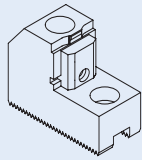


# Inogrip® Jaws

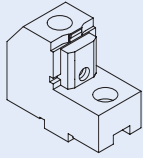
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## Inogrip Top Jaws

- Metric serrated
- External grip

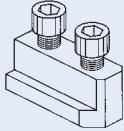
143



## Inogrip Top Jaws

- For quick change jaw chucks
- External grip

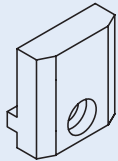
144



## T-Nuts

- To suit Inogrip Top Jaws

145



## Clamping Depth Stop

- To suit Inogrip Top Jaws

145

	Metric Serrated Top Jaws	Slot/ Tenon Quick Change Chuck Top Jaws	T-Nuts	Clamping Depth Stop
	Page	Page	Page	Page
KITAGAWA	143		145	145
SMW-AUTOBLOK		144		145

### THAME WORKHOLDING

Field End, Thame Road, Long Crendon, Aylesbury, Bucks, HP18 9EJ England  
 Telephone: + 44 (0)1844 208050 Fax: + 44 (0)1844 201699  
 E-mail: sales@thameworkholding.com Web: www.thameworkholding.com

# Inogrip Jaws - High Precision Clamping

## What's different about clamping with Inogrip Jaws?

Inogrip Jaws secure the workpiece by locking their precise tooth form into defined pre stamped identical indentations on the workpiece. This creates a positive locking between the workpiece and the clamping jaws giving an exceptionally secure holding force. The tooth form also has a depth register which provides an absolute precise reference; thus enabling workpieces to be re-inserted into the jaws with an accuracy of up to  $\pm 0.005\text{mm}$ . Stamping can be done on the clamping chuck or preferably at a separate stamping unit. All materials with a consistency of up to  $1,400\text{N/mm}^2$  can be stamped.



### Examples

Bearing Sleeve

Sealing Ring

Housing



<b>Material :</b>	ST52	16MnCr5	Aluminium
<b>Outside Ø :</b>	152mm	175mm	180mm
<b>Clamping Depth:</b>	6mm	6mm	10mm
<b>Clamping Force:</b>	1.5kN	7kN	3kN
<b>Surface Speed:</b>	180m/min	180m/min	250m/min
<b>Feed Rate:</b>	0.25mm	0.25mm	0.40mm
<b>Depth of Cut:</b>	3mm	2.5mm	3.5mm
<b>Tolerance Achieved:</b>	< 0.03mm	0.009mm	0.02mm

## What are the Advantages of using Inogrip Jaws?

Firstly low distortion - because the holding method is so secure, less chuck pressure is needed to hold the workpiece. Typically chuck pressure can be reduced to one tenth of normal requirement, this means greatly reduced distortion on thin walled parts.

Fewer machining operations - lower distortion means improved roundness of bores and turned diameters so that a final turning or grinding operation can be avoided. One jaw set can be used for both roughing and finishing. The stable holding of the workpiece reduces vibration and therefore improves the finishing quality.

Costly material saved - workpieces only require to be clamped on 6mm for a stable and secure hold compared to the 20-25mm required with other chuck jaws. This results in substantial material cost savings per piece.

High repeatability - the precise indentations allow the part to be removed from a chuck and re-inserted exactly opening up the possibility of other operations such as milling and measurement being added to the process.

High performance - the accuracy and exceptionally secure grip allows the process to be used on all round workpieces at optimum operating levels giving a lower cost and higher quality per part.



Raw Material and machined part



Stamping Unit

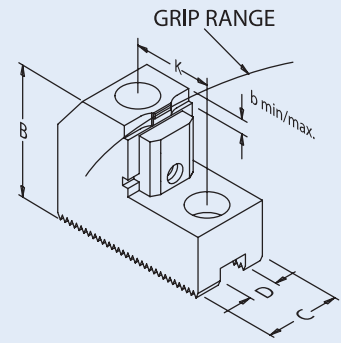
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# Inogrip® Top Jaws

To suit Power Chucks  
Serrated and Quick Jaw Change Types  
For Metric Serrated Chucks 1.5mm x 60°

External Clamping



## To suit • Kitagawa Chuck Series B200

CHUCK Ø	TYPE	EXTERNAL GRIP RANGES	EXTERNAL GRIP JAW PART No	B	C	D	K	b min	b max	T-Nut	SERRATION
165	B206	30 - 69	ZF 20	42	35	12	16	6	10	GP45	1.5mm x 60°
		48 - 87	ZF 22								
		87 - 98	ZF 23*								
		98 - 118	ZF 24								
		118 - 130	ZF 25*								
		130 - 166	ZF 26								
200	B208	30 - 74	ZF 30	45	40	14	18	6	10	GP55	1.5mm x 60°
		70 - 120	ZF 31								
		120 - 156	ZF 32								
		156 - 200	ZF 33								
250	B210	40 - 95	ZF 40	46	40	16	22	6	10	GP60	1.5mm x 60°
		89 - 147	ZF 41								
		147 - 191	ZF 42								
		191 - 245	ZF 43								

## To suit • Kitagawa Chuck Series BB

CHUCK Ø	TYPE	EXTERNAL GRIP RANGES	EXTERNAL GRIP JAW PART No	B	C	D	K	b min	b max	T-Nut	SERRATION
165	BB206	38 - 77	ZF 20	46	35	12	16	6	10	GP45	1.5mm x 60°
		56 - 94	ZF 22								
		107 - 126	ZF 24								
		139 - 178	ZF 26								
210	BB208	35 - 86	ZF 30	45	40	14	18	6	10	GP55	1.5mm x 60°
		75 - 126	ZF 31								
		131 - 164	ZF 32								
		167 - 218	ZF 33								
254	BB210	42 - 106	ZF 40	46	40	16	22	6	10	GP60	1.5mm x 60°
		91 - 155	ZF 41								
		154 - 202	ZF 42								
		192 - 262	ZF 43								

\* Due to the design these Inogrip Jaws have a small grip range.

