



**ROEMHELD**  
HILMA ■ STARK



**Workholding Systems**

# **HILMA EL/NC**

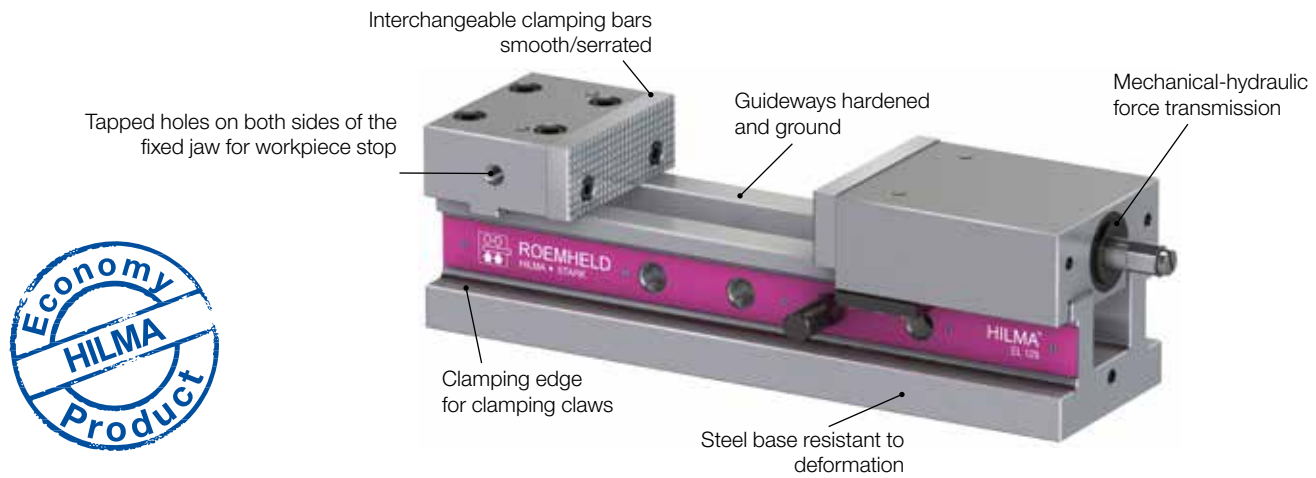
**1.3020**

**1.3070**

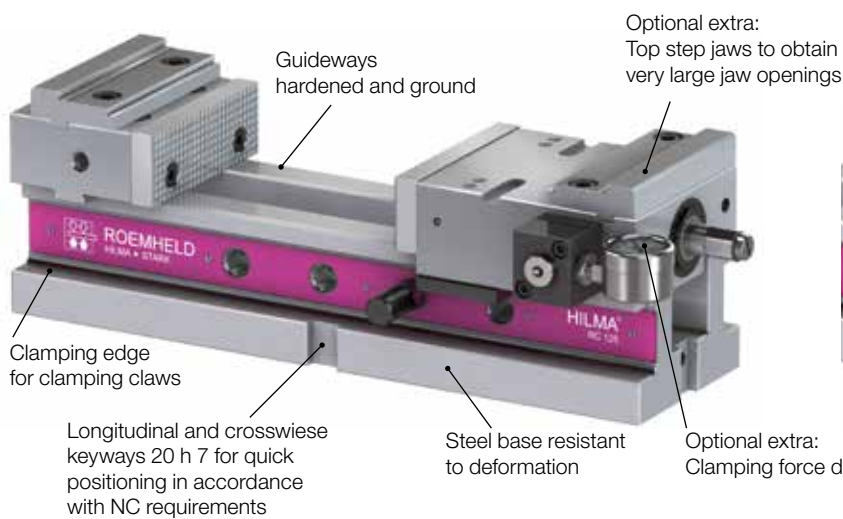
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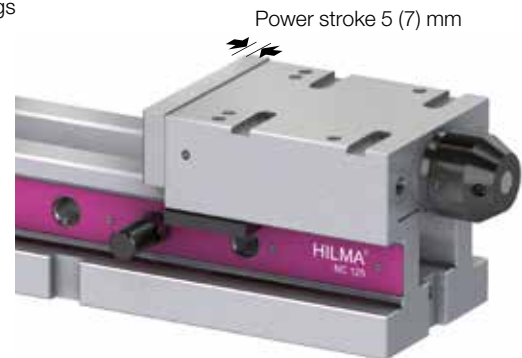
**EL machine vice**



