

Kesel Clamping Systems

▶ **CLAMPING SYSTEMS**

▶ **Kesel ARNO**

▶ **Kesel CNC**

▶ **Kesel NCA**

▶ **Kesel Bull**

▶ **Kesel K5**

▶ **Kesel ZSP**

▶ **Special solutions**

Kesel

A strong company, a strong group



**Since 1889 –
Innovative Kesel Machine Tools.
Quality made in Germany**

For over 130 years Georg Kesel GmbH & Co. KG has been successful in the production of machine tools and high-performance vises. A motivated team with decades of experience in research and development await you in Kempten, the Bavarian headquarters of the Kesel Group. From here, and with the support of our global network of partners, we provide worldwide support to our customers.

Our aim at Kesel is to meet every requirement in the field of clamping technology, and to provide customer-orientated solutions in order to achieve effective results. Our experience as a world-leading machine tool manufacturer ensures we have an intimate understanding of the challenges facing our customers regarding workpiece holding, experience we utilize in the design of every one of our vises.

Our range of vises includes mechanical, pneumatic and hydraulic variants, all of which are equipped with a variety of functions and versatile accessories. Customized adaptations are possible at any time and are implemented with the utmost precision.

Whatever your requirements, we have the solution! Our promise: absolute precision, the highest quality, always and everywhere. We are really pleased to introduce you to our range of products in our new catalogue and look forward to the future cooperation with you.



Clamping Systems

> Machine vises



Steering Rack Production

> Steering rack milling machines



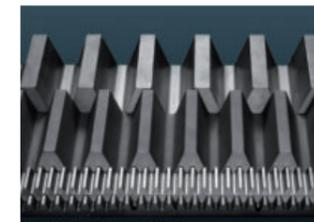
Steering Piston Production

> Steering piston milling machines



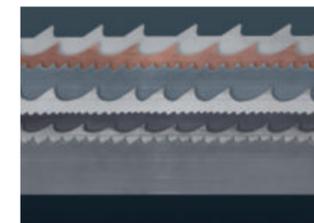
Drive Shaft Flange Production

> Drive shaft flange milling machines



Rack Production

> Rack milling machines
> Rack grinding machines



Bandsaw Blade Production

> Bandsaw blade milling machines
> Setting machines
> Straightening machines
> Coiling systems



Gear Processing

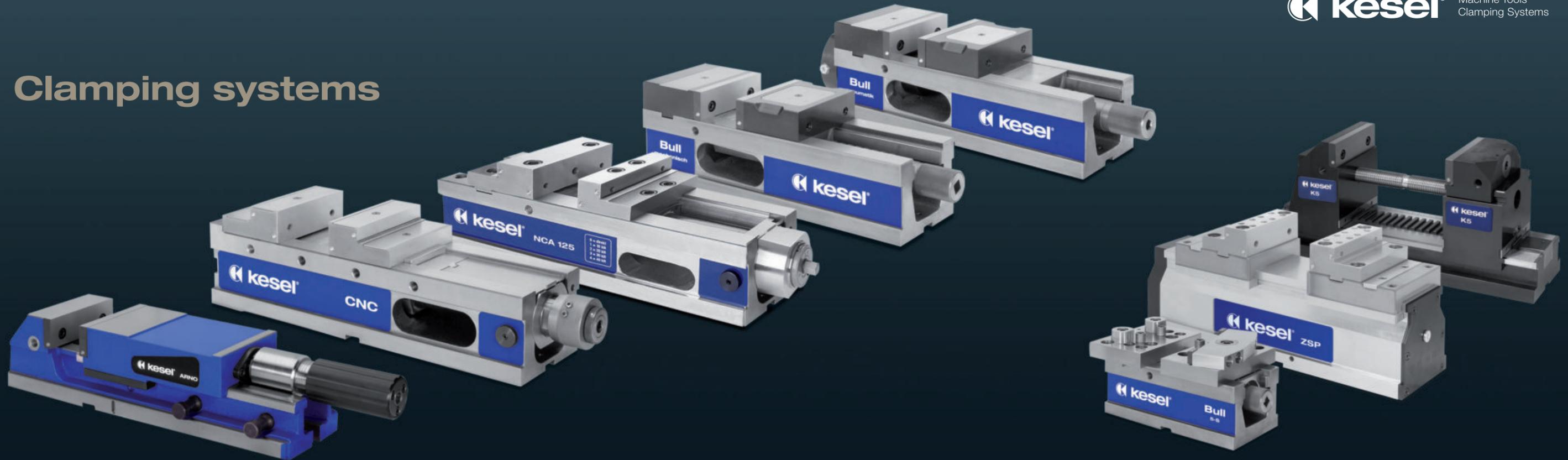
> Gear deburring machines



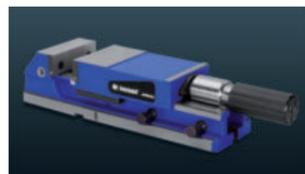
Arc Segment Production

> Arc segment milling machines

Clamping systems



Clamping Systems Overview



Kesel ARNO "The conventional" 10
Universal high pressure vise with narrow body design for conventional machines.



Kesel CNC "The precise" 16
CNC high pressure vise with a constant length for high precision workpieces on machining centers, for horizontal and vertical application.



Kesel NCA "The ALLMATIC - compatible" 24
High pressure vise with mechanical force intensification for high precision parts; for horizontal and vertical applications.



Kesel Bull mechanical "The compact" 30
Compact mechanical vise with draw-in system and patented clamping range adjustment.



Kesel Bull 5-S "5-sided machining" 32
Flexible, compact, mechanical vise for 5-sided machining and clamping of blanks.



Kesel K5 "Unique 5-sided machining" 36
With an optimal accessibility for the machine tool to the workpiece during 5-side-machining.



Kesel ZSP "Centric pneumatic automation" 42
Pneumatic centering clamp optimally suited for 5-sided machining. Simple loading by robot or manually can be realized without force.



Kesel Bull pneumatic "Pneumatic clamping" 44
Pneumatic high pressure vise with draw-in system and patented clamping width adjustment for serial parts. Effortless clamping.

Kesel machine vises

Basic information



Design:

- > Strong body of spheroidal graphite iron GJS-600
- > Guide rails hardened and precision ground
- > Longitudinal and lateral grooves 20 H7 for aligning on the machine tables
- > Quick release system for optional step ledges

Usage:

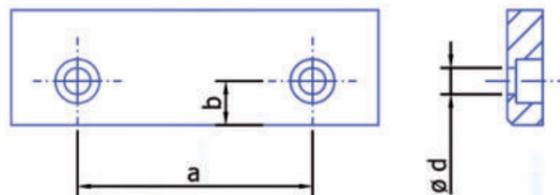
Usage on conventional machines as well as on machine centers and 5-axis-machines

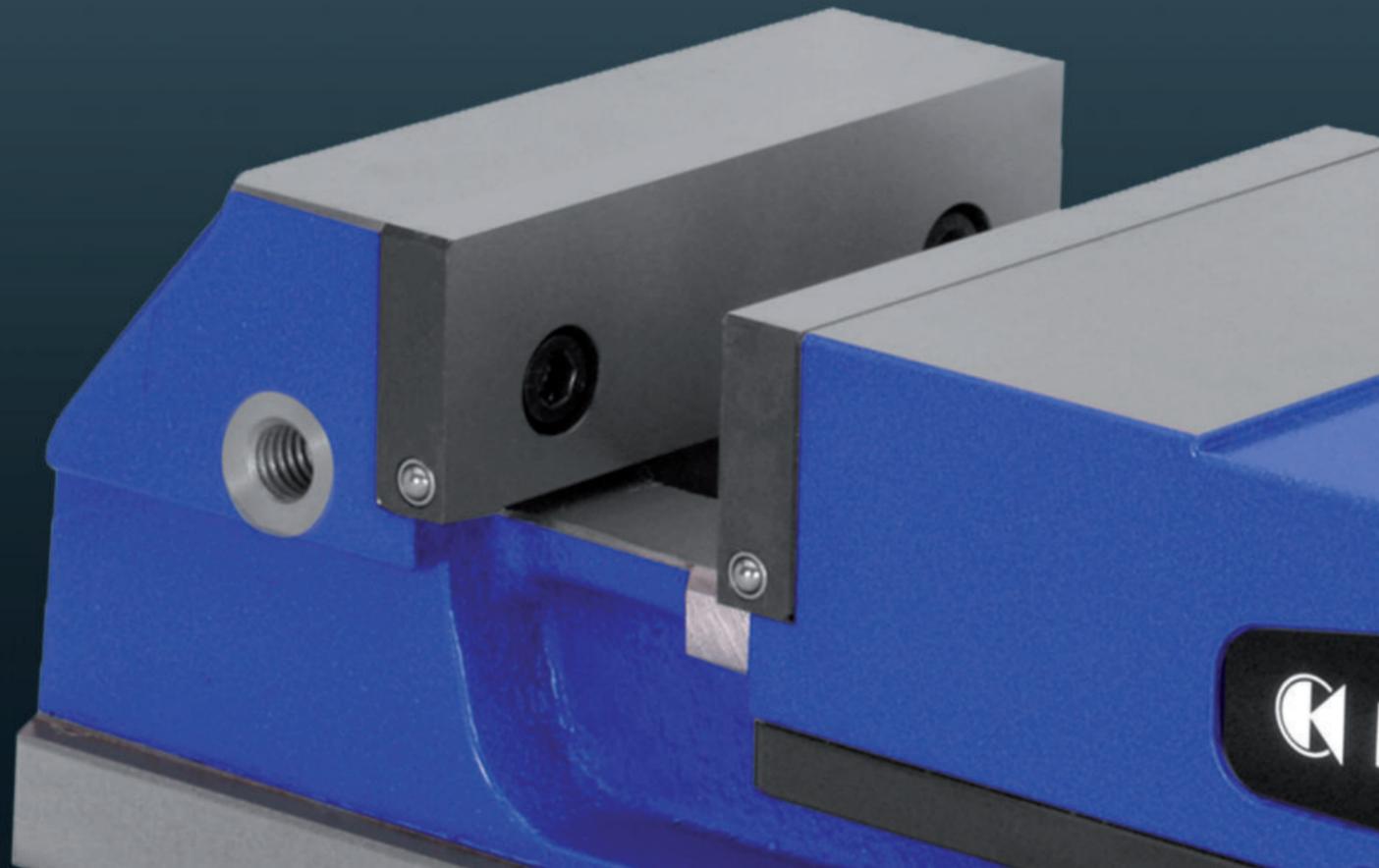
Screw dimensions for clamping jaws

Type, size	Article no.	Fixing Screw DIN912
Smooth clamping jaw 90 mm, hardened	01.25.065.1000	M6x12
Smooth clamping jaw 125 mm, hardened, for Arno	01.10.101.005.5	M8x16
Smooth clamping jaw 125 mm, hardened, for CNC, NCA, Bull	01.25.152.014.4	M8x12 (CNC M8x10)
Smooth clamping jaw 160 mm, hardened	01.10.201.004.4	M8x16 (CNC M8x14)
Smooth clamping jaw 90 mm, soft	01.25.065.1001	M6x16
Smooth clamping jaw 125 mm, soft	01.11.105.002.5	M8x12 (CNC M8x10)
Smooth clamping jaw 160 mm, soft	01.11.205.002.4	M8x16 (CNC M8x14)
Smooth clamping jaw 125 mm, raised, hardened	04.13.125.300.9	M8x16, M8x30
Clamping jaw 125 mm, with step 3x6	01.11.105.003.5	M8x12 (CNC M8x10)
Clamping jaw 125 mm, with step 5x10	01.11.105.008.5	M8x12 (CNC M8x10)
Clamping jaw 160 mm, with step 5x8	01.11.205.003.4	M8x16 (CNC M8x14)
Clamping jaw 90 mm, with linear grooves	01.25.065.1002	M6x12
Clamping jaw 125 mm, with linear grooves	01.11.105.001.5	M8x12 (CNC M8x10)
Clamping jaw 160 mm, with linear grooves	01.11.205.001.5	M8x16 (CNC M8x14)
Clamping jaw 90 mm, with corrugation	01.25.065.1003	M6x16
Clamping jaw 125 mm, with corrugation	01.26.160.035.3	M8x12 (CNC M8x10)
Clamping jaw 160 mm, with corrugation	01.26.260.030.3	M8x16 (CNC M8x14)
Grip - clamping jaw, step 3x3, hardened	01.25.150.0002	M8x12 (CNC M8x10)
Prism jaw 125 mm, horizontal prism	01.11.105.005.4	M8x14 (CNC M8x12)

