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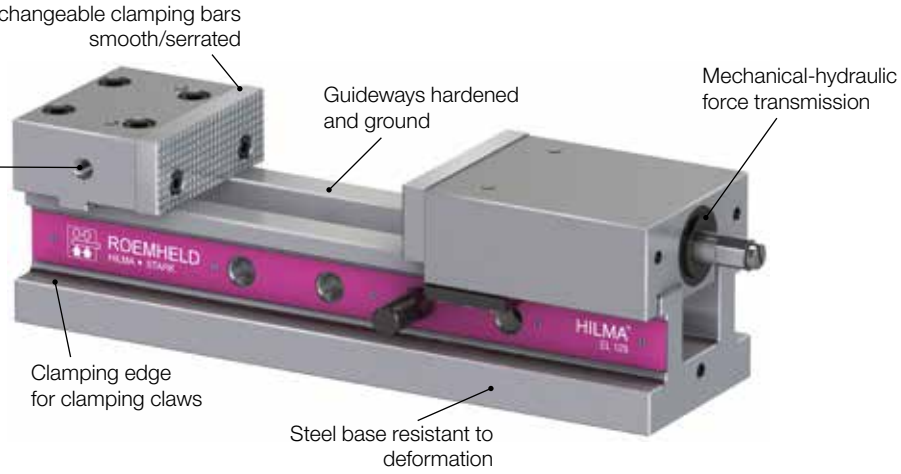
Workholding Systems

