> <p>Spannbereich / Clamping range 25-45 mm</p> <p>$C = 70$ $H = 20$ $L = 40$ $i = 57\text{HRC}$</p>	<p>B175-64</p> <p>Spannbereich / Clamping range 44-64 mm</p> <p>$C = 70$ $H = 20$ $L = 40$ $i = 57\text{HRC}$</p>	
	<p>B175-83</p> <p>Spannbereich / Clamping range 63-83 mm</p> <p>$C = 70$ $H = 20$ $L = 40$ $i = 57\text{HRC}$</p>	<p>B175-102</p> <p>Spannbereich / Clamping range 83-102 mm</p> <p>$C = 70$ $H = 20$ $L = 50$ $i = 57\text{HRC}$</p>	<p>B175-121</p> <p>Spannbereich / Clamping range 101-121 mm</p> <p>$C = 70$ $H = 20$ $L = 60$ $i = 57\text{HRC}$</p>	
	<p>B173-26</p> <p>Spannbereich / Clamping range 6-26 mm</p> <p>$C = 70$ $H = 24$ $L = 40$ $i = 57\text{HRC}$</p>	<p>B173-45</p> <p>Spannbereich / Clamping range 25-45 mm</p> <p>$C = 70$ $H = 24$ $L = 40$ $i = 57\text{HRC}$</p>	<p>B173-64</p> <p>Spannbereich / Clamping range 44-64 mm</p> <p>$C = 70$ $H = 24$ $L = 40$ $i = 57\text{HRC}$</p>	
<p>B173-83</p> <p>Spannbereich / Clamping range 63-83 mm</p> <p>$C = 70$ $H = 24$ $L = 40$ $i = 57\text{HRC}$</p>	<p>B173-102</p> <p>Spannbereich / Clamping range 82-102 mm</p> <p>$C = 70$ $H = 24$ $L = 50$ $i = \text{HV700 x 0,2 mm}$</p>	<p>B170 (HV700x0.2mm) B172 (weich / soft)</p> <p>Spannbereich / Clamping range 0-80 mm</p> <p>$C = 70$ $H = 24$ $L = 40$ $i = \text{HV700 x 0,2 mm}$</p>		
<p>B176-80</p> <p>Spannbereich / Clamping range 8-80 mm</p> <p>*PRG1003M8</p> <p>$C = 70$ $H = 24$ $L = 40$ $i = \text{HV700 x 0,2 mm}$</p> <p>*PRG1003M8 Optional erhältlich / Optional accessory</p>	<p>Zum Erstellen Ihrer individuellen Formbacke: Maximalen Bearbeitungsprofiltiefe</p> <p>If a dedicated jaw is being machined: Max. workpiece penetration depth</p>			



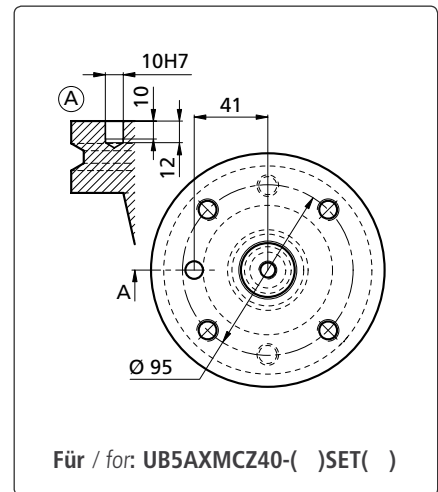
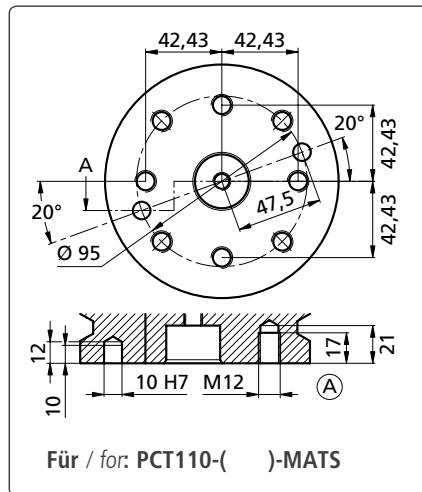
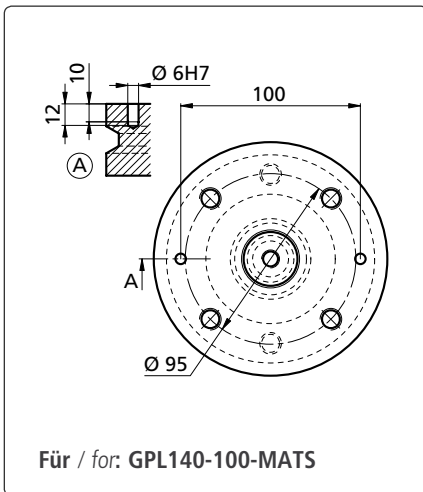
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Drehmoment Torque		Spannkraft Workholding force	
4 Nm	lb-ft 3	= 0,46 t	457 daN
5 Nm	lb-ft 3,7	= 0,75 t	571 daN
6 Nm	lb-ft 4,4	= 0,69 t	686 daN
7 Nm	lb-ft 5,18	= 0,8 t	800 daN