Dimensional drawing of the fastening holes of all facing jaws

Size	a	b	ø d
90	48	8,75	6,6
125	80	15	9,0
160	100	20	9,0
200	125	25	13,0





Screw dimensions for clamping jaws

Type, size	Article no.	Fixing Screw DIN912
Prism jaw 90 mm, horizontal/vertical prism	01.25.065.1004	M6x16
Prism jaw 125 mm, horizontal/vertical prism	01.11.105.004.4	M8x12 (CNC M8x10)
Prism jaw 160 mm, horizontal/vertical prism	01.11.205.004.3	M8x14 (CNC M8x12)
Pendulum jaw 125 mm, smooth	04.13.125.150.9	M8x16 (CNC M8x14)
Pendulum jaw 160 mm, smooth	04.13.160.150.9	M8x16 (CNC M8x14)
Pull-down jaw 90 mm, smooth	04.25.065.1000	M6x16
Pull-down jaw 125 mm, smooth	04.13.125.200.9	M8x16
Pull-down jaw 160 mm, smooth	04.13.160.200.9	M8x16
Pull-down jaw 90 mm, for raw parts	04.25.065.1001	M6x12
Pull-down jaw 125 mm, for raw parts	04.13.125.250.9	M8x16 (CNC M8x14)
Pull-down jaw 160 mm, for raw parts	04.13.160.250.9	M8x16 (CNC M8x14)
KESEL - 5 - axis vise K5		
Clamping jaw, raised, with step 3x3mm	02.25.157.0001	M8x20
Grip - clamping jaw, raised, with step 3x3mm	02.25.157.0002	M8x20

Repairs and services

- > Cost-effective rates for standard spindle repairs
- > Non-binding quotations
- > Fast and reliable
- > Cleaning and functional testing of the spindle or vise
- > Renewed 1 year warranty

Delivery address for spindle repairs:
Georg Kesel GmbH & Co. KG, Maybachstraße 6, D-87437 Kempten

Special solutions

We solve your clamping tasks!

... with creativity, flexibility and speed! At a fair price, we use state-of-the-art CAD software to design the clamping solution tailored to your needs.

Further examples can be found starting on page 50.

ARNO

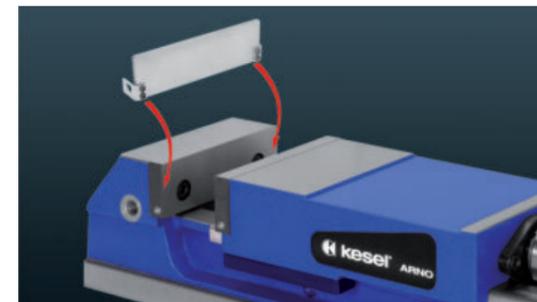
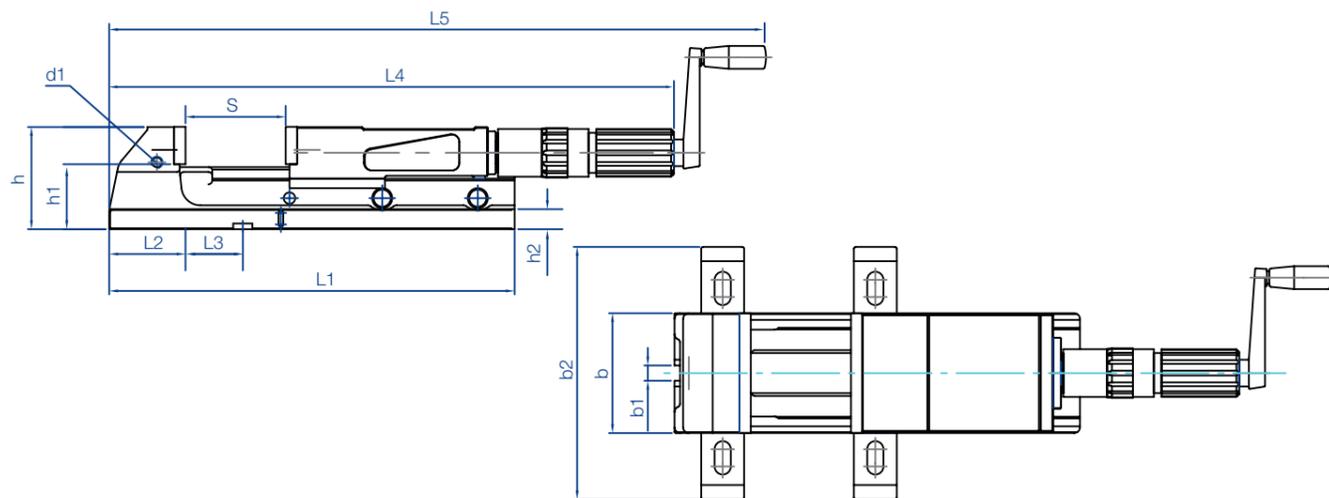
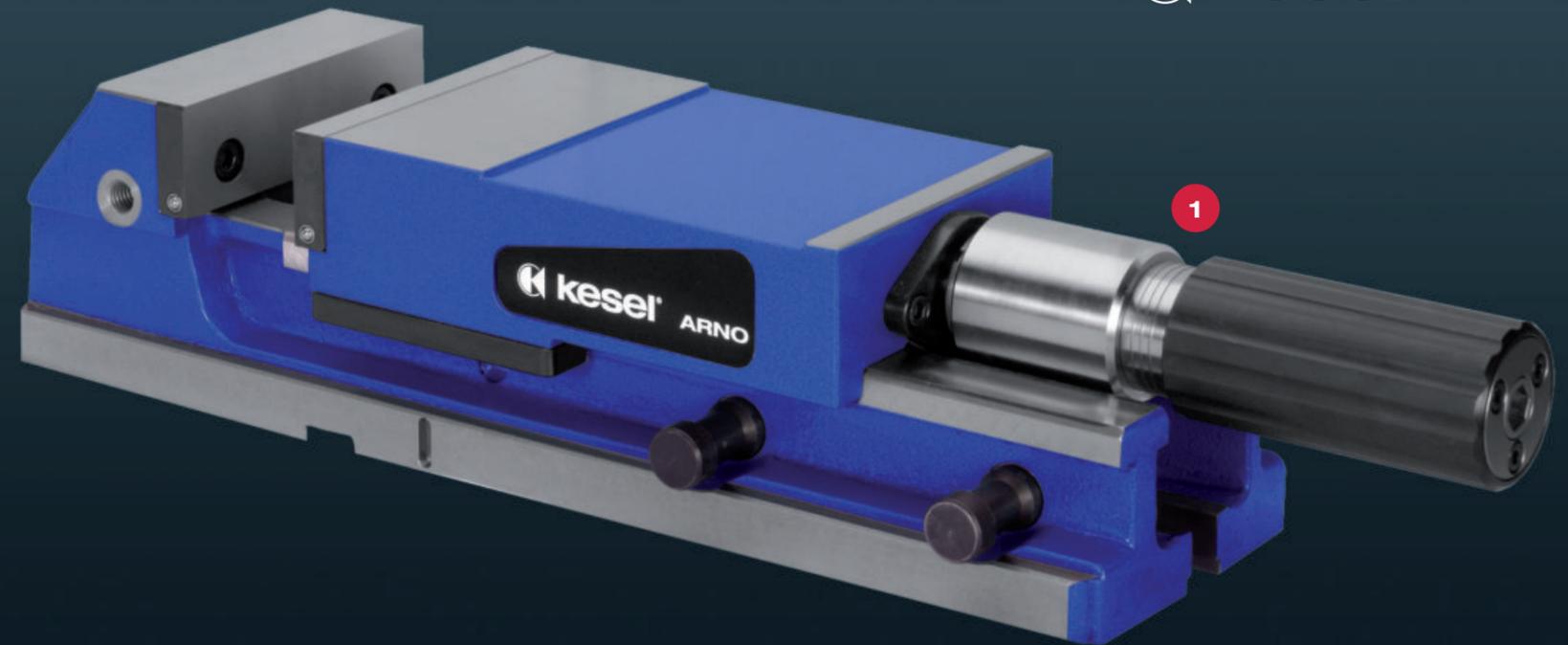
High pressure machine vise

Can be operated with manual crank. Universal high pressure vise with narrow design for conventional machines. A system that has been tried and tested for decades.

- > Strong body of spheroidal graphite iron GJS-600
- > Functional surfaces hardened and ground
- > Optimum accuracy on the workpiece due to ground "camber" on the fixed jaw
- > Choice between hydraulic and mechanical power booster
- > Integrated step bar quick-change system

Scope of delivery:

4 clamping claws, 1 manual crank



Step ledge quick release system

- > Step ledges are simply "clicked" in by hand, with no need for tools
- > No penetration of chips beneath the step ledge
- > Secure and stable hold, also with the use of compressed air
- > Available in a range of heights (accessories)



1 ARNO mechanical-hydraulic

- Hydraulic force intensifier
- > Smooth motion
- > Clamping force indication via optical grooved marking
- > Adjustable slip clutch

2 ARNO mechanical-mechanical

- Mechanical force intensifier
- > Precise force setting through limit stop
- > Pre-clamping option
- > Adjustable slip clutch

Size b	Order number		Clamping force (kN)	Clamping range „S“ adjustable via locking pins			Weight
	mechanical hydraulic	mechanical mechanical		Step 1	Step 2	expanded clamping range*	
125	04.10.125.000.9	04.11.125.000.9	40	0 - 105	100 - 205	(255)	25,0
160	04.10.160.000.9	04.11.160.000.9	50	0 - 155	150 - 305	(365)	50,0

Size b	L1	L2	L3	L4		L5		b1	b2	h	h1	h2	d1
				min.	max.	min.	max.						
125	425	80	60	489	694	613	818	16	265	107	65	21	M12
160	570	90	95	575	880	712	1007	16	300	130	80	25	M16

*Clamping range expansion by fitting a bolt in the transverse groove of the spindle nut.

ARNO accessories



Turntable 360° graduation for exact and quick vise alignment. With longitudinal grooves for positioning and screwing on.

Size	Order no.	Dimensions	Weight
125	04.13.125.000.9	270x264x28 mm	11 kg
160	04.13.160.000.9	325x325x32 mm	19 kg

High pressure spindle

mechanical / mechanical					
Size	Order no.	max. clamping force in kN	ø d2	Length	Weight
125	04.15.152.000.2	40	Tr 30x6 ²⁹⁹	360 mm	3,4 kg
160	04.15.252.000.2	50	Tr 30x6 ²⁹⁹	425 mm	3,8 kg
200	04.15.352.000.2	80	Tr 36x6 ²⁹⁹	550 mm	6,5 kg

mechanical / hydraulic					
Size	Order no.	max. clamping force in kN	ø d2	Length	Weight
125	04.15.102.000.2	40	Tr 30x6 ²⁹⁹	360 mm	3,4 kg
160	04.15.202.000.2	50	Tr 30x6 ²⁹⁹	425 mm	3,8 kg
200	04.15.302.000.2	80	Tr 36x6 ²⁹⁹	550 mm	6,5 kg

Manual crank standard version with snap ring to prevent it falling out due to machine vibrations

Size	Order no.	Length 1	Length 2	Width
125	03.15.103.000.4	125	155	120
160-200	03.15.203.002.4	160	190	127

Manual crank in shortened design for use in place of the standard manual crank, if the throughput height to the machine table is too small

Size	Order no.	Length	Width
125-160	03.15.103.001.4	110	90

ARNO accessories



Smooth clamping jaw hardened, ground, standard equipment

Smooth clamping jaw soft (1.2842), milled, for the fabrication of moulding jaw

Clamping jaw with linear grooves for firmly gripping the workpieces

Size	Order no. Smooth clamping jaw hardened	Height	Thick-ness
125	01.10.101.005.5	39,2	12
160	01.10.201.004.4	49,2	16
200	01.10.301.005.4	62,2	20

Smooth clamping jaw soft			
Size	Order no.	Height	Thick-ness
125	01.11.105.002.5	39,2	12
160	01.11.205.002.4	49,2	16
200	01.11.305.002.4	62,2	20

Clamping jaw with linear grooves			
Size	Order no.	Height	Thick-ness
125	01.11.105.001.5	39,2	12
160	01.11.205.001.5	49,2	16