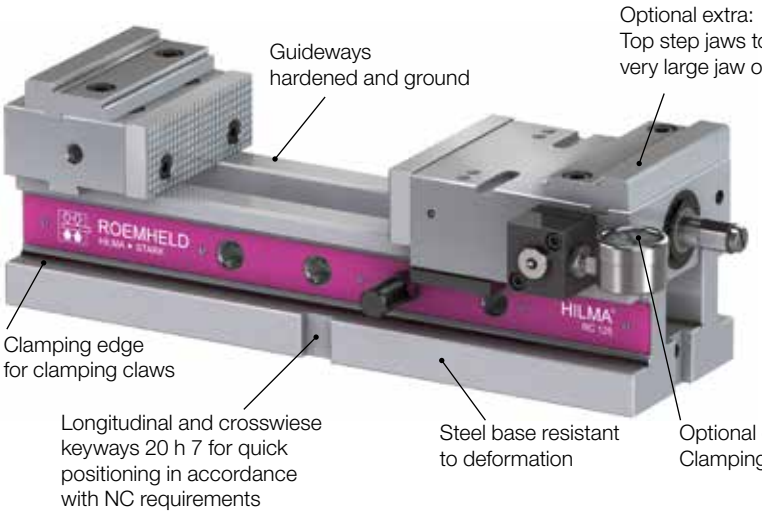
HILMA EL/NC

1.3020
1.3070
1.3080

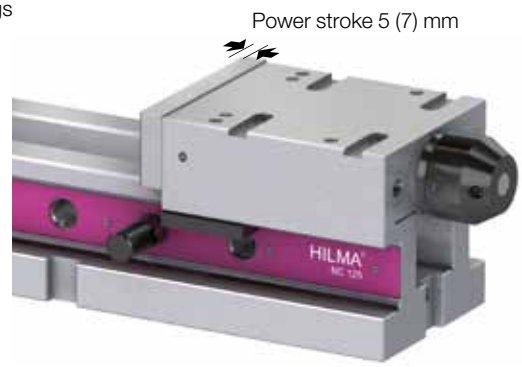
EL machine vice



NC machine vice
Version: mechanical-hydraulic



NC machine vice
Version: hydraulic



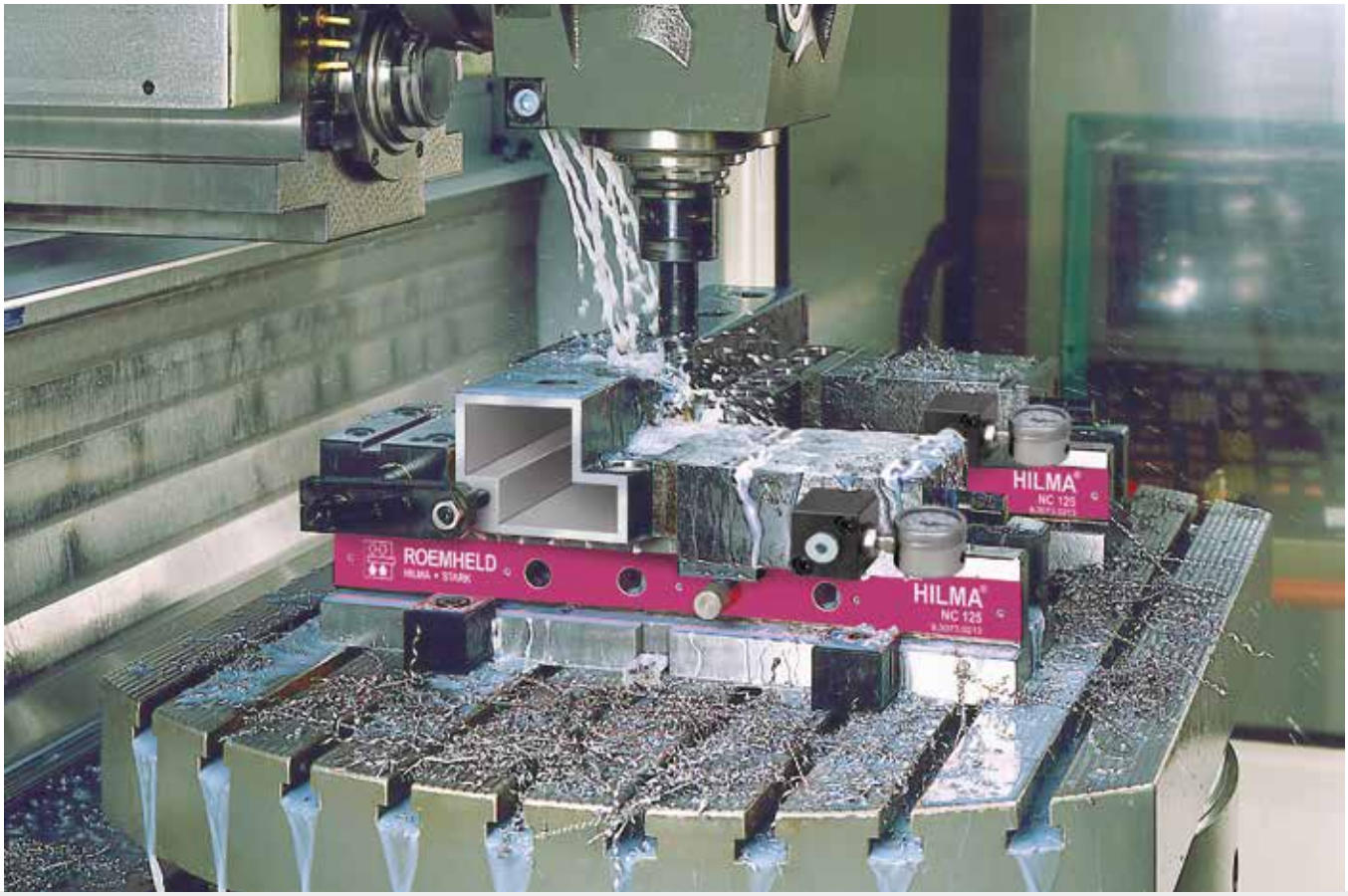
Your benefits at a glance:

- ★ High flexibility
- ★ Control of the clamping force by means of a pressure gauge for NC (optional extra)
- ★ Simple and quick cleaning
- ★ Quick retrofitting
- ★ Quick adjustment of the clamping range by socket pins

EL machine vice
mechanical-hydraulic

NC machine vice
mechanical-hydraulic
with clamping force display and top jaws

NC machine vice
hydraulic



When using for example floating central jaws or top jaws (NC),
several small components as well as large-volume workpieces can be clamped.

The high-precision reproducibility of the clamping forces guarantees a maximum possible repetitive accuracy of the clamping processes and thus increases the clamping quality. The generated clamping force can be visually checked at any time.

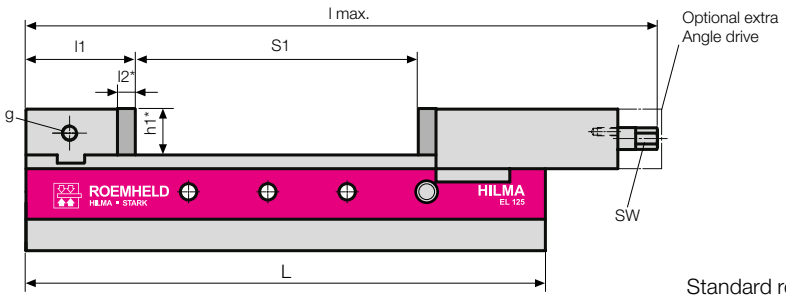
The removal of the slide facilitates a simple and quick cleaning of the clamping system.
Thus cost intensive downtimes will be reduced.

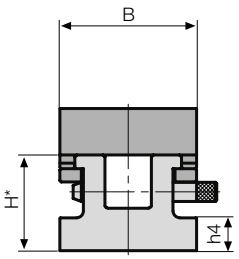
Minimum set-up times ensure versatile use and thus considerable cost reduction.

Thanks to the quick adjustment by socket pins proven for decades, a quick adaptation to very different clamping ranges is possible with minimum effort on the crank handle.

EL machine vice mechanical-hydraulic
for tool making, mould making, construction of jigs and fixtures and production

The mechanical-hydraulic force transmission requires minimum effort on the crank handle. An angle drive (optional extra), that can also be retrofitted, facilitates the operation, e.g. in the case of longitudinal clamping on the machine table. The optional clamping force preselection (retrofittable) enables the force to be applied in 6 stages up to the maximum.