**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



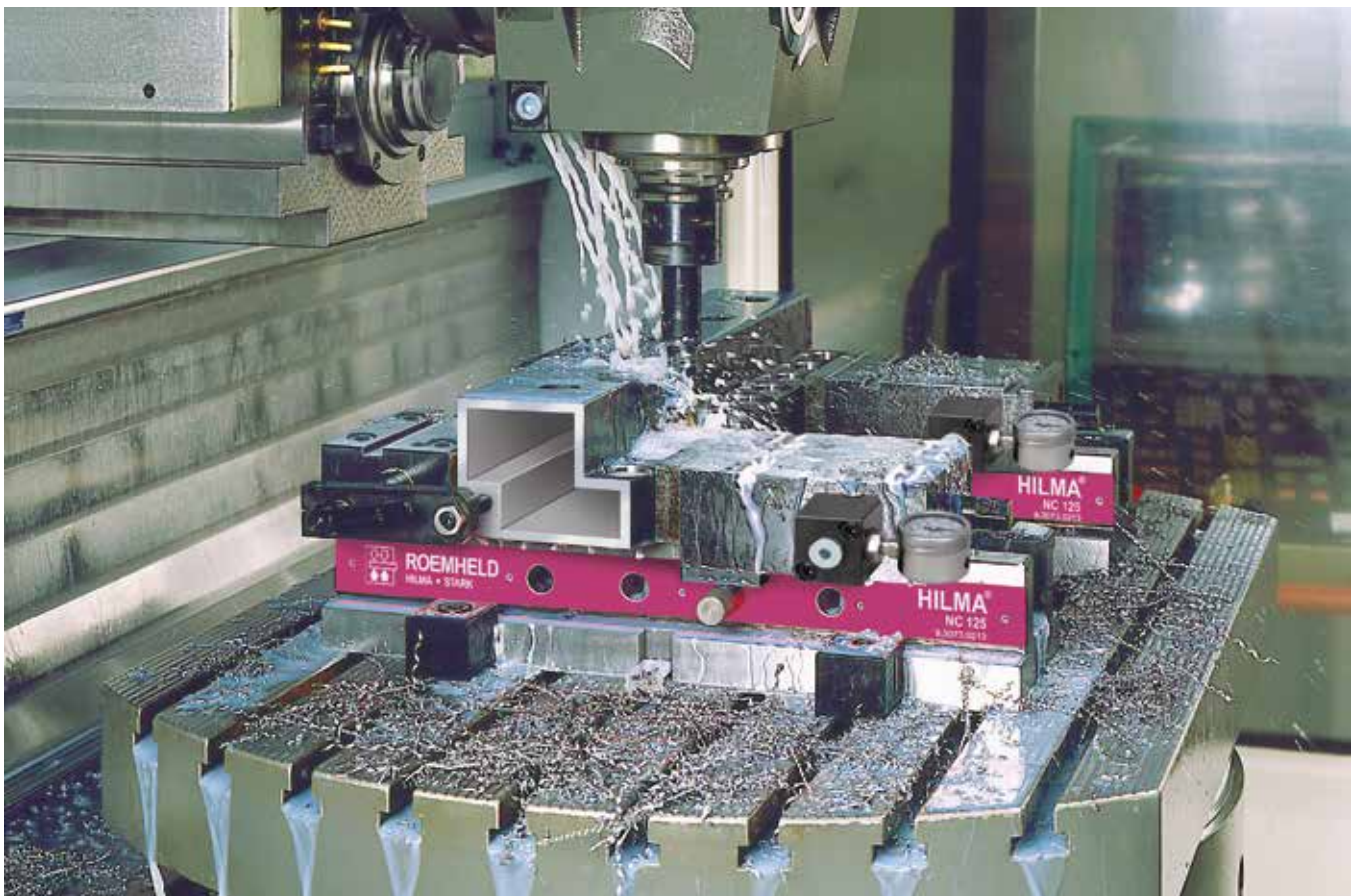
EL machine vice  
mechanical-hydraulic



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.