Smooth clamping jaw with step, hardened and ground, for saving clamping supports

Size	Order no.	Step	Thick-ness	Height
125	01.11.105.003.5	3 x 6	12	39,2
125	01.11.105.008.5	5 x 10	12	39,2
160	01.11.205.003.4	5 x 8	16	49,2
200	01.11.305.003.4	6 x 12	20	62,2

Clamping jaw with corrugation hardened and ground

Size	Order no.	Height	Thick-ness	Gripper Order no.	Thread
125	01.26.160.035.3	40	12	01.26.160.048.4	M10
160	01.26.260.030.3	50	16	01.26.260.080	M12

Grip clamping jaw, hardened, with step

Size	Order no.	Height	Thickness	Step
125	01.25.150.0002	40	12	3x3
160	01.25.260.0004	50	16	3x5

Prism jaw with horizontal prism 120° hardened and ground

Size	Order no.	Height	Thick-ness	Clamping diameter	
				with 1 jaw	with 2 jaw
125	01.11.105.005.4	39,2	20	ø 9-50	ø 14-50

ARNO accessories



Prism jaw with horizontal and vertical prism 90° hardened and ground

Size	Order no.	Height	Thick-ness	Clamping diameter	
				1 jaw	2 jaw
125	01.11.105.004.4	39,2	28	ø 15-42	ø 24-42
160	01.11.205.004.3	49,2	32	ø 18-50	ø 28-50



Pendulum jaw with smooth slide, hardened and ground, for clamping conical workpieces

Size	Order no.	Height	Thickness
125	04.13.125.150.9	39,2	43
160	04.13.160.150.9	49,2	52



Pull-down jaw smooth, the workpiece is hold securely, with a deep drawing effect

Size	Order no.	Height	Thickness
125	04.13.125.200.9	39,2	25
160	04.13.160.200.9	49,2	28



Pull-down jaw for raw parts with inset spring plate for clamping raw parts. The spring plate establish a secure hold and deep drawing effect

Size	Order no.	Height	Thickness
125	04.13.125.250.9	40	21
160	04.13.160.250.9	50	24

ARNO accessories



Smooth clamping jaw raised, hardened and ground, for clamping tall workpieces

Size	Order no.	Height	Thickness
125	04.13.125.300.9	76	22



Universal top jaw with angle adjustment possibility hardened and ground

Size	Order no.	Height	Thickness
125	04.13.125.400.9	42	10
160	04.13.160.400.9	52	10



Workpiece stop adjustable

Size	Order no.	Thread
125	03.11.008.001.4	M 12
160/200	03.11.208.001.4	M 16



Step ledges

Size	Order no.	Height	Thickness
125	03.25.160.022.9	13	3
125	03.25.160.023.9	22	3
125	03.25.160.024.9	35	3
125	03.26.160.002.9	39	3
125	04.25.150.060	35	3
125	04.25.150.061	15	3
160	03.25.260.022.9	14	3
160	03.25.260.023.9	30	3
160	03.25.260.024.9	44	3
160	03.26.260.0001	49	3

CNC

High pressure machine vise

CNC high pressure vise with constant length for high precision workpieces on machining centres, for horizontal and vertical use.

- > Strong body of spheroidal graphite iron GJS-600
- > Guide rails hardened and precision ground
- > Longitudinal and lateral grooves 20 H7 for aligning on the machine tables well as 2 locating holes \varnothing 25 H7 for mounting on zero point clamping systems
- > Precise, fine clamping force pre-selection
- > Connection thread on both sides for side stop
- > Step jaws for wide clamping ranges
- > Quick release system for optional step ledges
- > Mechanical-hydraulic spindle fully encapsulated, low-wear and maintenance-free
- > Threaded holes for screwing on facing jaws (accessories)
- > Spindle with bayonet mounting for quick removal
- > Possibility of direct clamping with operating key provided
- > Stable exchangeable cover plates



Scope of delivery:

4 clamping claws, 1 manual crank, 1 operating key

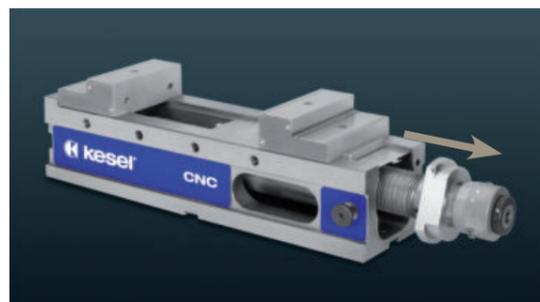
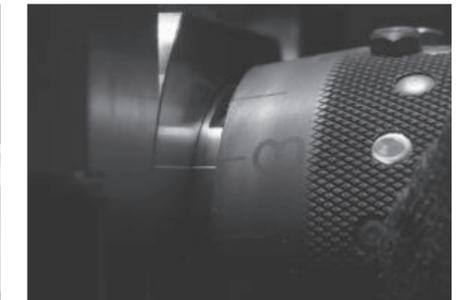
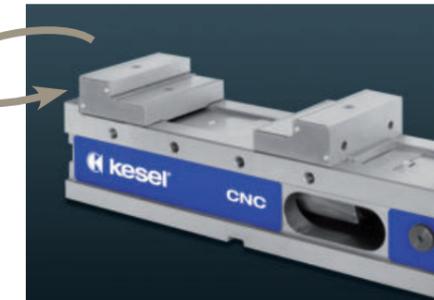
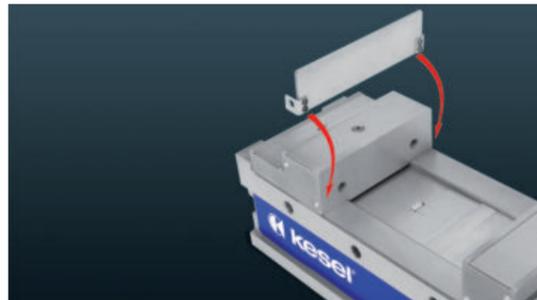
Variants:

Horizontal range of application

- > The vise is clamped on the base plate

All-round range of application

- > The vise can be fitted on the front of the base plate for vertical attachments, or on its sides



Quick removal of the spindle unit possible:

- > Allowing vise body to be easily fitted to machine table
- > Optimum cleaning possibilities

Step ledge quick release system

- > Step ledges are simply "clicked" in by hand, with no need for tools
- > No penetration of chips beneath the step ledge
- > Secure and stable hold, also with the use of compressed air
- > Available in a range of heights (accessories)

Jaw quick release system

- > Quick rotation or change of the serial top jaws (it is only necessary to turn and open 2 fastening screws)
- > Quick replacement of custom jaws produced in-house

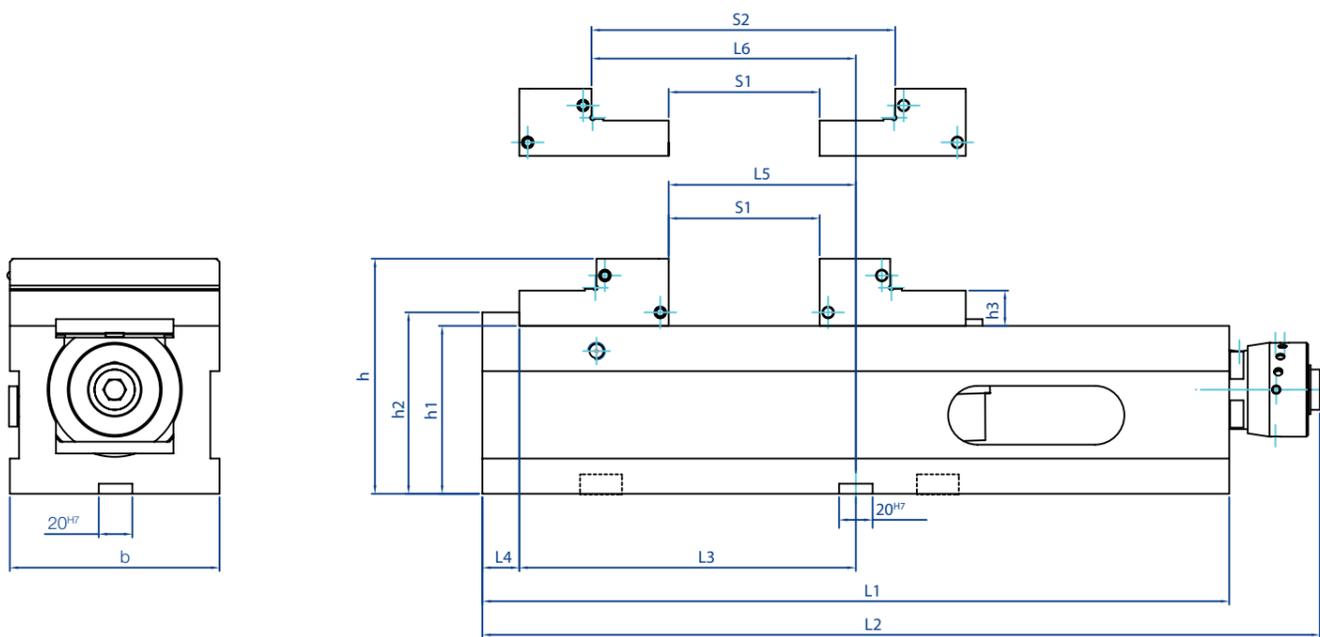
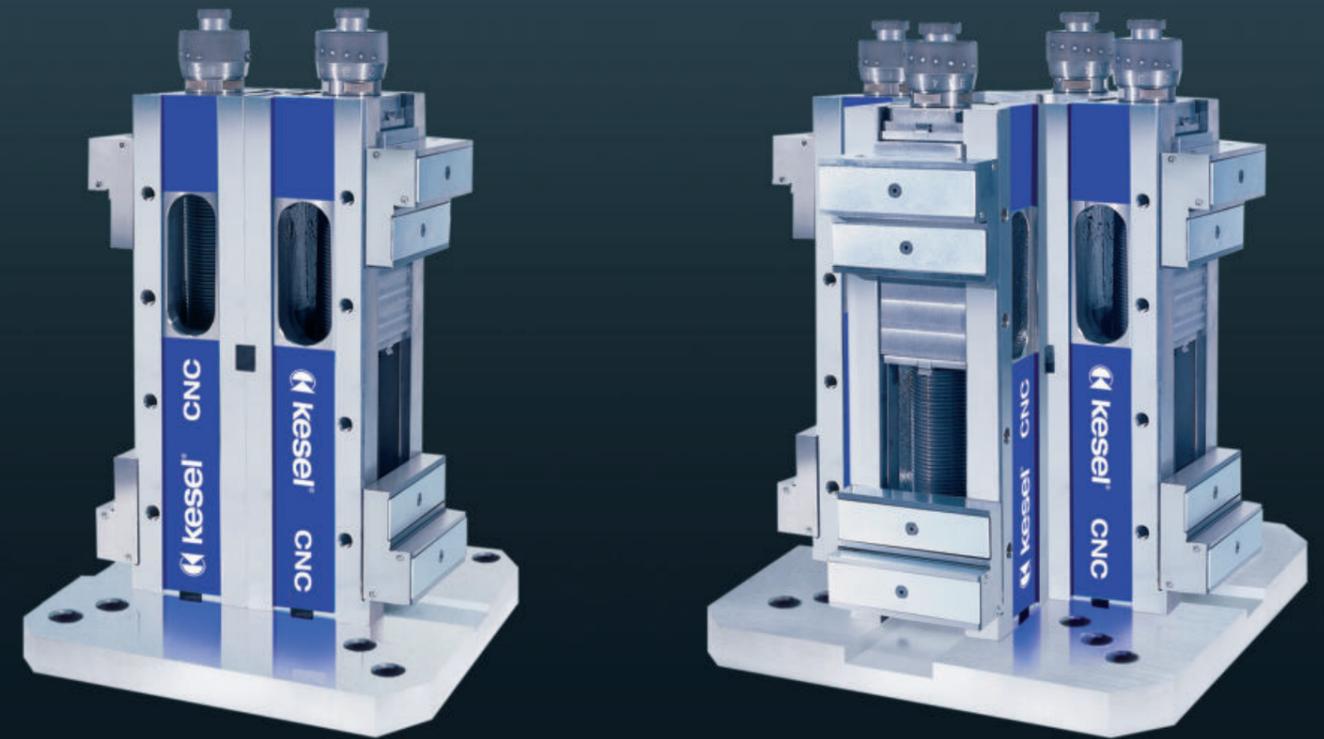
Integrated force amplifier

for quick and easy clamping with clamping force adjustment.