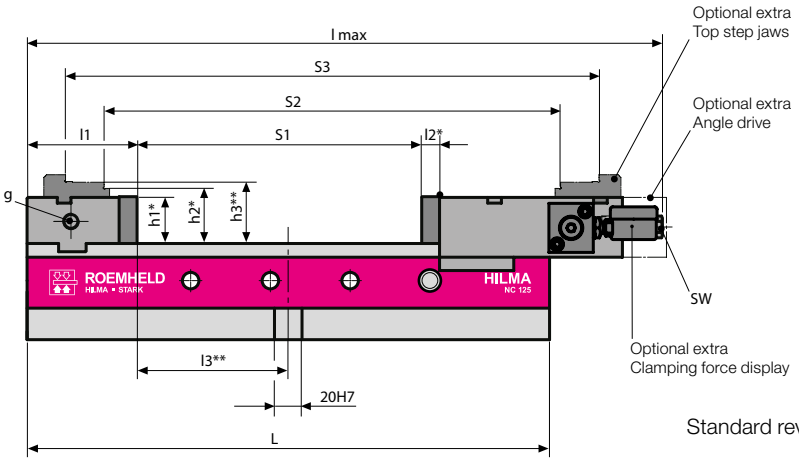
*Tolerance ±0.01 mm
**Tolerance ±0.02 mm

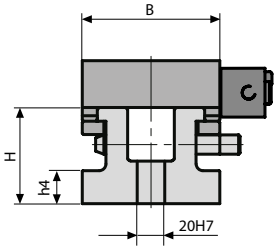
Scope of supply:
Standard reversible jaws smooth/serrated, crank handle, operating manual

Type	Part no.	Clamping force [kN]	Weight [kg]	Dimensions mm L	B	H	g	h1	h4	l max	l1	l2	Jaw opening S1	SW
EL100	**930221113**	25	18.5	380	100	70	M12 x 18	34	24	464	80	13	205	14
EL125	**930231113**	40	31.5	430	125	82	M12 x 18	45	27	526	100	15	225	17
EL160	**930241113**	50	58.5	550	160	95	M20 x 27	54	27	684	120	18	309	19
EL160L	**930241313** with angle drive	50	75.0	750	160	95	M20 x 27	54	27	884	120	18	509	19

NC machine vice mechanical-hydraulic
for tool making, mould making, construction of jigs and fixtures and production

The mechanical-hydraulic force transmission requires minimum effort on the crank handle. An angle drive (optional extra), that can also be retrofitted, facilitates the operation, e.g. in the case of longitudinal clamping on the machine table. The version with clamping force display allows a continuous and precise clamping force transmission. This offers enormous advantages, inter alia, in roughing and finishing operations as well as for the reproducibility of clamping forces. In addition, the clamping force display ensures adequate safety by the permanent clamping and system control.





*Tolerance ±0.01 mm
**Tolerance ±0.02 mm

Scope of supply:
Standard reversible jaws smooth/serrated, crank handle, operating manual

Type	Part no.	Part no. with clamping force display	Clamping force [kN]	Weight [kg]	Dimensions mm L	B	H	g	h1	h2	h3	h4	l max	l1	l2	l3	Jaw opening S1	S2	S3	SW
NC100	**930720203**	**930720213**	25	18.5	380	100	70	M12 x 18	34	40	45	24	464	80	13	110	205	330	386	14
NC125	**930730203**	**930730213**	40	31.5	430	125	82	M12 x 18	45	53	58	27	526	100	15	115	225	363	431	17
NC160	**930740203**	**930740213**	50	58.5	550	160	95	M20 x 27	54	65	70	27	684	120	18	155	309	503	573	19

Jaws and accessories see page 6 to 10

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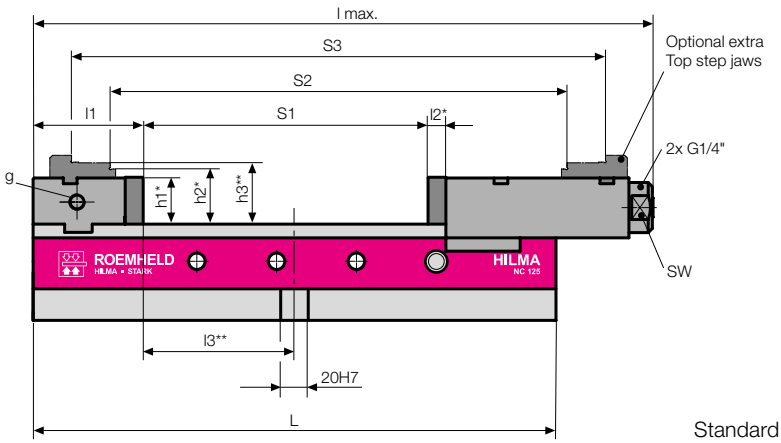
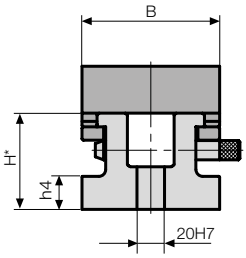
NC machine vice hydraulic
for use in semi or fully-automatic operation in series production

Connection to a separate hydraulic pressure transducer, e.g. a hydraulic power unit. Coarse adjustment of the clamping range using socket pins. Precise positioning against the workpiece and adjustment of the insertion tolerance manually using a lead screw. The clamping process is triggered by a hand or foot switch or, in the case of fully automatic working cycle, by and electrical control pulse.