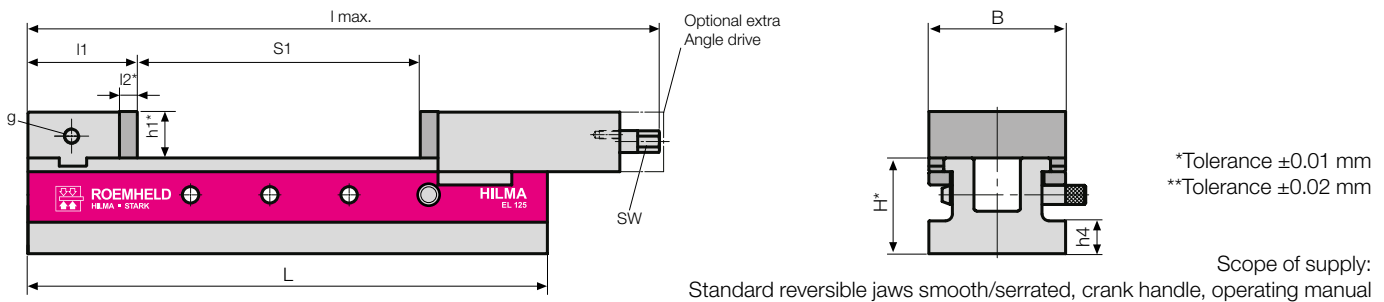
Minimum set-up times ensure versatile use and thus considerable cost reduction.

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**

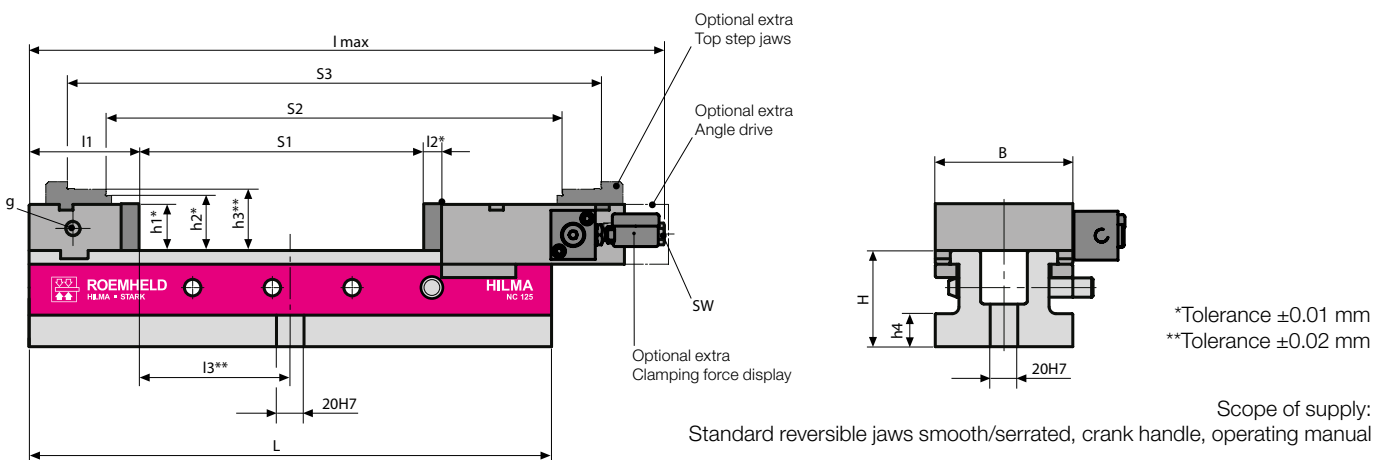
The mechanical-hydraulic force transmission requires minimum effort on the crank handle. An angle drive (optional extra), that can also be retrofitted, facilitates the operation, e.g. in the case of longitudinal clamping on the machine table. The optional clamping force preselection (retrofitable) enables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