CNC pendulum jaw (accessories)

- > With corrugation and spring plate
- > 360° pivoting
- > For non-parallel workpieces



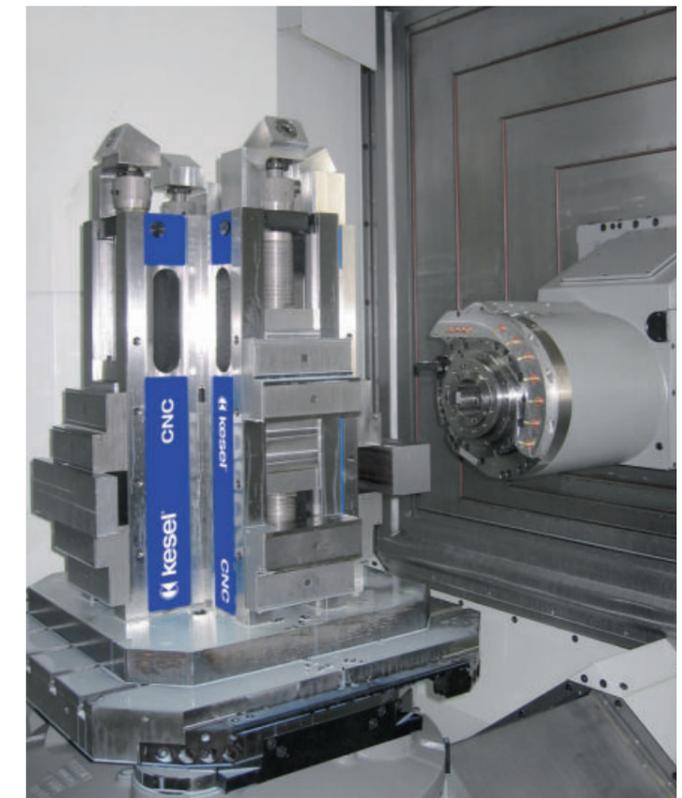
Size b	Order number		Body width b	Clamping range		Clamping force in kN	Weight in kg
	for horizontal use	can be clamped on 3 planes		Stufe 1	Stufe 2		
125	04.25.160.050.9	04.25.160.001.9	126	0 - 210	91 - 301	40	34
160	04.25.260.050.9	04.25.260.001.9	162	0 - 289	113 - 402	60	60

h	h1 ±0,01	h2	h3	L1	L2	L3	L4	L5	L6	L7	L8
140	100	108	22	445	499	200,5	22	111,5	157,5	150	50
165	115	123	30	580	655	288,5	25	176,5	233,5	-	-

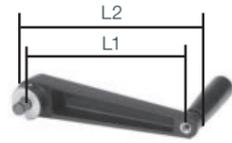
Attachments

We offer you the optimum attachment for your special requirements

- > The vertical arrangement of individual vises enables optimum accessibility of the machine spindle
- > In comparison to the single-part monoblock construction, star set-ups can be flexibly aligned with the respective needs and then dismantled into the individual vises again as necessary
- > Flexible base plates fit with your machine



CNC accessories



Manual crank standard version with snap ring to prevent it falling out due to machine vibrations

Size	Order no.	L1	L2	Width	Allen
160-200	03.15.203.002.4	160	190	127	12 mm



Manual crank in shortened version for use in place of the standard manual crank, if the throughput height to the machine table is too small

Size	Order no.	Length	Width	Allen
125-160	03.15.103.001.4	110	90	12 mm
200	03.15.303.001.4	130	125	12 mm

Crank extension

without foto

Size	Order no.	Length	Allen
125	03.15.203.001.9	90 mm	12 mm

Smooth clamping jaw hardened, ground, standard equipment
Smooth clamping jaw soft (1.2842), milled, for the fabrication of moulding jaw

Clamping jaw with linear grooves for firmly gripping the workpieces

Size	Order no.	Smooth clamping jaw hardened	Height	Thick-ness
125	01.25.152.014.4		39,2	12
160	01.10.201.004.4		49,2	16
Smooth clamping jaw soft				
125	01.11.105.002.5		39,2	12
160	01.11.205.002.4		49,2	16
Clamping jaw with linear grooves				
125	01.11.105.001.5		39,2	12
160	01.11.205.001.5		49,2	16

Smooth clamping jaw with step, hardened and ground, for saving clamping supports

Size	Order no.	Step	Thick-ness	Height
125	01.11.105.003.5	3 x 6	12	39,2
125	01.11.105.008.5	5 x 10	12	39,2
160	01.11.205.003.4	5 x 8	16	49,2

Clamping jaw with corrugation hardened and ground

Size	Order no.	Height	Thick-ness	Gripper Order no.	Thread
125	01.26.160.035.3	40	12	01.26.160.048.4	M10
160	01.26.260.030.3	50	16	01.26.260.080	M12

CNC accessories



Grip clamping jaw, hardened, with step

Size	Order no.	Height	Thickness	Step
125	01.25.150.0002	40	12	3x3
160	01.25.260.0004	50	16	3x5



Prism jaw with horizontal prism 120°
hardened and ground

Size	Order no.	Height	Thick-ness	Clamping diameter	
				with 1 jaw	with 2 jaw
125	01.11.105.005.4	39,2	20	ø 9-50	ø 14-50



Prism jaw with horizontal and vertical prism 90°
hardened and ground

Size	Order no.	Height	Thick-ness	Clamping diameter	
				with 1 jaw	with 2 jaw
125	01.11.105.004.4	39,2	28	ø 15-42	ø 24-42
160	01.11.205.004.3	49,2	32	ø 18-50	ø 28-50

Pendulum jaw with smooth slide, hardened and ground, for clamping conical workpieces

Size	Order no.	Height	Thickness
125	04.13.125.150.9	39,2	43
160	04.13.160.150.9	49,2	52

Pull-down jaw smooth, the workpiece is hold securely, with a deep drawing effect

Size	Order no.	Height	Thickness
125	04.13.125.200.9	39,2	25
160	04.13.160.200.9	49,2	28

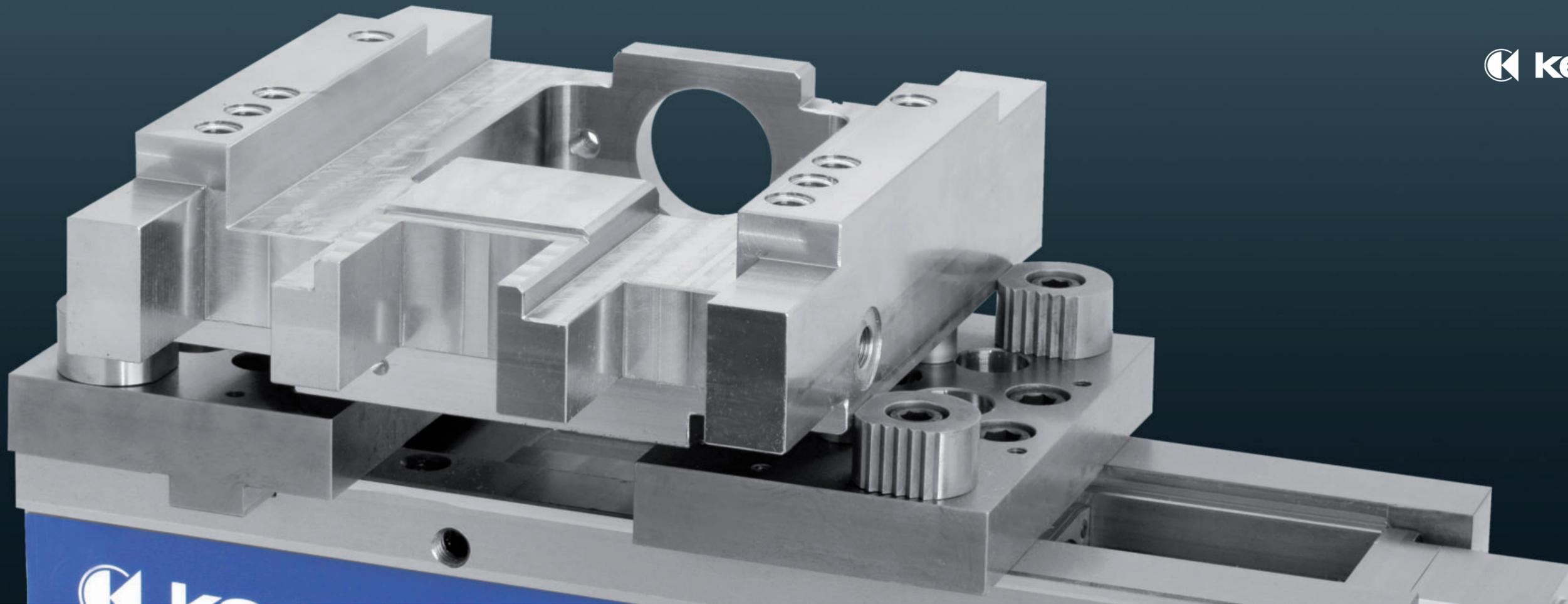
Pull-down jaw for raw parts with inset spring plate for clamping raw parts. The spring plate establish a secure hold and deep drawing effect

Size	Order no.	Height	Thickness
125	04.13.125.250.9	40	21
160	04.13.160.250.9	50	24

Multi-jaw flexible in use for grip application, as well as pendulum jaw and support elements

Size	Order no.		Length	Width	Height
	Fix	Mobile			
125	04.25.160.1000	04.25.160.1001	170	105	25
160	04.25.260.1000	04.25.260.1001	200	115	25





CNC accessories



Pendulum jaw fits to multi-jaw mobile for clamping non-parallel workpieces, cast parts and shaped workpieces
Scope of delivery: with 2 x hard metal grip insert

Size	Order no.	Length	Width	Height
125	04.25.150.052	156	65	20
160	04.25.265.1002	196	76	23



Universal top jaw with angle adjustment possibility hardened and ground

Size	Order no.	Height	Thickness
125	04.13.125.400.9	42	10
160	04.13.160.400.9	52	10



Workpiece stop adjustable

Size	Order no.	Thread
125	03.11.008.001.4	M 12



Step ledges

Size	Order no.	Height	Thickness
125	03.25.160.022.9	13	3
125	03.25.160.023.9	22	3
125	03.25.160.024.9	35	3
125	03.26.160.002.9	39	3
125	04.25.150.060	35	3
125	04.25.150.061	15	3
160	03.25.260.022.9	14	3
160	03.25.260.023.9	30	3
160	03.25.260.024.9	44	3
160	03.26.260.0001	49	3



Pendulum jaw CNC with corrugation and spring plate, 360° pivoting

Size	Order no.	Height	Thickness
125	03.26.160.005.3	40	80
160	03.26.260.005.3	50	104

NCA

High pressure vise

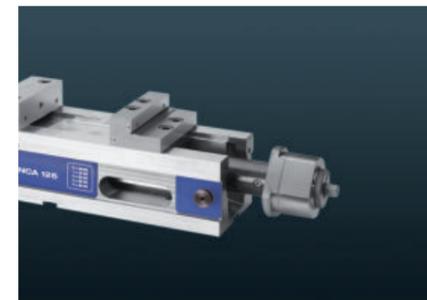
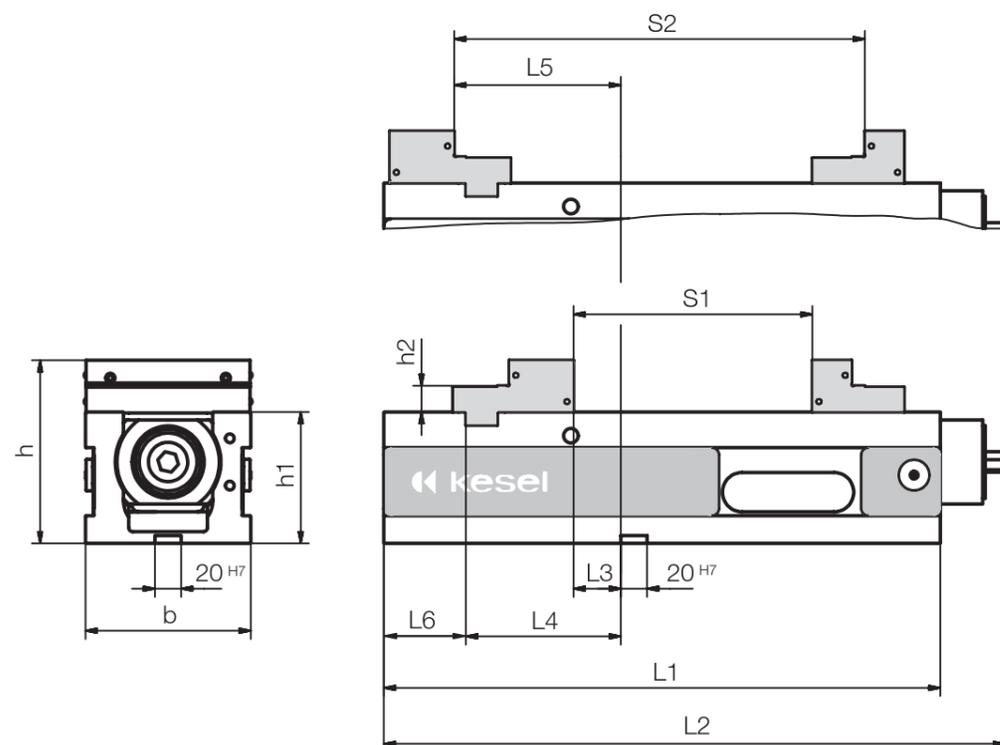
ALLMATIC compatible and with mechanical force intensifier