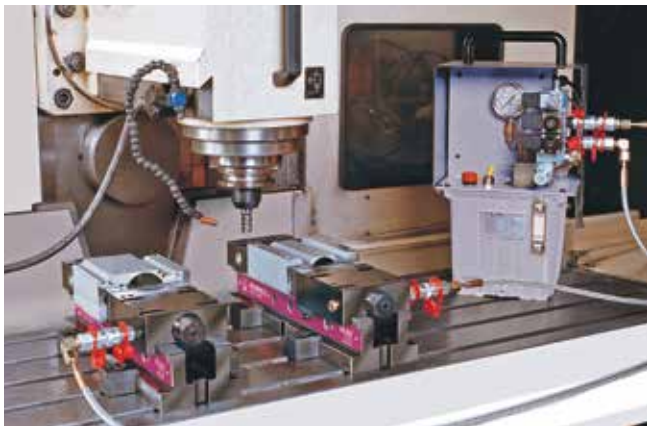


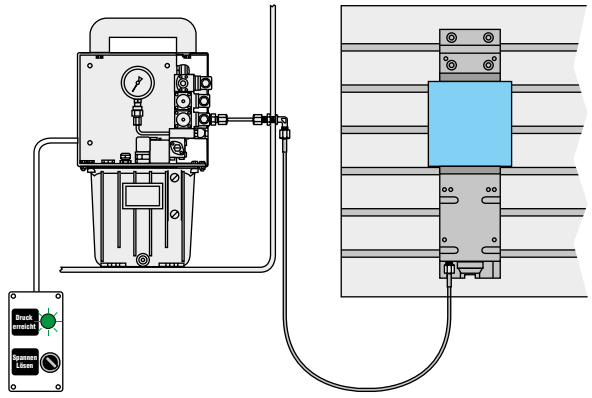
*Tolerance ±0.01 mm
**Tolerance ±0.02 mm

Scope of supply:
Standard reversible jaws smooth/serrated, crank handle, operating manual

Type	Part no.	Clamping force [kN]	Operating pressure [bar]	Stroke	Weight [kg]	Dimensions mm L	B	H	g	h1	h2	h3	h4	l max	l1	l2	l3	Clamping width S1	S2	S3	SW
NC100	930820203	25	350	5	18.5	380	100	70	M12 x 18	34	40	45	24	456	80	13	110	209	334	390	8
NC125	930830203	40	350	5	31.5	430	125	82	M12 x 18	45	53	58	27	518	100	15	115	228	366	434	8
NC160	930840203	63	350	7	58.5	550	160	95	M20 x 27	54	65	70	27	675	120	18	155	314	508	578	10

Jaws and accessories see page 6 to 10

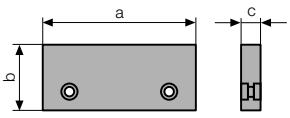




Examples for hydraulic power units

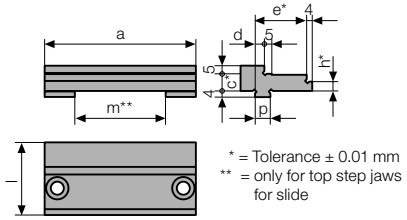
Part no.	Flow rate [l/min]	Operating pressure [bar]	Number of valves (clamping circuits)	Pressure monitoring	Remote control (manual switch)	Variants of application
6810565	0.82	350	–	yes	–	without valves, operation by valve(s) with turning knob
6810566	0.82	350	1	yes	1	1-circuit version (standard)
6810567	0.82	350	2	yes	2	2-circuit version (alternating operation)

We will be pleased to send more data as a PDF or CAD file. Please contact info@hilma.de



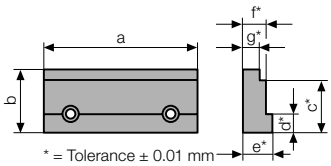
Standard jaw smooth/serrated

Part no.	a	b	c
520581003	100	34	13
520581004	125	45	15
520581005	160	54	18



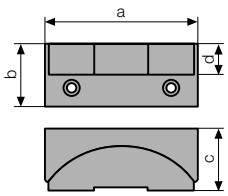
Top step jaw

for fixed jaw Part no.	for slide Part no.	a	c	d	e	h	l	m	p
932840201	**932841201**	100	11.5	6	34	6.5	48	60	10h6
932840301	**932841301**	125	14.0	6	40	9.0	58	65	12h6
932840401	**932841401**	160	17.0	8	43	12.0	64	88	18h6