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



Type	Part no.	Part no. with clamping force display	Clamp- ing 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
<b>NC100</b>	<b>930720203</b>	<b>930720213</b>	25	18.5	380	100	70	M12 x 18	34	40	45	24	464	80	13	110	205	330	386	14
<b>NC125</b>	<b>930730203</b>	<b>930730213</b>	40	31.5	430	125	82	M12 x 18	45	53	58	27	526	100	15	115	225	363	431	17
<b>NC160</b>	<b>930740203</b>	<b>930740213</b>	50	58.5	550	160	95	M20 x 27	54	65	70	27	684	120	18	155	309	503	573	19

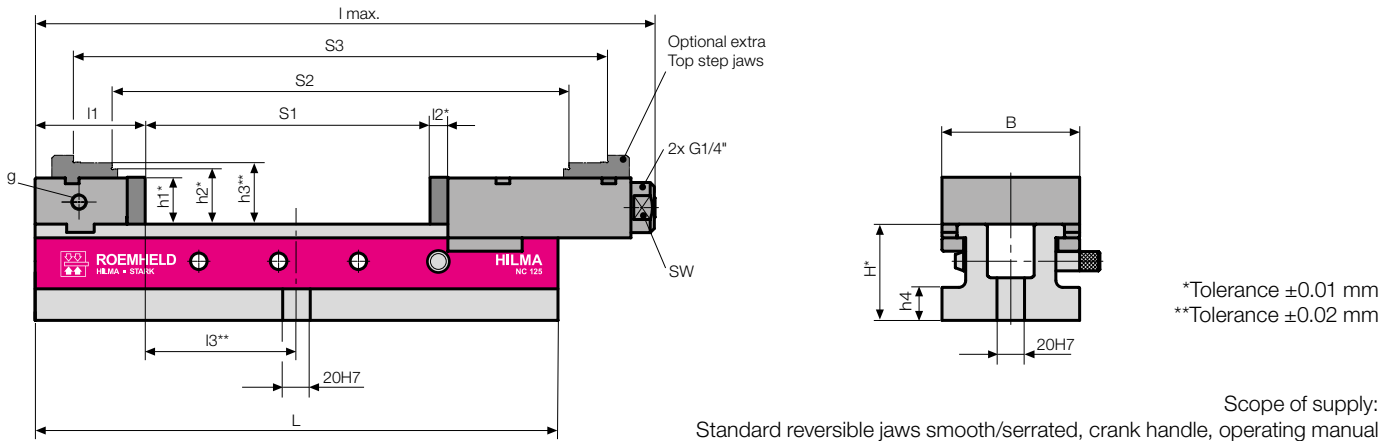
Jaws and accessories see page 6 to 10





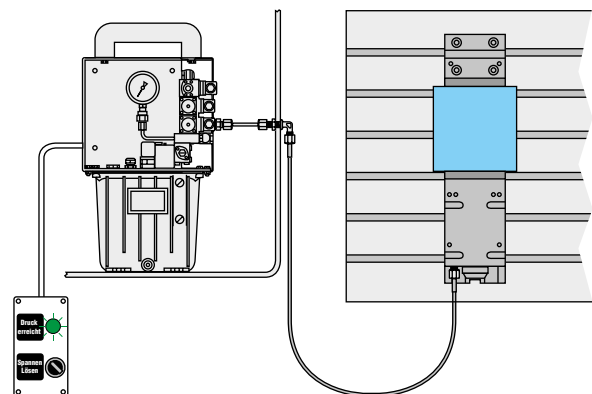
## NC machine vice hydraulic for use in semi or fully-automatic operation in series production

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 an electrical control pulse.