ALLMATIC compatible jaw interface

- > Clamping range adjustment only through cranks (no jaw offsetting necessary)
- > Jaw arrangement guarantees the maximum in precision
- > Spindle unit quick release system
- > Kesel step-click ledge system
- > Maintenance-free, encapsulated spindle with mechanical force intensifier
- > Precise clamping force pre-selection
- > Strong body of spheroidal graphite iron GJS-600
- > Guide rails hardened and ground

Scope of delivery:

- 4 clamping claws
- 1 manual crank



Quick removal of the spindle unit possible:

- > Allowing vise body to be easily fitted to machine table
- > Optimum cleaning possibilities



Step ledge quick release system

- > Step ledges are simply "clicked" in by hand, with no need for tools
- > No penetration of chips beneath the step ledge



Angle drive

- > Operation via table with pre-screwed angle drive (accessory)
- > Optimum accessibility for force adjustment

Jaw width	Order number		Clamping force in kN	Width B in mm	Height h in mm	Height h1 in mm	Height h2 in mm	Weight in kg
	horizontal use	can be clamped on 3 planes						
NCA 90	04.25.065.0000	on demand	28	90	114	80	16	15
NCA 125	04.25.165.0000	04.25.165.0002	40	126	139,5	100	20	35
NCA 160	04.25.265.0000	04.25.265.0002	60	164	164,8	115	25	60

L1	L2	L3	L4	L5	L6	S1	S2
305	340	15	73	75	39	0-126	91-217
424	483	36	118	127	62,5	0-182	131-313
560	616	70	164	178	70	17-263	187-433

NCA accessories



Smooth clamping jaw hardened, ground, standard equipment
Smooth clamping jaw soft (1.2842), milled, for the fabrication of moulding jaw

Clamping jaw with linear grooves for firmly gripping the workpieces

Size	Order no. Smooth clamping jaw hardened	Height	Thick- ness
90	01.25.065.1000	34	10
125	01.25.152.014.4	39,2	12
160	01.10.201.004.4	49,2	16
Smooth clamping jaw soft			
90	01.25.065.1001	34	12
125	01.11.105.002.5	39,2	12
160	01.11.205.002.4	49,2	16
Clamping jaw with linear grooves			
90	01.25.065.1002	34	10
125	01.11.105.001.5	39,2	12
160	01.11.205.001.5	49,2	16

Smooth clamping jaw with step, hardened and ground, for saving clamping supports

Size	Order no.	Step	Thick- ness	Height
125	01.11.105.003.5	3 x 6	12	39,2
125	01.11.105.008.5	5 x 10	12	39,2
160	01.11.205.003.4	5 x 8	16	49,2

Clamping jaw with corrugation hardened and ground

Size	Order no.	Height	Thick- ness	Gripper Order no.	Thread
90	01.25.065.1003	34	12	01.26.160.048.4	M10
125	01.26.160.035.3	40	12	01.26.160.048.4	M10
160	01.26.260.030.3	50	16	01.26.260.080	M12

Grip clamping jaw, hardened, with step

Size	Order no.	Height	Thickness	Step
125	01.25.150.0002	40	12	3x3
160	01.25.260.0004	50	16	3x5

NCA accessories



Prism jaw with horizontal and vertical prism 90° hardened and ground

Size	Order no.	Height	Thick- ness	Clamping diameter	
				with 1 jaw	with 2 jaw
90	01.25.065.1004	36	17	ø 12-14	ø 18-42
125	01.11.105.004.4	39,2	28	ø 15-42	ø 24-42
160	01.11.205.004.3	49,2	32	ø 18-50	ø 28-50

Pull-down jaw smooth, the workpiece is hold securely, with a deep drawing effect

Size	Order no.	Height	Thickness
90	04.25.065.1000	34	24
125	04.13.125.200.9	39,2	25
160	04.13.160.200.9	49,2	28

Pull-down jaw for raw parts with inset spring plate for clamping raw parts. The spring plate establish a secure hold and deep drawing effect

Size	Order no.	Height	Thickness
90	04.25.065.1001	34	18
125	04.13.125.250.9	40	21
160	04.13.160.250.9	50	24

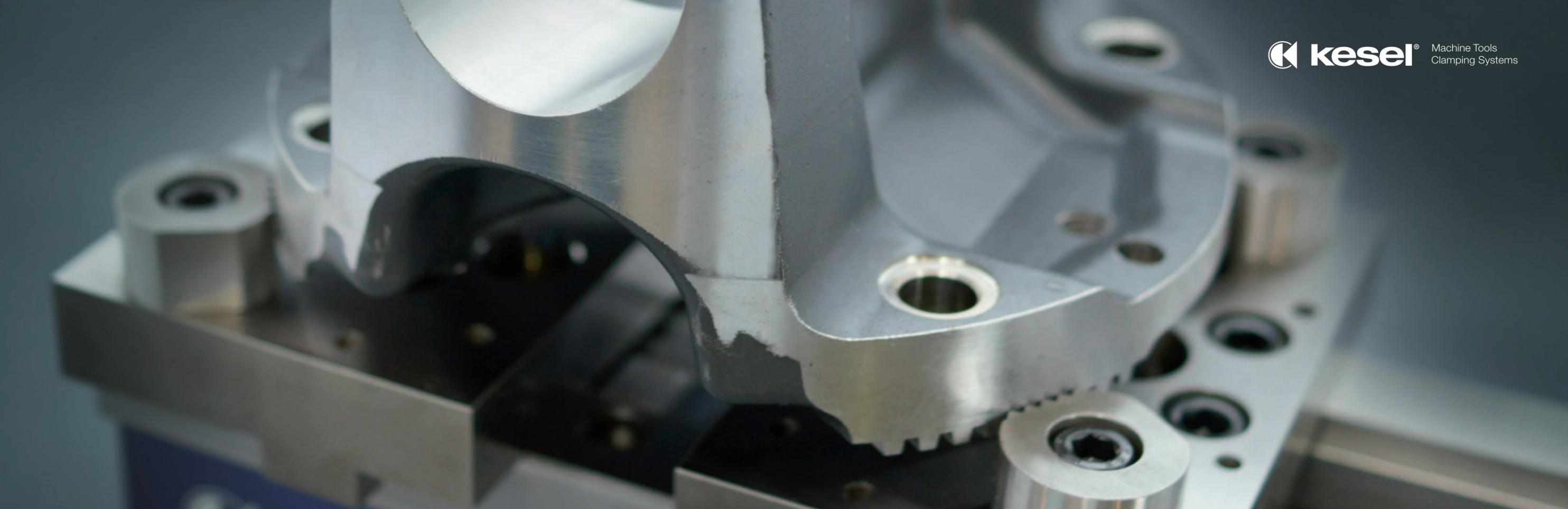
Multi-jaw flexible in use for grip application, as well as pendulum jaw and support elements

Size	Fixed Order no.	clamping range	Length	Width	Height
90	04.25.065.1002	7 - 220	145	90	25
125	04.25.165.1000	14 - 335	170	105	25
160	04.25.265.1000	29 - 463	200	115	25

Size	Mobile Order no.	clamping range	Length	Width	Height
90	04.25.065.1003	7 - 220	145	90	25
125	04.25.165.1001	14 - 335	170	105	25
160	04.25.265.1001	29 - 463	200	115	25

Pendulum jaw fits to multi-jaw mobile for clamping non-parallel workpieces, cast parts and shaped workpieces
Scope of delivery: with 2 x hard metal grip insert

Size	Order no.	clamping range	Length	Width	Height
90	04.25.065.1004	6 - 205	141	50	20
125	04.25.150.052	18 - 275	156	65	20
160	04.25.265.1002	22 - 418	196	76	23



NCA accessories



Angle drive for high pressure machine vises Kesel NCA

Size	Order no.	Length	Allen
90	02.25.065.0002	12	12
125	02.25.165.0002	33	14
160	32.25.265.0006	49	14



Manual crank standard version

Size	Order no.	Length	Allen
90	03.25.065.0001	160	12
125 /160	03.25.165.0001	160	14



Workpiece stop adjustable

Size	Order no.	Thread
90 - 160	03.11.008.001.4	M 12



Step ledges

Size	Order no.	Height	Thickness
90	03.25.065.1000	14	3
90	03.25.065.1001	30	3
125	03.26.160.002.9	39	3
125	04.25.150.060	35	3
125	04.25.150.061	15	3
160	03.25.260.022.9	14	3
160	03.25.260.023.9	30	3
160	03.25.260.024.9	44	3

without foto

Extension, for increasing the clamping range, suitable for NCA all sides

Size	Order no.	Height	Length	for clamping range
125	02.25.165.0005	100	176	0-490 mm
160	on demand	115	237	17-675 mm



Sub-base

Size	Order no.
90-160	on demand

Bull

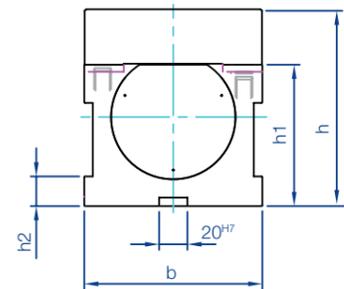
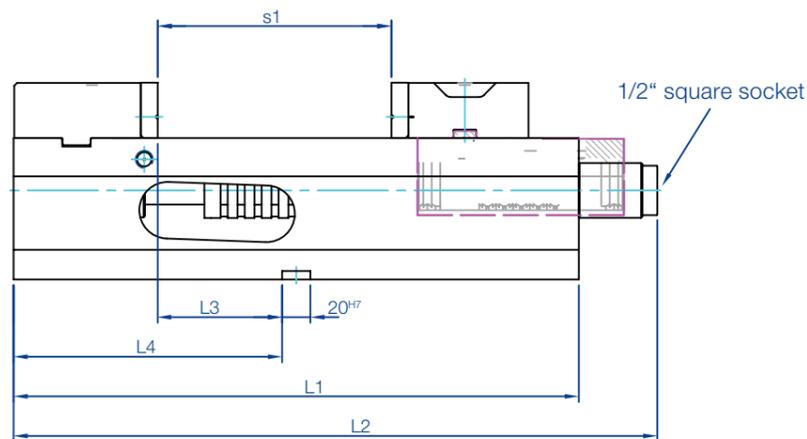
Mechanical machine vise

Mechanical compact vise with draw-in system and patented clamping range adjustment.