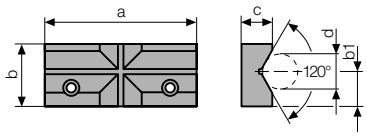
Precision step jaw

Part no.	a	b	c	d	e	f	g
520820001	100	34	29	10	19	15	11
520820002	125	45	39	13	25	20	16
520820003	160	54	45	15	25	20	16



Pendulum jaw

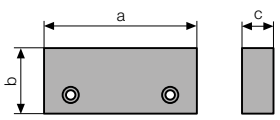
Part no.	a	b	c	d
837110208	100	34	35	16
837110308	125	45	50	22
837110408	160	54	55	26



Vee tolerance ± 0.01 mm

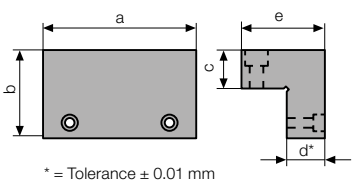
Vee jaw

Part no.	a	b	b1	c	d
530300002	100	34	19	17	8 – 35
530300003	125	45	27	19	10 – 50
530300004	160	54	32	21	12 – 60



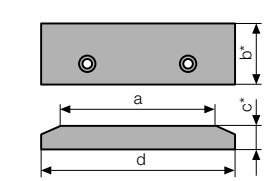
Clamping jaw, soft

Part no.	a	b	c
520550097	100	36	20
520550098	125	47	25
520550099	160	56	30



Clamping jaw, extra high

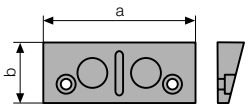
Part no.	a	b	c	d	e
932830201	100	58.0	25	25	60
932830301	125	75.5	32	32	74
932830401	160	92.5	40	40	100



Clamping jaw extra large

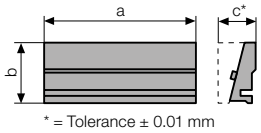
Part no.	a	b	c	d
520581025	100	34	13	125
520581026	125	45	15	160
520581027	160	54	20	200

all dimensions in mm



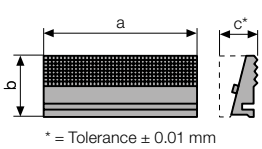
QIS base jaw with permanent magnets

Part no.	a	b	
937710201	100	34	
937710301	125	45	
937710401	160	54	



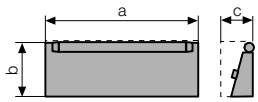
QIS interchangeable jaw, smooth

Part no.	a	b	c
837711201	100	34	21
837711301	125	45	26
837711401	160	54	31



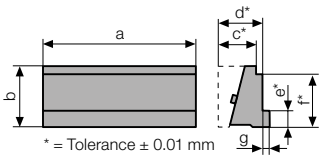
QIS interchangeable jaw, serrated

Part no.	a	b	c
837712201	100	34	21
837712301	125	45	26
837712401	160	54	31



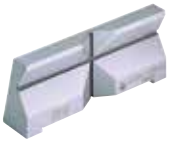
QIS interchangeable jaw, crowned

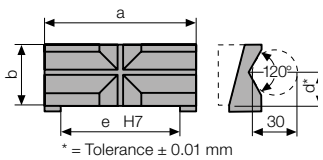
Part no.	a	b	c
837713211	100	32.5	23.0
837713311	125	43.0	27.3
837713411	160	51.0	31.9



QIS interchangeable jaw, stepped

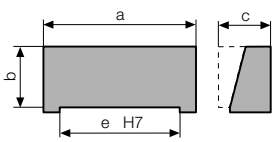
Part no.	a	b	c	d	e	f	g
837714201	100	34	21	25	10	29	4
837714301	125	45	26	30	13	39	5
837714401	160	54	31	35	15	45	5





QIS interchangeable jaw, prismatic

Part no.	Ø up to	a	b	c	d	e	f
837715201	8 – 35	100	34	53	19	78	28.0
837715301	10 – 50	125	45	58	27	98	34.2
837715401	12 – 60	160	54	60	32	125	37.0



all dimensions in mm

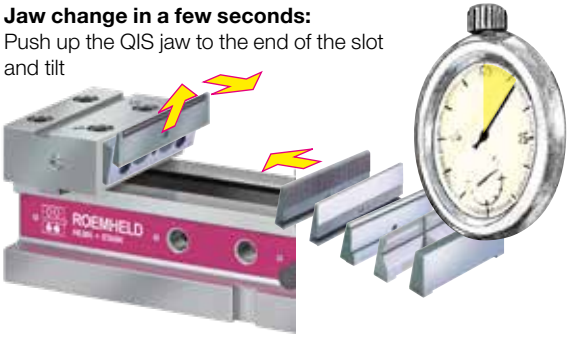
QIS interchangeable jaw, soft

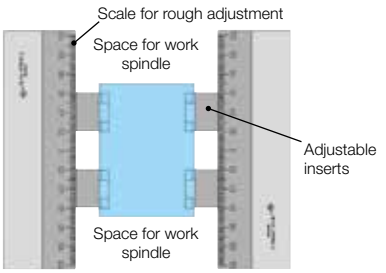
Part no.	a	b	c	e
837717201	100	34	30.0	78
837717301	125	45	36.5	98
837717401	160	54	47.0	125