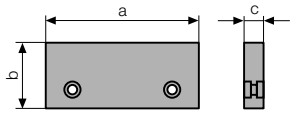
Type	Part no.	Clamp- ing force [kN]	Operating pressure [bar]	Stroke	Weight [kg]	Dimensions mm													Clamping width			
						L	B	H	g	h1	h2	h3	h4	l max.	l1	l2	l3	S1	S2	S3	SW	
<b>NC100</b>	<b>930820203</b>	25	350	5	18.5	380	100	70	M12 x 18	34	40	45	24	456	80	13	110	209	334	390	8	
<b>NC125</b>	<b>930830203</b>	40	350	5	31.5	430	125	82	M12 x 18	45	53	58	27	518	100	15	115	228	366	434	8	
<b>NC160</b>	<b>930840203</b>	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



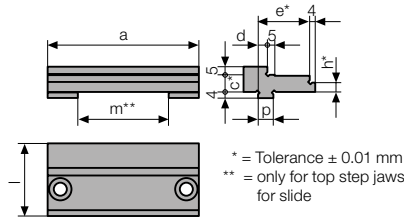
## Examples for hydraulic power units

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



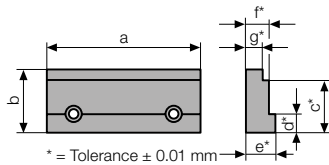
**Standard jaw smooth/serrated**

Part no.	a	b	c
<b>52058 1003</b>	100	34	13
<b>52058 1004</b>	125	45	15
<b>52058 1005</b>	160	54	18



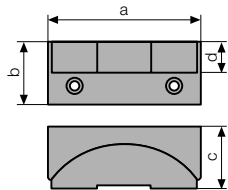
**Top step jaw**

for fixed jaw Part no.	for slide Part no.	a	c	d	e	h	l	m	p
<b>932840201</b>	<b>93284 1201</b>	100	11.5	6	34	6.5	48	60	10h6
<b>932840301</b>	<b>93284 1301</b>	125	14.0	6	40	9.0	58	65	12h6
<b>932840401</b>	<b>93284 1401</b>	160	17.0	8	43	12.0	64	88	18h6



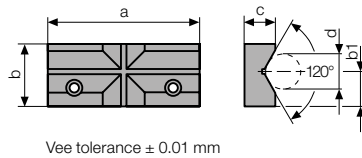
**Precision step jaw**

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



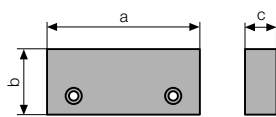
**Pendulum jaw**

Part no.	a	b	c	d
<b>83711 0208</b>	100	34	35	16
<b>83711 0308</b>	125	45	50	22
<b>83711 0408</b>	160	54	55	26



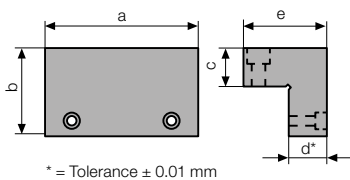
**Vee jaw**

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



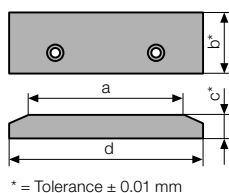
**Clamping jaw, soft**

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



**Clamping jaw, extra high**

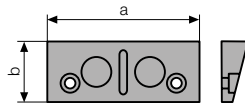
Part no.	a	b	c	d	e
<b>932830201</b>	100	58.0	25	25	60
<b>932830301</b>	125	75.5	32	32	74
<b>932830401</b>	160	92.5	40	40	100