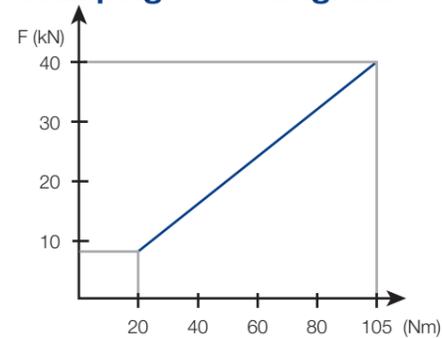
- > Mechanical clamping force build-up
- > Repeatable clamping force through torque wrench
- > Dirt resistant encapsulated spindle, no thread in the chip area
- > Patented quick adjustment of the clamping range
- > Strong body of spheroidal graphite iron GJS-600
- > Compact design, constant length for machining centres
- > Wide clamping range through the use of step jaws

Scope of delivery:

4 clamping claws



Clamping force diagram



Size b	Order no.	Jaws	max. clamping force kN	max. torque Nm	Clamping range		Weight kg
					s1	s2	
125	04.25.152.001.9	Block jaws	40	105	0-165	40-240	30
125	04.25.152.002.9	Step jaws	40	105	3-175	173-345	30

Size b	L1	L2	L3	L4	h	h1 ±0,01	h2
125	400	445	88	190	140	100	21



Step ledge quick release system

- > Step ledges are simply "clicked" in by hand, with no need for tools
- > No penetration of chips beneath the step ledge
- > Secure and stable hold, also with the use of compressed air
- > Available in a range of heights (accessories)



Quick adjustment of the clamping range

- > By rotating the spindle 180° it is possible to adjust the clamping range very quickly

With step jaws

- > Size 125 / 3-345 clamping range
Order no. 04.25.152.002.9



BULL / BULL 5-S accessories



Smooth clamping jaw hardened, ground, standard equipment
Smooth clamping jaw soft (1.2842), milled, for the fabrication of moulding jaw

Clamping jaw with linear grooves for firmly gripping the workpieces

Size	Order no. Smooth clamping jaw hardened	Height	Thick- ness
125	01.25.152.014.4	39,2	12
Smooth clamping jaw soft			
125	01.11.105.002.5	39,2	12
Clamping jaw with linear grooves			
125	01.11.105.001.5	39,2	12



Smooth clamping jaw with step, hardened and ground, for saving clamping supports

Size	Order no.	Step	Thick- ness	Height
125	01.11.105.003.5	3 x 6	12	39,2



Clamping jaw with corrugation hardened and ground

Size	Order no.	Height	Thick- ness	Gripper Order no.	Thread
125	01.26.160.035.3	40	12	01.26.160.048.4	M10



Pull-down jaw for raw parts with inset spring plate for clamping raw parts. The spring plates establish a secure hold and deep drawing effect

Size	Order no.	Height	Thickness
125	04.13.125.250.9	40	21

Step jaw

Hardened steel, for clamping parallel workpieces

Step jaw	Order no.	Clamping range	
		Bull 5-S	Bull mech.
fixed	04.25.150.008	0-166	3-345
mobile	04.25.150.009		



Step jaw for bolting onto step jaw order no. 01.25.150.008, order no. 01.25.150.009 for expanded clamping range

Step jaw	Order no.	Width	Addition. clamping range
narrow	04.25.150.054	60	- 8
wide	04.25.150.053	125	+ 62



Multi-jaw

Jaw	Order no.	Width	Clamping range	
			Bull 5-S	Bull mech.
fixed	04.25.150.050	160	10 - 200	13 - 365
mobile	04.25.150.051	160	max. Ø 225	



BULL / BULL 5-S accessories



Pendulum jaw fits to multi-jaw mobile (order no. 04.25.150.051), for clamping non-parallel workpieces, cast parts and shaped workpieces

Scope of delivery: with 2 x hard metal grip insert

Order no.
04.25.150.052



Torque wrench

20-105 Nm

Order no.
70.28.007.202.9



Grip ledge fits step jaw order no. 01.25.150.008, order no. 01.25.150.009 for improved hold of the workpieces on the step (4.5 mm deep, 2.5 mm wide)

Scope of delivery: 2 pieces

Size	Grip ledge	Order no.	Height	Step w x h
125	High	04.25.150.055	39,5	1,4 x 4,5
125	Step	04.25.150.056	19,5	2 x 4,5

Step ledges

Size	Order no.	Height	Thickness
125	04.25.150.061	15	3
125	03.26.160.022.9	20	3
125	03.25.160.024.9	35	3
125	03.26.160.002.9	39	3



Universal top jaw with angle adjustment possibility

Size	Order no.	Height	Thickness
125	04.13.125.400.9	42	10



Workpiece stop adjustable

Size	Order no.	Thread
125	03.11.008.001.4	M 12



Sub-base increasing the vise height results in improved accessibility for 5-sided machining

Order no.	Width	Height	Length
03.26.150.002	125	100	250



K5

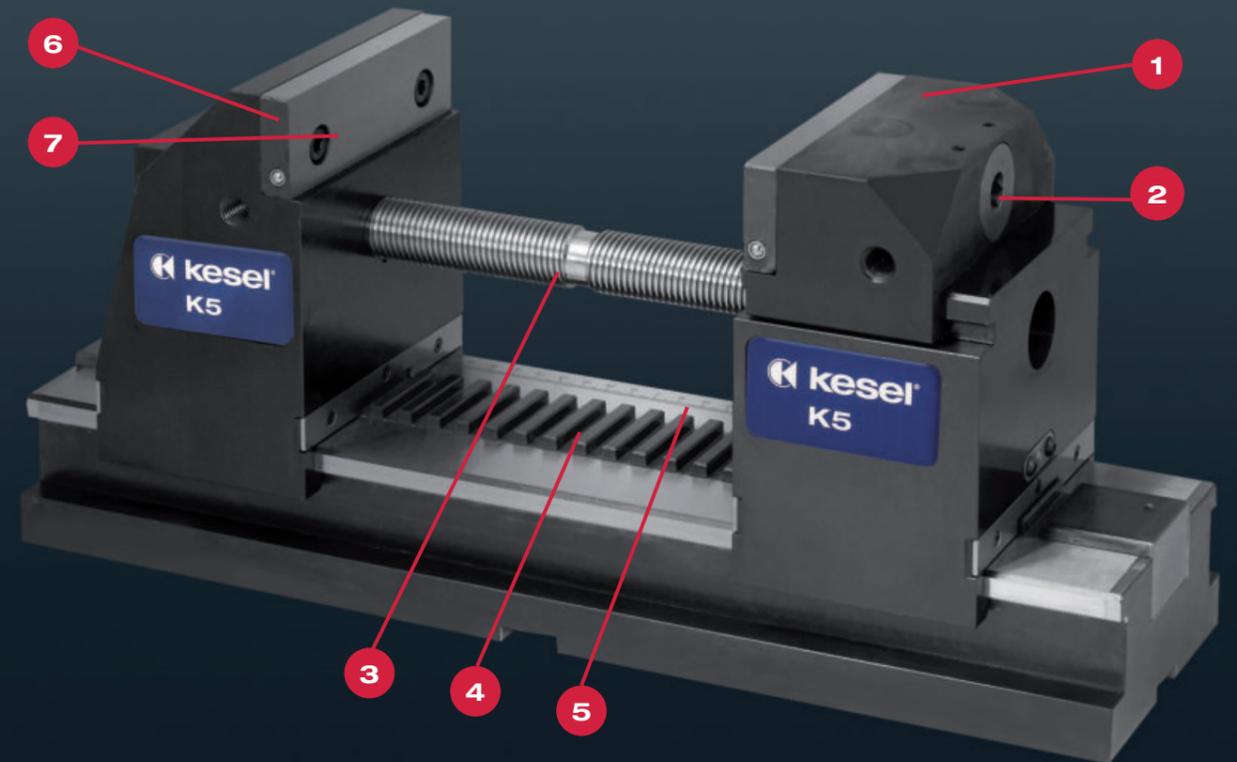
Innovative 5-side machine vise

With an optimal accessibility for the machine tool to the workpiece during 5-side machining

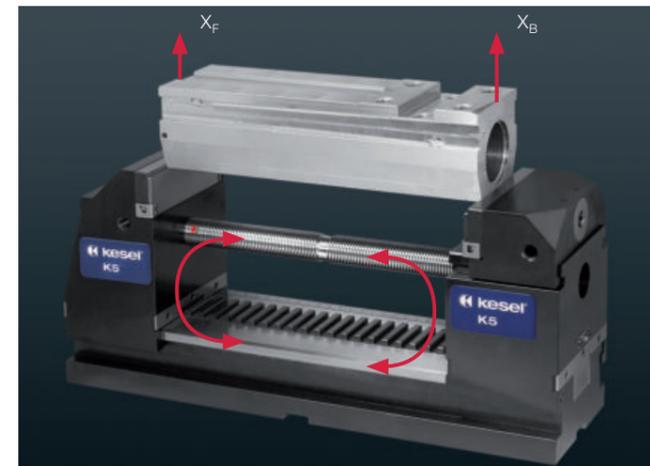
- > 5-side accessibility
- > Pre-load system for high precision and zero vibrations
- > Quick and easy to adjust
- > Large clamping stroke of 16 mm
- > Easy handling
- > Extensive range of jaws

Scope of delivery:

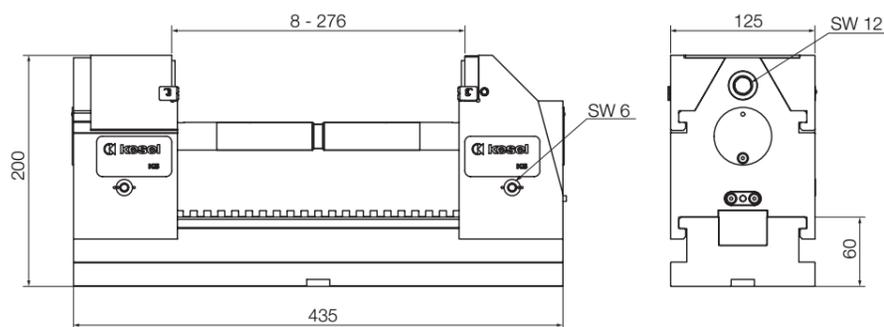
2 hardened clamping jaws, 1 socket, 1 short and 1 long spindle, 1 allen wrench
Without clamping claws



- 1** > Perfect workpiece accessibility for 5-axis machining
- 2** > Clamp tightening using a torque wrench
Max. clamping force of 40 kN with 100 Nm
- 3** > Spindle for quick adjustment of clamping width
> Spindle can be quickly changed for short clamping widths
> Pre-loading of the vise
> Large adjustment range
- 4** > Simple and fast rail system for adjusting the position of the vise on the base with visual reference.
- 5** > Visual scale rule for quick re-positioning of the vise
- 6** > Kesel screw-on clamping jaws (see accessories)
- 7** > Kesel 'Click-On' clamping ledges in varying heights (optional)



Technical specifications:



Jaw width	125 mm
Order No.	04.25.157.1001
Max. Clamping force	40 kN
Weight	45 kg
Clamping width (short spindle)	8 - 146 mm
Clamping width (long spindle)	138 - 276 mm

The Kesel Pre-load System:

- > Unique, Kesel K5 dual spindle design
- > The vise can be pre-loaded via the secondary, adjustment spindle
- > Deflection in the vise is minimised
- > Workpiece deflection is close to eliminated
- > Very high parallel accuracy
- > Extremely high workpiece holding precision allows for machining of the 6th side
- > Deflection in the base of the vise is eliminated allowing perfect vise fixing via zero-point, quick-change bolts.

Optimal accessibility for your tool

The use of raised jaws (smooth or with grip) optimizes accessibility to the workpiece.



K5 accessories



Smooth clamping jaw hardened, ground, standard equipment
Smooth clamping jaw soft (1.2842), milled, for the fabrication of moulding jaw

Clamping jaw with linear grooves for firmly gripping the workpieces

Size	Order no. Smooth clamping jaw hardened	Height	Thick- ness
125	01.25.152.014.4	39,2	12
Smooth clamping jaw soft			
125	01.11.105.002.5	39,2	12
Clamping jaw with linear grooves			
125	01.11.105.001.5	39,2	12

Smooth clamping jaw with step, hardened and ground, for saving clamping supports

Size	Order no.	Step	Thick- ness	Height
125	01.11.105.003.5	3 x 6	12	39,2

Clamping jaw raised, for optimal accessibility for your tools

Size	Order no.	Step	Thick- ness	Height
Clamping jaw raised, smooth				
125	02.25.157.0001	ohne	23	61
Grip - clamping jaw raised, with step				
125	02.25.157.0002	3x3	23	61

Clamping jaw with corrugation hardened and ground

Size	Order no.	Height	Thick- ness	Gripper Order no.	Thread
125	01.26.160.035.3	40	12	01.26.160.048.4	M10

Grip clamping jaw, hardened, with step

Size	Order no.	Height	Thickness
125	01.25.150.0002	40	12

K5 accessories



Prism jaw with horizontal prism 120°
hardened and ground

Size	Order no.	Height	Thick- ness	Clamping diameter	
				with 1 jaw	with 2 jaw
125	01.11.105.005.4	39,2	20	ø 9-50	ø 14-50

Prism jaw with horizontal and vertical prism 90°
hardened and ground

Size	Order no.	Height	Thick- ness	Clamping diameter	
				with 1 jaw	with 2 jaw
125	01.11.105.004.4	39,2	28	ø 15-42	ø 24-42

Workpiece stop adjustable

Size	Order no.	Thread
125	03.11.008.001.4	M 12

Step ledges

Size	Order no.	Height	Thickness
125	03.25.160.023.9	22	3
125	03.25.160.024.9	35	3
125	03.26.160.002.9	39	3
125	03.25.160.0001	52,5	3

Torque wrench

Order no.
70.28.007.202.9

Clamping claws

Order no.
01.23.201.010.4

Automate your success

Think about tomorrow today!