Mount magnetic base jaw

Parallel approach of the QIS jaw and insertion guided by a locating pin

Jaw change in a few seconds:
Push up the QIS jaw to the end of the slot and tilt

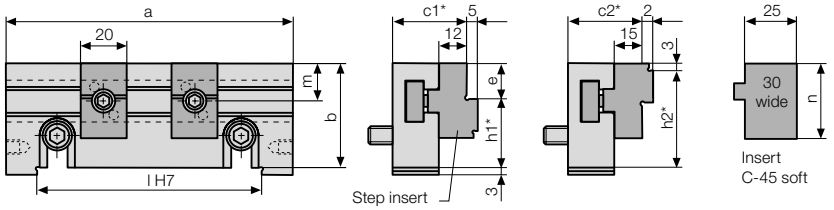




SlimFlex jaw system, standard version

Jaw width	Part no. Interchangeable jaw without step inserts	Part no. Interchangeable jaw with step inserts	Part no. Insert C45 soft
100	**937140202**	**937140212**	**550500123**
125	**937140302**	**937140312**	**550500099**
160	**937140402**	**937140412**	**550500099**

Jaw width	Dimensions in mm								
	b	c1	c2	e	h1	h2	l	m	n
100	34	30	33	10	24	31	78	11	30
125	45	32	35	15	30	42	98	16	40
160	54	34	37	15	39	51	125	16	40

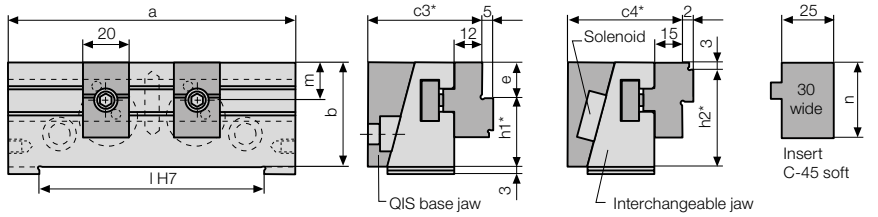


* = Tolerance ± 0.02 mm

Slim Flex jaw system, QIS version

Jaw width	Part no. Interchangeable jaw without step inserts	Part no. Interchangeable jaw with step inserts	Part no. Insert C45 soft	Part no. QIS base jaw
100	**937719201**	**937719211**	**550500123**	**937710201**
125	**937719301**	**937719311**	**550500099**	**937710301**
160	**937719401**	**937719411**	**550500099**	**937710401**

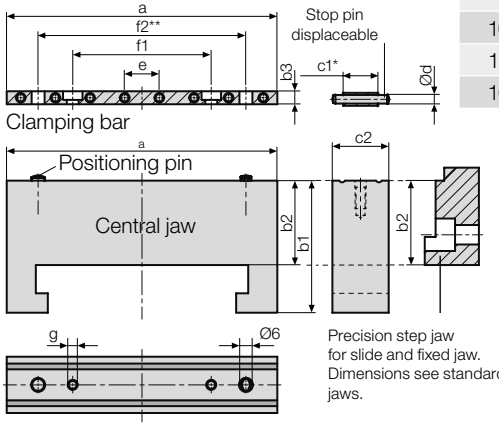
Jaw width a	Dimensions in mm								
	b	c3	c4	e	h1	h2	l	m	n
100	34	45	48	10	24	31	78	11	30
125	45	50	53	15	30	42	98	16	40
160	54	55	58	15	39	51	125	16	40



* = Tolerance ± 0.02 mm

Floating central jaw, standard version

Jaw width a	Part no. Central jaw with clamping bar	Part no. Clamping bar	Part no. Precision step bar	Dimensions in mm									
				b1	b2	b3	c1	c2	Ød	e	f1	f2	g
100	**937150211**	**937151201**	**520820001**	48	29	5	12	20	3	13	52	78	M5
125	**937150311**	**937151301**	**520820002**	61	39	6	16	26	4	16	64	96	M5
160	**937150411**	**937151401**	**520820003**	70	45	9	20	30	5	20	80	120	M6



Precision step jaw for slide and fixed jaw. Dimensions see standard jaws.

* = Tolerance – 0.01 mm
** = Tolerance ± 0.02 mm

Efficient and economic:
Existing or new HILMA machine vices can be retrofitted from single to multiple clamping systems at low costs and with minimum retrofitting work.