**Clamping jaw extra large**

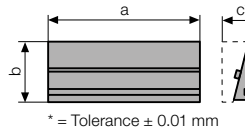
Part no.	a	b	c	d
<b>52058 1025</b>	100	34	13	125
<b>52058 1026</b>	125	45	15	160
<b>52058 1027</b>	160	54	20	200

all dimensions in mm



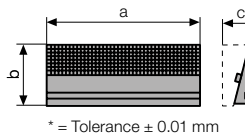
### QIS base jaw with permanent magnets

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



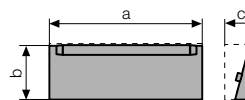
### QIS interchangeable jaw, smooth

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



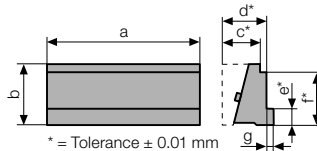
### QIS interchangeable jaw, serrated

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



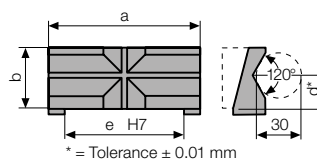
### QIS interchangeable jaw, crowned

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



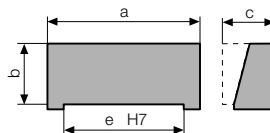
### QIS interchangeable jaw, stepped

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



### 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

all dimensions in mm

Mount magnetic base jaw



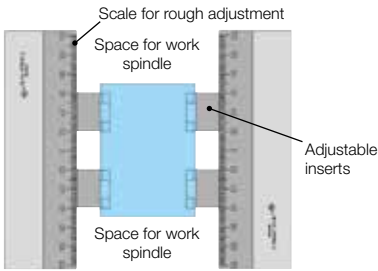
Parallel approach of the QIS jaw and insertion guided by a locating pin



**Jaw change in a few seconds:**

Push up the QIS jaw to the end of the slot and tilt

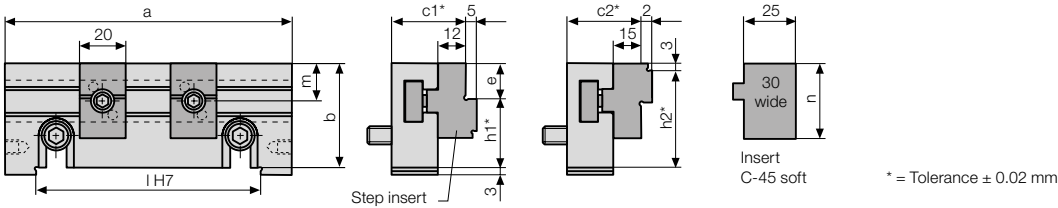




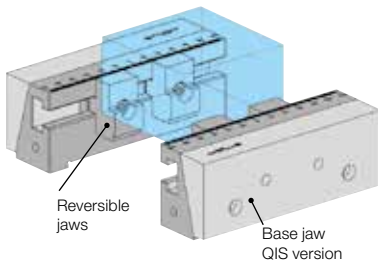
**SlimFlex jaw system, standard version**