Restructure the way you work and get more out of your work resources!

We bring success to you and your customers with our pneumatic automation clamps. What does that mean for you?
More output - less manpower required, not only on weekends!



ZSP

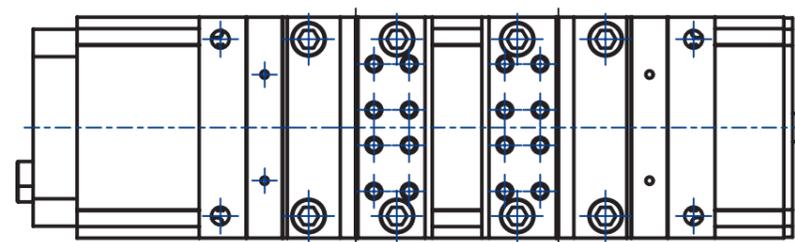
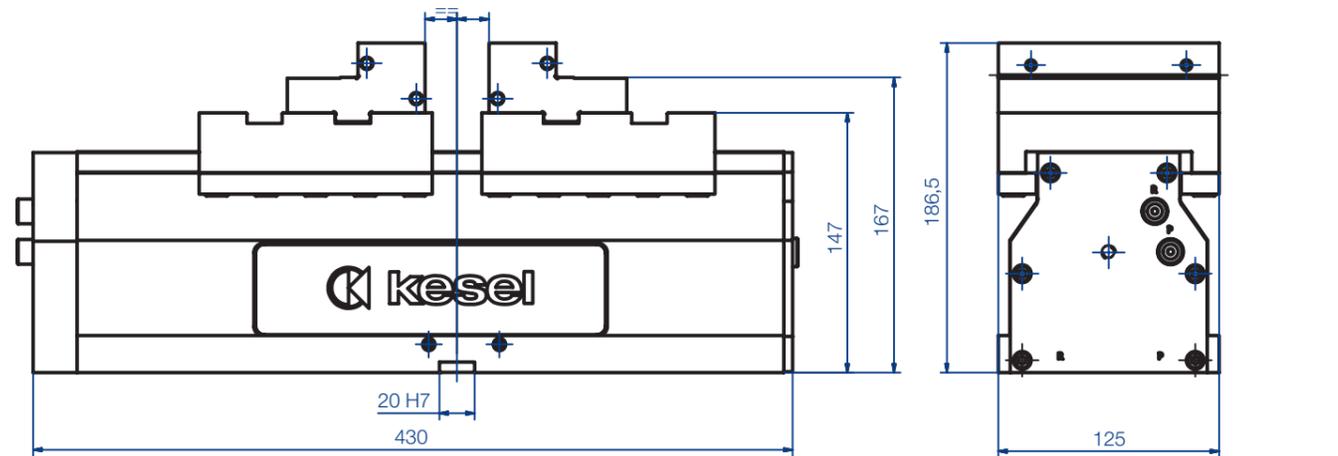
Pneumatic centering clamp

Your work pieces need machining from multiple sides? Then the ZSP is the perfect vise for automated, multi-side machining. A pneumatic, centric clamp designed for 5-side machining, the ZSP can be integrated easily into manual or fully automated operations.

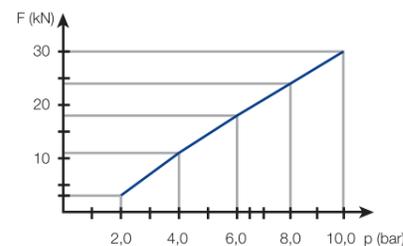
- > Unrestricted 5-side machining
- > Optimal tool accessibility
- > Fully encapsulated system
- > Safe and easy part placement with automation
- > Perfect hold due to maximum clamping force
- > Stable/solid base body prevents vibrations
- > The right jaw for every workpiece
- > No additional hydraulic power unit necessary

Scope of delivery:

Vise incl. 4 clamping claws + 1 operating key



Clamping force diagram



Order no.	Jaw width	Clamping range	Clamping force	Clamping stroke
04.25.155.0001	125 mm	High jaw side 12 – 203 mm Step side 100 – 291 mm	max. 30 kN at 10 bar pressure	max. 5 mm (2.5 mm on both sides)
Base body (L x W x H)	Total length	Total height (with jaws)	Connection thread for compressed air	Weight
400 x 125 x 125 mm	430 mm	186.5 mm	G 1/8"	41 kg



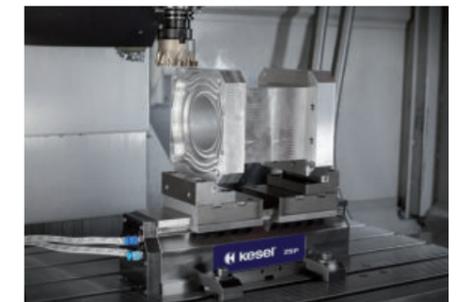
Large clamping range

Up to 296 mm can be realized by turning the clamping jaws around



Many more clamping options

When using the multijaws with grip inserts



Application on a vertical milling machine.

Air supply via 2 hoses



Application on a 5-axis milling machine.

Air supply via the rotary feed-through of the machine, as well as an under-screwed connection plate.



ZSP on a 5-axis milling machine

With 0-point clamping system



ZSP ideally suited for robot loading

Due to large clamping stroke (5mm)

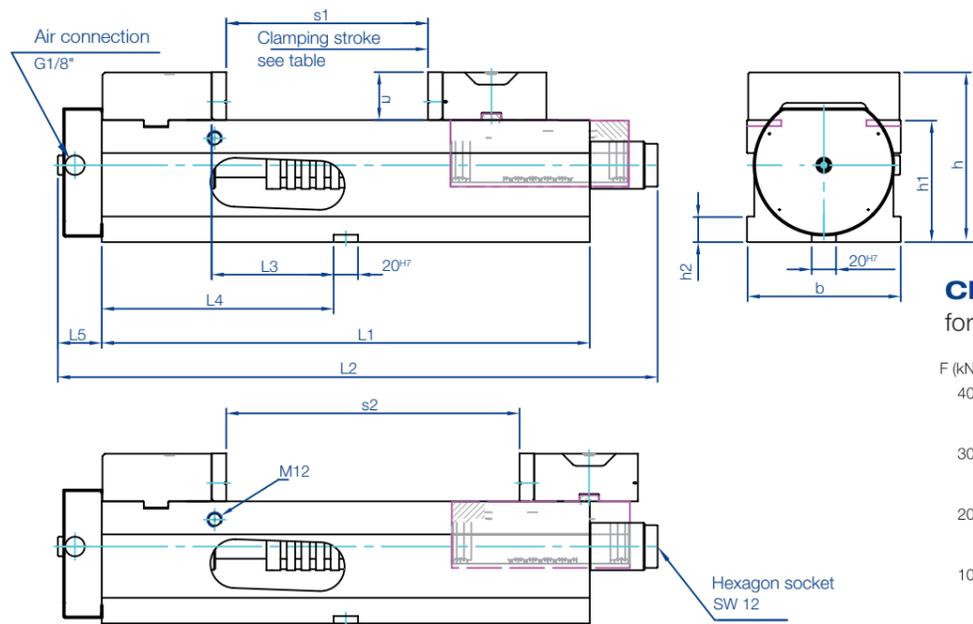
Bull pneumatic

Your workpieces are primarily machined vertically? Then the Bull is the right choice for your automated production. Pneumatic high-pressure clamp with tension clamping system and patented clamping width adjustment for series parts. Clamping without force.

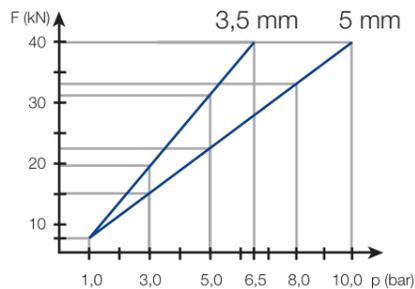
- > Easy clamping, whether by automation or manually
- > Integrated force amplifier for high clamping forces
- > No penetration of the chip into the spindle area
- > Unique quick adjustment to the desired span width
- > Deformation-resistant base body
- > Compact design for milling machines and machining centers
- > No additional hydraulic power unit necessary

Scope of delivery:

Vise incl. 4 clamping claws + 1 operating key

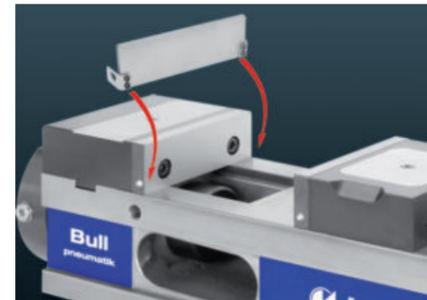


Clamping force diagram for clamping stroke



Size b	Order no.	Jaws	max. Clamping force kN	max. Compressed air bar	Clamping range		Clamping stroke	Weight kg
					s1	s2		
125	04.25.153.001.9	Block jaws	40	6.5	0-165	80-240	3.5 mm	35
125	04.25.153.0003	Step jaws	40	6.5	3-270 With attachment jaws	100-345	3.5 mm	35
125	04.26.153.0000	Block jaws	40	10	0-165	80-240	5 mm	35
125	04.26.153.0002	Step jaws	40	10	3 - 270 With attachment jaws	100 - 345	5 mm	35

Size b	L1	L2	L3	L4	L5	h	h1 ±0,01	h2
125	400	494	88	190	36	140	100	21



Step ledge quick release system

- > Step ledges are "clicked" into place clicked in by hand
- > Safe and stable hold even when using use of compressed air



Quick adjustment of the clamping range

- > By turning the spindle by 180° the span the span can be adjusted very quickly adjusted



With step jaws

- > Chucking width 3-345 mm



On vertical milling machine

- > Air supply via 1 hose



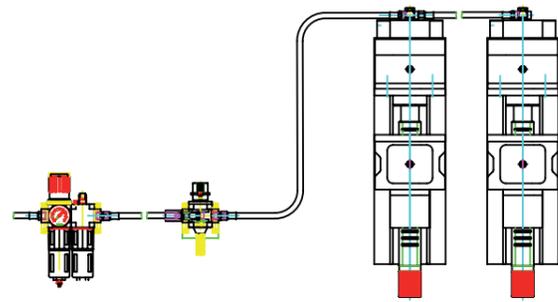
On 5-axis milling machine



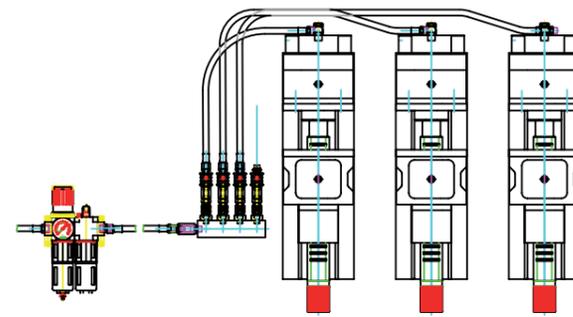
For robot loading

- > Clamping stroke 3.5 mm or 5 mm

Example Applications:



2 x Bull pneumatic clamping simultaneously



3 x Bull pneumatic clamping individually

ZSP and BULL pneumatic accessories



Maintenance unit for an oiled compressed air and adjusting the clamping force

Order no.	Thread
01.25.153.110.9	G 1/8"



Foot valve

Order no.	Thread
33.21.032.007.9	G 1/4"