HILMA clamping jaws and jaw inserts with grip

to increase the retention force
for NC machine vices **with clamping pressure display**

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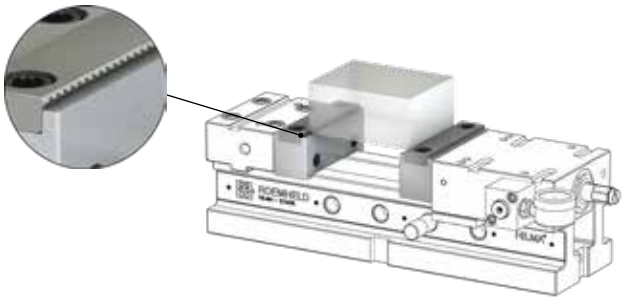
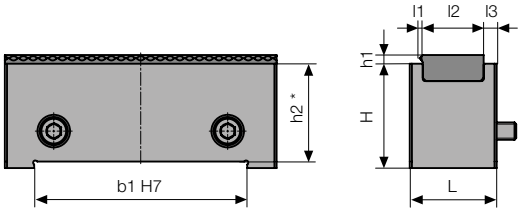
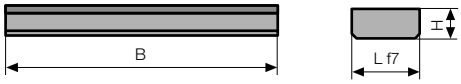
Using clamping jaws or jaw inserts with coating or grip toothing, the retention forces for safe clamping of workpieces can be considerably increased. Only machine vices with clamping force display allow the controlled use of these clamping jaws/inserts.





* = Tolerance ± 0.01 mm

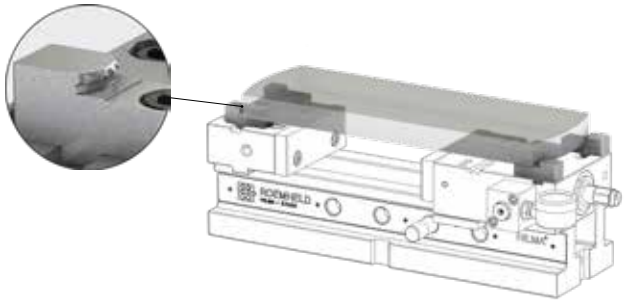


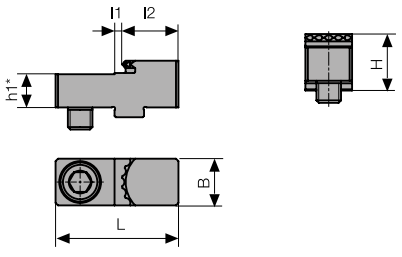
Clamping bar with jaw insert, grip

Part no.	L	B	H	l1	l2	l3	b1	h1	h2
932860201	34	100	37	1.5	22	6	78	4	34
932860301	40	125	48	1.5	28	6	98	4	45
932860401	46	160	57	1.5	34	6	125	6	54

Jaw insert for clamping bar, HM coated

Part no.	L	B	H
550500692	22	100	10
550500694	28	125	12
550500696	34	160	16

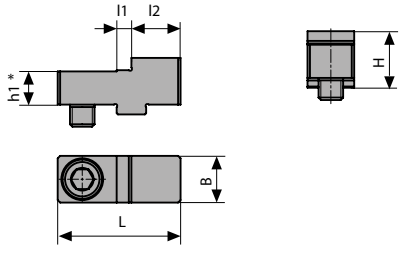




* = Tolerance ± 0.01 mm

Jaw insert for fixed jaw and slide, grip

Part no.	L	B	H	l1	l2	h1	for VL/NC Jaw width
932856006	40	15	16.5	3	18	11.5	100
932856008	50	19	19	3	23	14	125
932856010	60	28	22	6	22	17	160

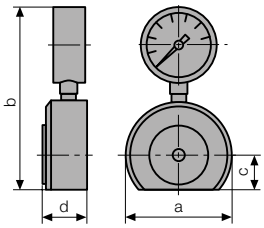


* = Tolerance ± 0.01 mm

Jaw insert for fixed jaw and slide, HM coated

Part no.	L	B	H	l1	l2	h1	for VL/NC Jaw width
932856007	40	15	16.5	5	15	11.5	100
932856009	50	19	19	6	20	14	125
932856011	60	28	22	7	24	17	160

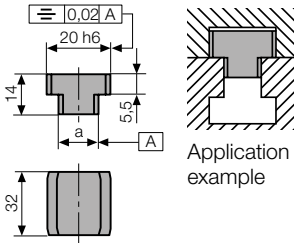
all dimensions in mm



Load cell

for regular checks of the clamping force of hydraulic and mechanical clamping systems.

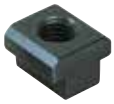
Part no.	Display range kN	a	b	c	d	For jaw width
295010001	0 – 60	88	150	29	37	100/125/160

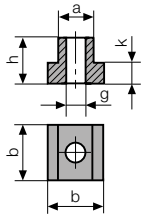


Set of key blocks DIN 6323

For precise alignment of the clamping device on the machine table the key blocks are inserted laterally.