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

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

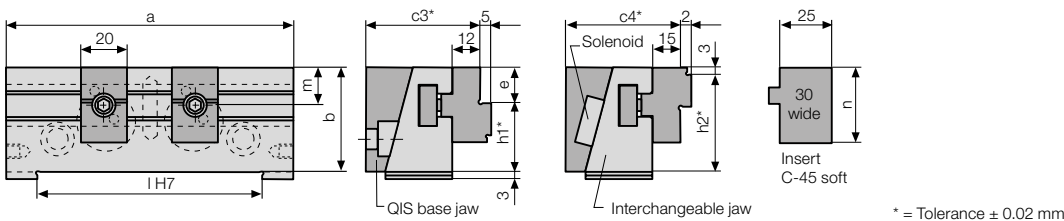


**Slim Flex jaw system, QIS version**



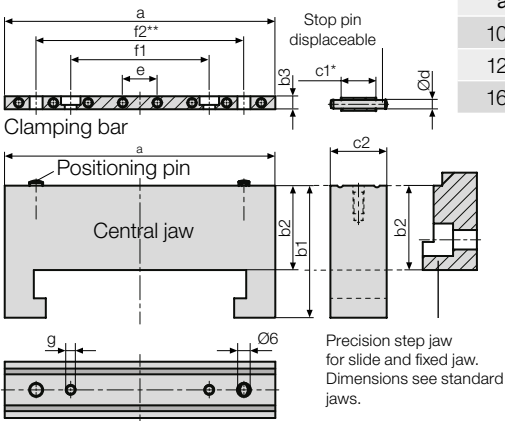
Jaw width	Part no. Interchangeable jaw without step inserts	Part no. Interchangeable jaw with step inserts	Part no. Insert C45 soft	Part no. QIS base jaw
100	<b>937719201</b>	<b>937719211</b>	<b>550500123</b>	<b>937710201</b>
125	<b>937719301</b>	<b>937719311</b>	<b>550500099</b>	<b>937710301</b>
160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

Jaw width	Dimensions in mm								
	a	b	c3	c4	e	h1	h2	l	m
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



**Floating central jaw, standard version**

Jaw width	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	<b>937150211</b>	<b>937151201</b>	<b>520820001</b>	48	29	5	12	20	3	13	52	78	M5
125	<b>937150311</b>	<b>937151301</b>	<b>520820002</b>	61	39	6	16	26	4	16	64	96	M5
160	<b>937150411</b>	<b>937151401</b>	<b>520820003</b>	70	45	9	20	30	5	20	80	120	M6



\* = 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

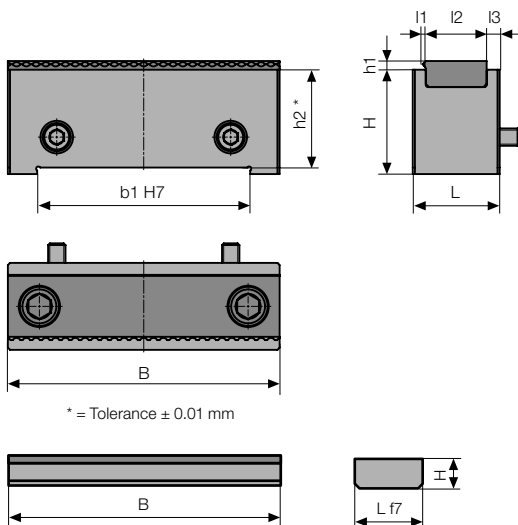
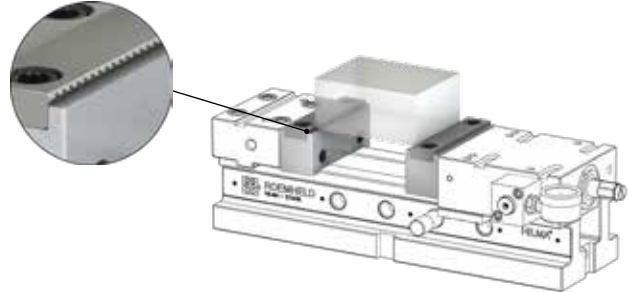
to increase the retention force

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.

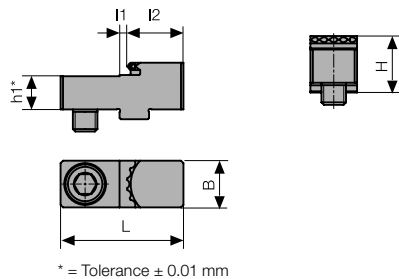


**Clamping bar with jaw insert, grip**

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

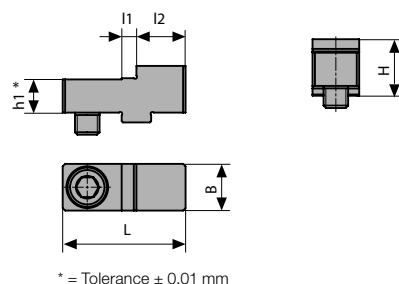
**Jaw insert for clamping bar, HM coated**