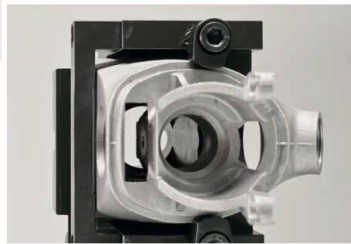
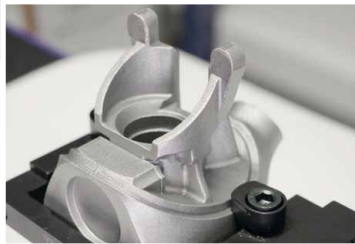
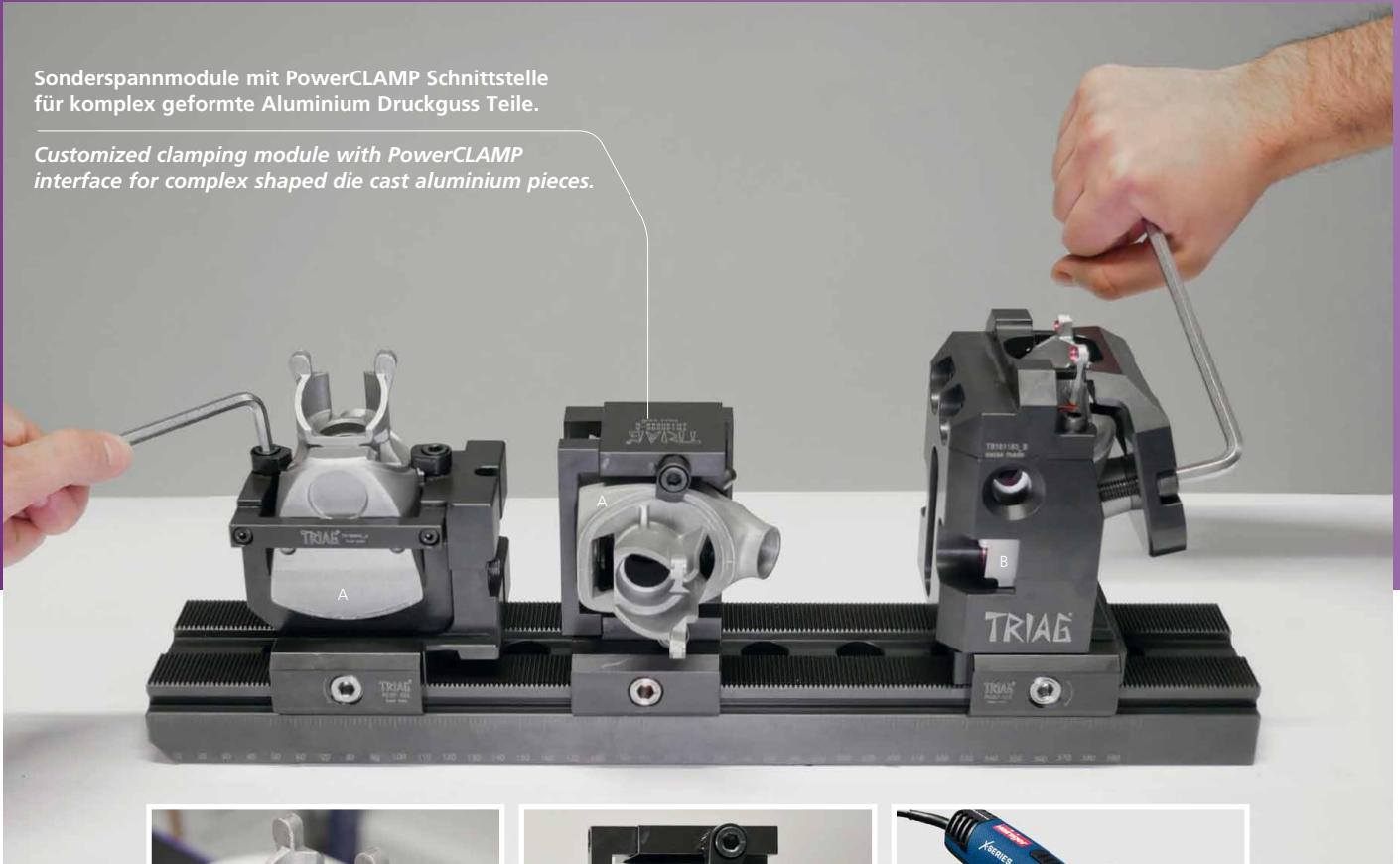
	B190-13	B190-22	B190-31
Spannbereich Clamping range	3-13mm	12-22mm	21-31mm
 Prägebacken Stamping jaws			
Spannbereich Clamping range	-	-	-
 Formbacke weich Dedicated jaws			<p>H1: Zum Erstellen Ihrer individuellen Formbacke: Schnittzeichnung zum Ermitteln der max. Bearbeitungsprofiltiefe</p> <p>H1: If a dedicated jaw is being machined: This sketch will be of help regarding the workpiece penetration depth</p> 
H	6	10	-
H1	2,2	6,2	-