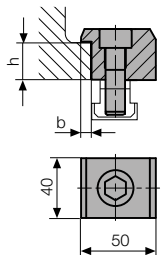
Part number for 2 off = 1 set	Table slot a
939174121	14 h6
939174141	18 h6





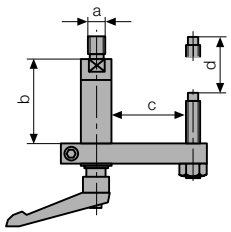
Set of T-nuts DIN 508

Part number for 4 off = 1 set	a	b	g	h	k
937773211	14	22	M 12	16	8
937773231	18	28	M 12	20	10
937773311	18	28	M 16	20	10



Set of clamping claws with screws

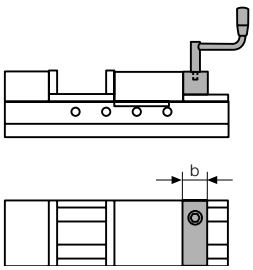
Part number for 4 off = 1 set	h	Socket head cap screw DIN 912
937772011	24	M 12 x 45 8.8
937773011	27	M 12 x 45 8.8
937773021	27	M 16 x 50 8.8



Precision workpiece stop

pivoting, rapid fixation, adjustment in 2 levels.

Part no.	For jaw width	a	b	c	d
932910201	100 / 125	M 12	61	95	46
932910401	160	M 20	81	124	66



Angle drive

for machine vices and clamping systems of the type mechanic-hydraulic.
May be used when normal operation is difficult or even impossible.
Ideal for retrofitting.

Part no.	For jaw width	SW	b	Crank radius
932940505	100	10	39	125
932940605	125	10	43	125
932940705	160	10	46	125

6-stage clamping force preselection

retrofittable for hydro-mechanical vices

Part no.	For jaw width
937620100	100
937620125	125
937620160	160

all dimensions in mm

We will be pleased to send more data as a PDF or CAD file. Please contact info@hilma.de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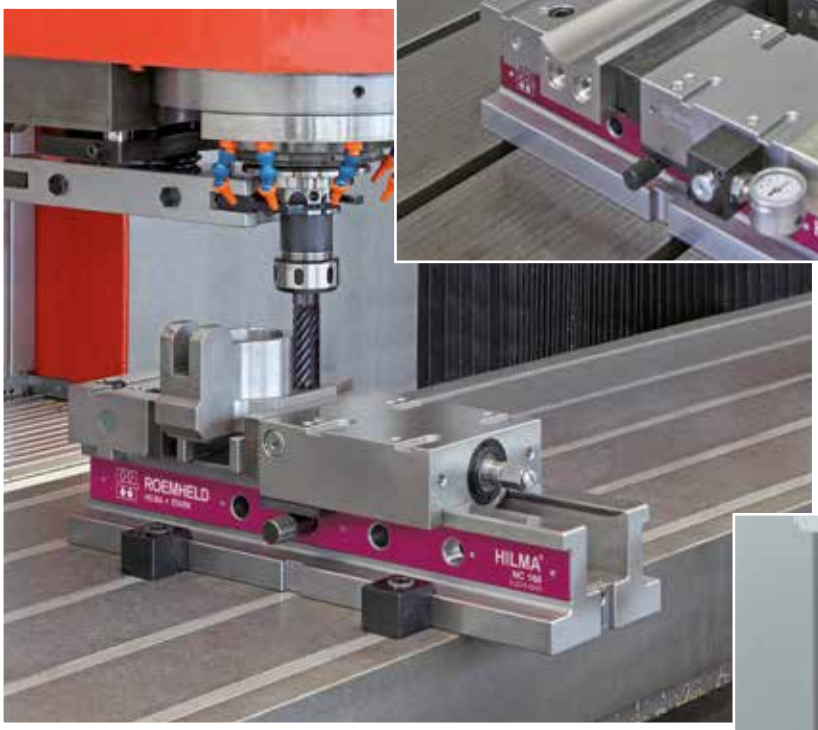
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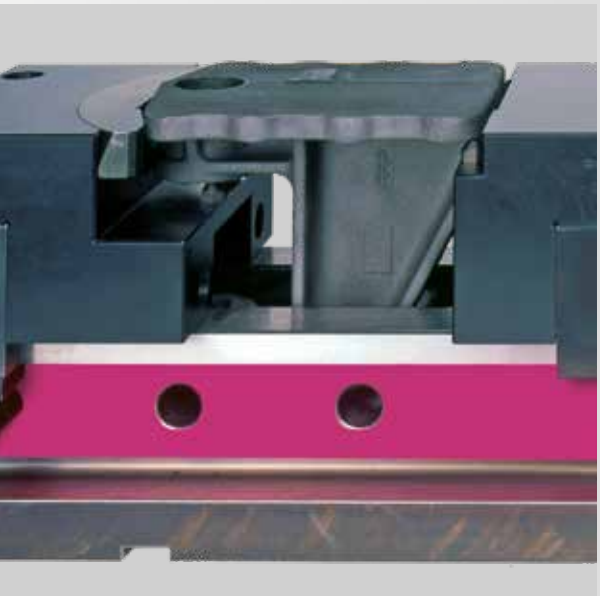
KNC back to back

DS hydraulic with floating jaws



NC with special clamping jaws

MC for 5-sided machining

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