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



**Jaw insert for fixed jaw and slide, grip**

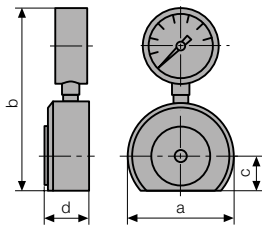
Part no.	L	B	H	l1	l2	h1	for VL/NC Jaw width
<b>932856006</b>	40	15	16.5	3	18	11.5	100
<b>932856008</b>	50	19	19	3	23	14	125
<b>932856010</b>	60	28	22	6	22	17	160



**Jaw insert for fixed jaw and slide, HM coated**

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

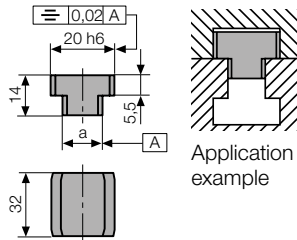
all dimensions in mm



**Load cell**

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

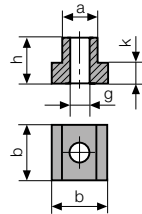
Part no.	Display range kN	a	b	c	d	For jaw width
<b>295010001</b>	0 – 60	88	150	29	37	100/125/160



**Set of key blocks DIN 6323**

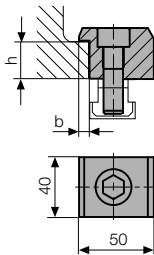
For precise alignment of the clamping device on the machine table the key blocks are inserted laterally.

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



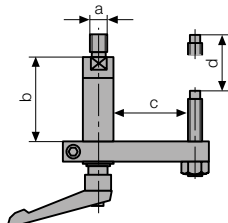
**Set of T-nuts DIN 508**

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



**Set of clamping claws with screws**

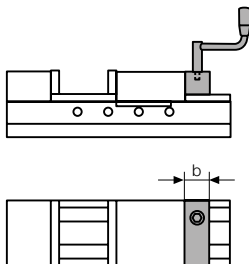
Part number for 4 off = 1 set	h	Socket head cap screw DIN 912
<b>937772011</b>	24	M 12 x 45 8.8
<b>937773011</b>	27	M 12 x 45 8.8
<b>937773021</b>	27	M 16 x 50 8.8



**Precision workpiece stop**

pivoting, rapid fixation, adjustment in 2 levels.

Part no.	For jaw width	a	b	c	d
<b>932910201</b>	100 / 125	M 12	61	95	46
<b>932910401</b>	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
<b>932940505</b>	100	10	39	125
<b>932940605</b>	125	10	43	125
<b>932940705</b>	160	10	46	125



**6-stage clamping force preselection**

retrofitable for hydro-mechanical vices

Part no.	For jaw width
<b>937620100</b>	100
<b>937620125</b>	125
<b>937620160</b>	160

all dimensions in mm





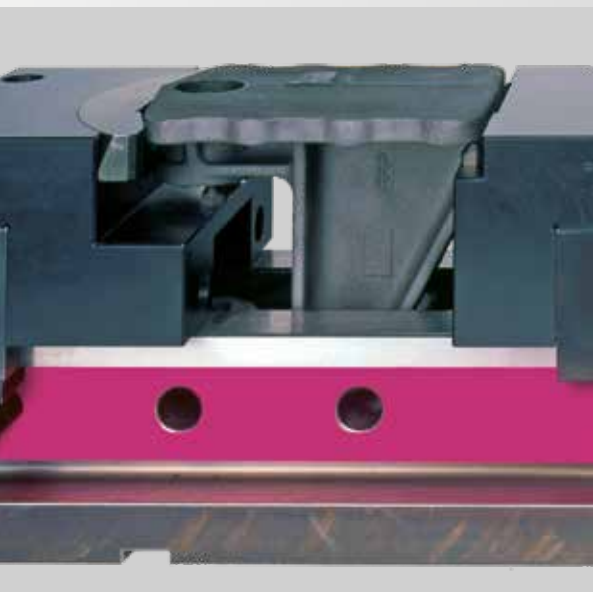


**ROEMHELD**  
HILMA ■ STARK

KNC back to back



DS hydraulic with floating jaws



NC with special clamping jaws



MC for 5-sided machining

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