Rotary knob on-off valve with threaded connection plate. Design as 3/2 way valve, manually actuated

Order no.
01.25.153.114.9



Check valve

Order no.	Thread
33.11.032.012.9	G 1/8"



Hand lever valve 4/3 way

Order no.	Thread
33.25.155.0004	G 1/8"



Check valve lockable

Order no.	Thread
33.21.032.009.9	G 1/8"



Manual slide valve 3/2 Way
only for Bull Pneumatic

Order no.	Thread
01.25.153.113.9	G 1/8"



Quick exhaust valve

Order no.	Thread
33.11.032.007.9	G 1/8"



Magnet valve 3/2 Way
only for Bull Pneumatic

Order no.	Thread
33.40.428.029.9	G 1/4"



Quick release coupling
Coupling connector and coupling socket for quick set-up

Order no.	Thread
01.25.153.115.9	G 1/8"

ZSP and BULL pneumatic accessories



Magnet valve 5/3 way

Order no.	Thread
33.25.155.0005	G 1/8"



L-threaded connection with internal thread, aluminium blue anodised, pivoting, incl. 2 PVC sealing rings

Order no.	Thread
01.25.153.111.9	G 1/8"



T-threaded connection with internal thread, aluminium blue anodised, pivoting, incl. 2 PVC sealing rings

Order no.	Thread
01.25.153.112.9	G 1/8"



High pressure hose with NW 4 mm, with brass connection both sides, G 1/8", metallic gauze sheath for protection against hot chips in the working area

Order no.	Diameter
01.25.153.101.9	0,3 m
01.25.153.102.9	0,5 m
01.25.153.103.9	1,0 m
01.25.153.104.9	2,0 m



Double threaded nipple and sleeve

Order no.	Thread
01.25.153.116.9	G 1/8"



Reduction nipple threaded connection, internal G 1/8" external G 1/4"

Order no.
33.40.428.003.9



Distributor strip threaded connection, internal G 1/4" external G 1/8"

Order no.
33.30.015.003.9



Smooth clamping jaw hardened, ground, standard equipment



Smooth clamping jaw soft (1.2842), milled, for the fabrication of moulding jaw



Clamping jaw with linear grooves for firmly gripping the workpieces

Size	Order no. Smooth clamping jaw hardened	Height	Thick- ness
125	01.25.152.014.4	39,2	12
Smooth clamping jaw soft			
125	01.11.105.002.5	39,2	12
Clamping jaw with linear grooves			
125	01.11.105.001.5	39,2	12

ZSP and BULL pneumatic accessories



Smooth clamping jaw with step, hardened and ground, for saving clamping supports

Size	Order no.	Step	Thick-ness	Height
125	01.11.105.003.5	3 x 6	12	39,2
125	01.11.105.008.5	5 x 10	12	39,2



Clamping jaw with corrugation hardened and ground

Size	Order no.	Height	Thick-ness	Gripper Order no.	Thread
125	01.26.160.035.3	40	12	01.26.160.048.4	M 10



Grip clamping jaw, hardened, with step

Size	Order no.	Height	Thickness	Step
125	01.25.150.0002	40	12	3x3



Prism jaw with horizontal prism 120°
hardened and ground

Size	Order no.	Height	Thick-ness	Clamping diameter	
				with 1 jaw	with 2 jaw
125	01.11.105.005.4	39,2	20	ø 9-50	ø 14-50



Prism jaw with horizontal and vertical prism 90°
hardened and ground

Size	Order no.	Height	Thick-ness	Clamping diameter	
				with 1 jaw	with 2 jaw
125	01.11.105.004.4	39,2	28	ø 15-42	ø 24-42



Pendulum jaw with smooth slide, hardened and ground, for clamping conical workpieces

Size	Order no.	Height	Thickness
125	04.13.125.150.9	39,2	43

ZSP and BULL pneumatic accessories



Pull-down jaw smooth, the workpiece is hold securely, with a deep drawing effect

Size	Order no.	Height	Thickness
125	04.13.125.200.9	39,2	25



Pull-down jaw for raw parts with inset spring plate for clamping raw parts. The spring plate establish a secure hold and deep drawing effect

Size	Order no.	Height	Thickness
125	04.13.125.250.9	40	21



Universal top jaw with angle adjustment possibility hardened and ground

Size	Order no.	Height	Thickness
125	04.13.125.400.9	42	10



Workpiece stop adjustable

Size	Order no.	Thread
125	03.11.008.001.4	M 12



Step ledges

Size	Order no.	Height	Thickness
125	04.25.150.061	15	3
125	03.26.160.022.9	20	3
125	03.25.160.024.9	35	3
125	03.26.160.002.9	39	3



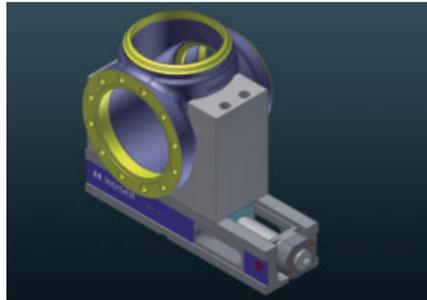
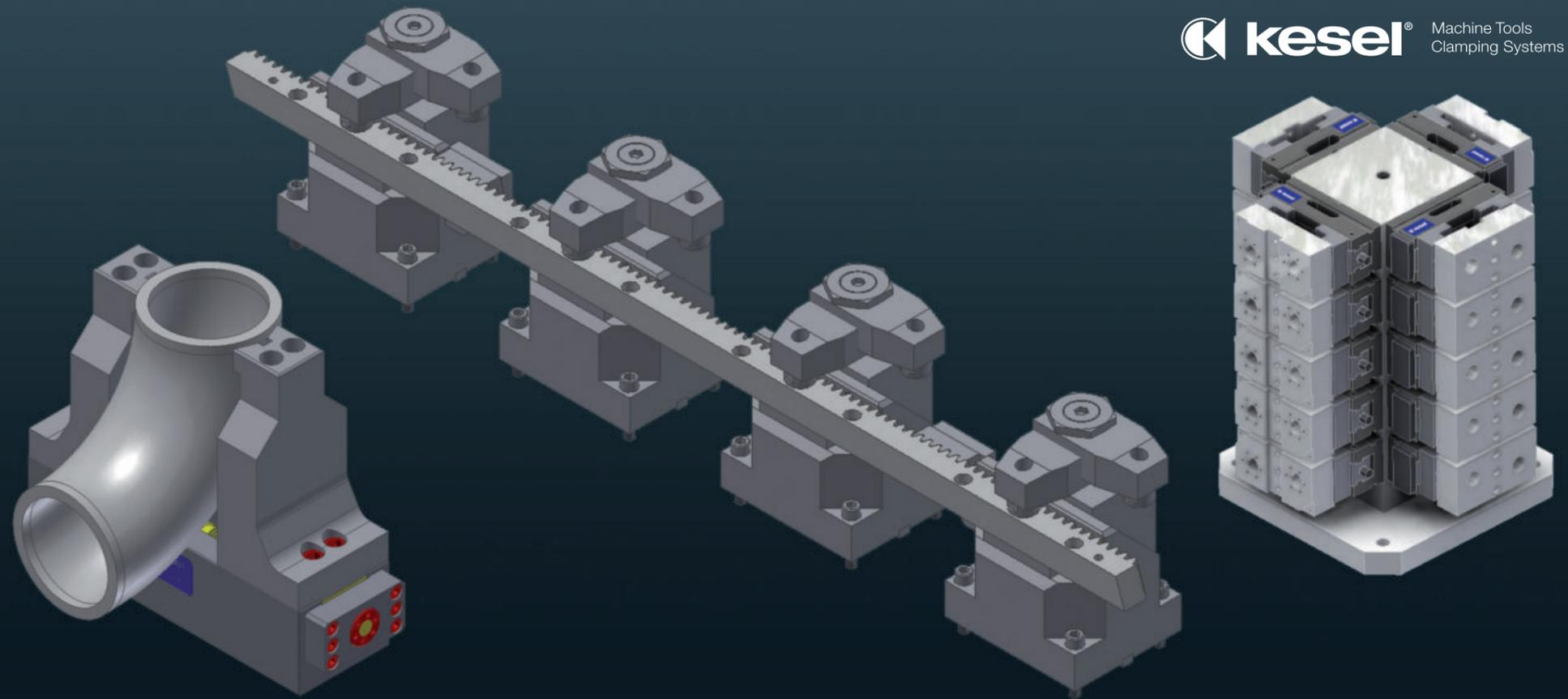
Manual crank in shortened design for use in place of the standard manual crank, if the throughput height to the machine table is too small

Size	Order no.	Length	Width
125	03.15.103.001.4	110	90

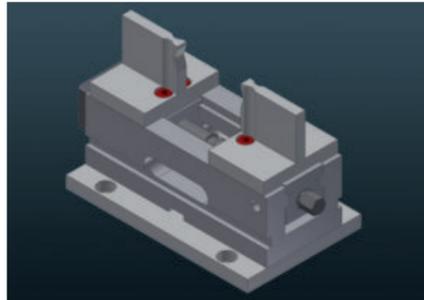
Clamping solutions according to customer requirements

... on demand

With creativity, flexibility and speed. At a fair price, we use state-of-the-art CAD software to design the clamping solution tailored to your needs..



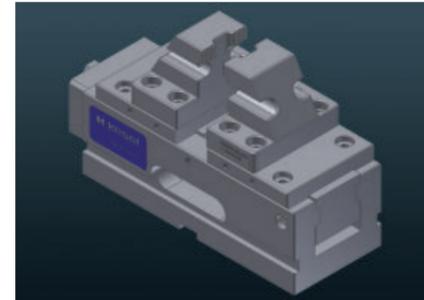
Clamping a tube adapter on Kesel NCA160



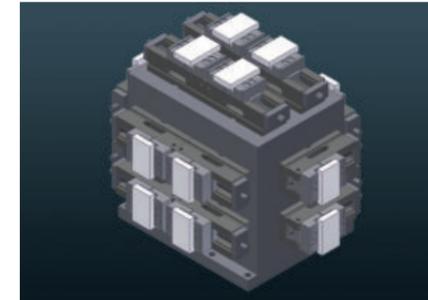
Clamping with jaws for various workpieces on special vise



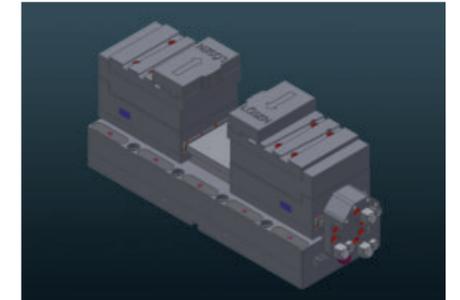
Special pipe clamping on Syncroline (special)



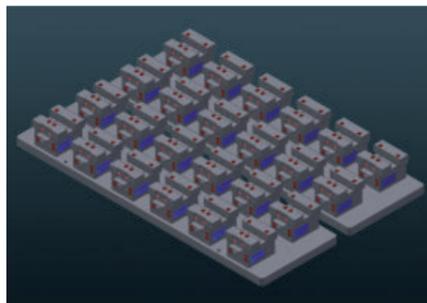
Clamping with forming jaws for forged workpieces on a Syncroline vise



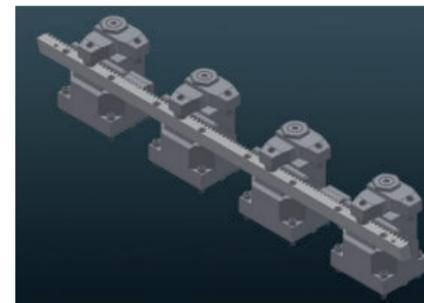
Construction for multiple clamping



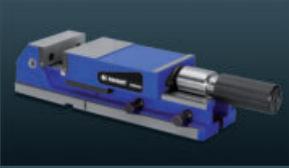
Floating centric clamp for distortion-free clamping of long rails



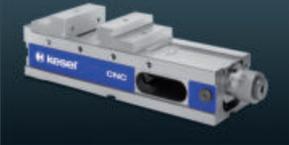
Multiple clamping device with special Syncroline vises



Special clamping device for clamping racks



“The conventional”



“The precise”



“The ALLMATIC - compatible”



“The compact”



“5-sided machining”



“Unique 5-sided machining”



“Centric pneumatic automation”



“Pneumatic clamping”

**We look forward to providing solutions
for your clamping needs.**