Zeichnungen zu Paletten
Pallet drawings



Sonderspannmodule mit PowerCLAMP Schnittstelle für komplex geformte Aluminium Druckguss Teile.

Customized clamping module with PowerCLAMP interface for complex shaped die cast aluminium pieces.



**Sondermodul 1
Für Alu Druckguss Teil A**

Sonder Spannmodul mit zweifach PowerCLAMP Schnittstelle.
Ermöglicht optimale Zugänglichkeit zu den bearbeitenden Stellen.
Modul kann in zwei Positionen auf die Schiene gespannt werden.
4-Seitenbearbeitung mit nur einer einzigen Werkstückaufspannung!

**Custom module 1
For die cast aluminium piece A**

Customized clamping module with duplex powerCLAMP interface. Best accessibility to the machining areas. Modules can be fixed in two positions. 4-side machining with only one workpiece clamping setup.

Pos. 1

Pos. 2

1

2

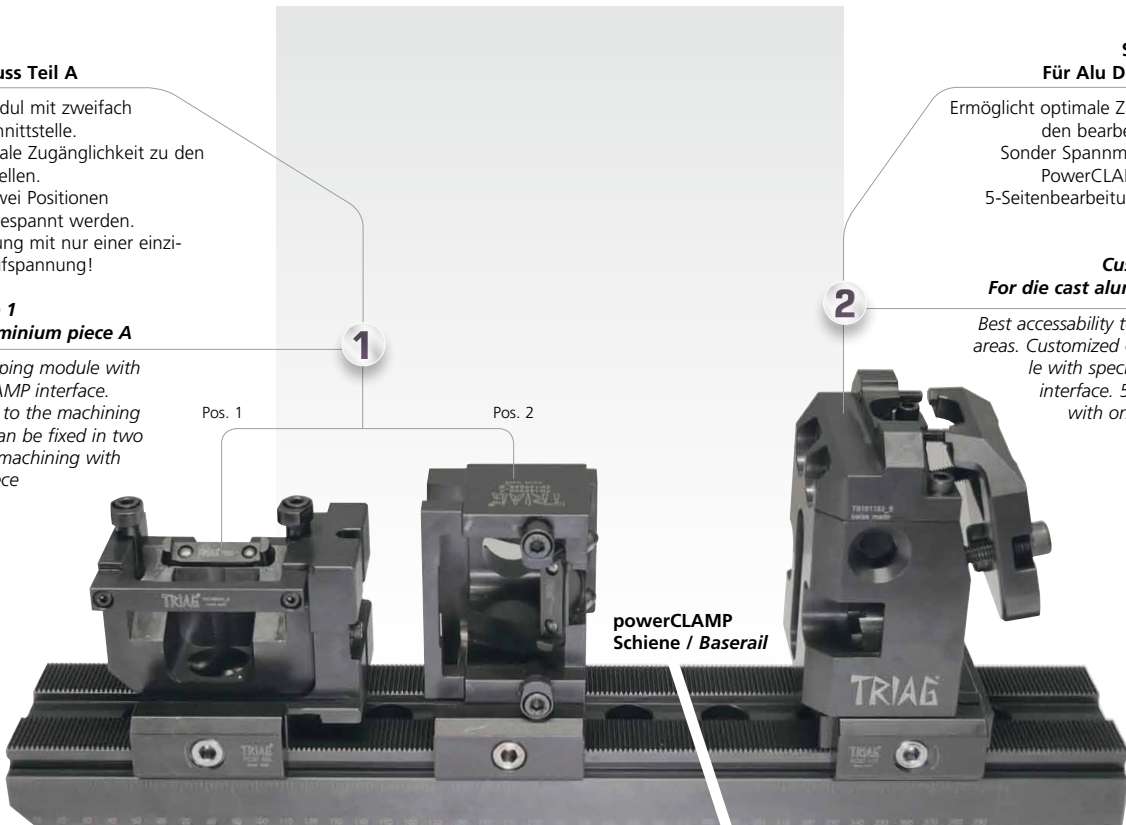
**Sondermodul 2
Für Alu Druckguss Teil B**

Ermöglicht optimale Zugänglichkeit zu den bearbeitenden Stellen.
Sonder Spannmodul mit Sonder PowerCLAMP Schnittstelle.
5-Seitenbearbeitung mit nur einer Aufspannung.

**Custom module 2
For die cast aluminium piece B**

Best accessibility to the machining areas. Customized clamping module with special powerCLAMP interface. 5-side machining with only one clamping setup.

powerCLAMP
Schiene / Baserail



Sondervorrichtungen? Fordern Sie uns heraus! *Custom fixtures? Challenge us!*

Mit einer der grössten und vielseitigsten Standard-Spannsysteme auf dem Markt, verfügen wir über eine optimale Basis um darauf aufbauend innovative Sonderlösungen für spezifische Kundenbedürfnisse zu entwickeln.

With one of the largest and most versatile standard clamping systems on the market, we have an optimal basis for developing innovative customized workholding solutions for specific customer needs.

FRAGEN SIE UNS AN!

SEND US YOUR INQUIRY!

Wir haben auch Spanntürme für H-PLUS! *We have also tombstones for H-PLUS!*



Leichte und maschinenschonende Mineralgusstürme, die als Alternative zu den schweren Guss-oder Stahl-Spanntürmen eingesetzt werden. Bei den schneller werdenden Horizontalbearbeitungszentren spielt die Gewichtsreduktion der Zuladung eine wichtige Rolle. Besuchen Sie unsere Webseite um mehr zu erfahren!

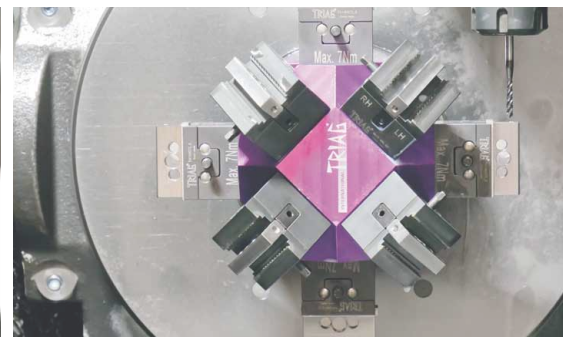
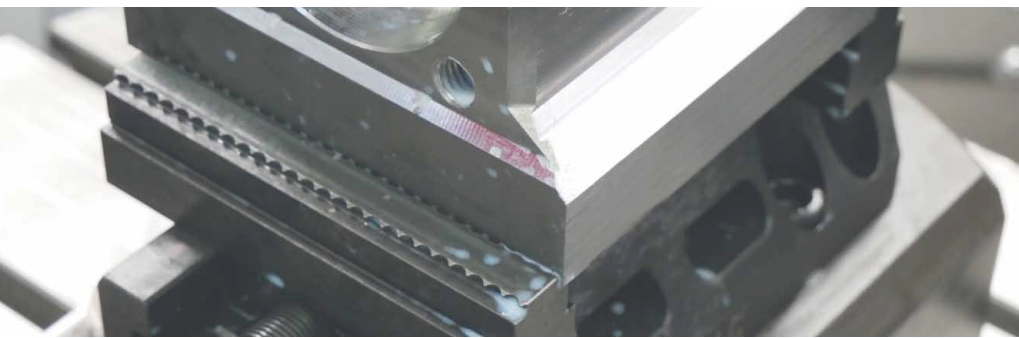
Light and therefore machine-preserving, mineral epoxy tombstones that can be used as an alternative to heavy cast iron or steel tombstones. Due to increasingly quick horizontal machining centres, weight reduction of the load is an important factor. Visit our website to learn more about it!



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*Workholding solutions for **MATSUURA***



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