The Inogrip Jaws are supplied with 6mm clamping depth support as standard.

Inogrip Jaws can also be supplied to suit other makes of chuck.

### THAME WORKHOLDING

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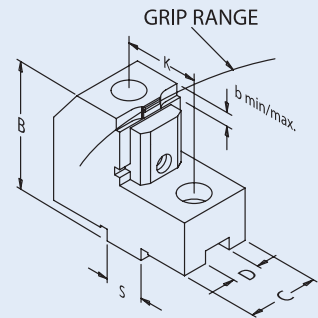
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# Inogrip® Top Jaws

To suit Power Chucks  
Serrated and Quick Jaw Change Types  
For Slot/Tenon Quick Change Chucks

External Clamping



## To suit • SMW-Autoblok Chuck Series KNCS-N

CHUCK Ø	TYPE	GRIPPING RANGES	BASE POS.	THAME PART No	B	C	D	K	S	b min	b max	WEIGHT Kg/Set
170	KNCS-N	23 - 31 32 - 40 41 - 50	1	KT 10	44	25	8	32	18	6	10	1.1
	170-43	31 - 39 40 - 49 50 - 58 59 - 68	2									
		57 - 65 66 - 74 76 - 84	1	KT 12						6	10	1.1
		85 - 93 94 - 103	1									
		75 - 83 84 - 93	2									
		94 - 102 103 - 112	2									
		121 - 129 130 - 139	1	KT 14						6	10	1.2
		140 - 148 149 - 157 158 - 167	1									
		139 - 147 148 - 156	2									
		157 - 166 167 - 175 175 - 185	2									
210	KNCS-N	26 - 64	1	KT 20	44	27	10	40	20	6	10	1.2
	210-52	36 - 102	2									
		65 - 130	1	KT 22						6	10	1.2
		103 - 168	2									
		145 - 210	1	KT 24						6	10	1.3
	183 - 248	2										
225	KNCS-N	28 - 74	1	KT 20	44	27	10	40	20	6	10	1.2
	225-65	38 - 102	2									
		66 - 141	1	KT 22						6	10	1.2
		104 - 179	2									
		146 - 221	1	KT 24						6	10	1.3
	184 - 261	2										
260	KNCS-N	23 - 78	1	KT 30	49	27	12	40	20	6	10	1.3
	260-72	65 - 142	2									
		81 - 158	1	KT 32						6	10	1.4
		145 - 222	2									
		151 - 228	1	KT 34						5	10	1.5
	215 - 292	2										
315	KNCS-N	22 - 121	1	KT 30	49	27	12	40	20	6	10	1.3
	315-91	99 - 209	2									
		91 - 201	1	KT 32						6	10	1.4
		179 - 289	2									
		161 - 271	1	KT 34						6	10	1.5
	249 - 359	2										

The Inogrip Jaws are supplied with 6mm clamping depth support as standard.

Inogrip Jaws can also be supplied to suit other makes of chuck.

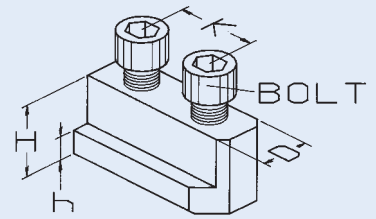
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# Inogrip® T-Nuts

Material:

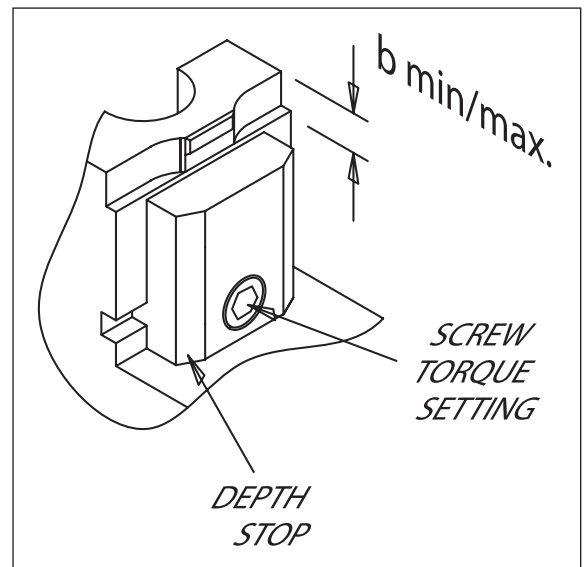
- Steel: 817M40
- Blacked and ground



THAME PART No.	D	H	h	K	BOLT	CHUCK
GP 45	12	18.5	7.5	16	M8x25	B206 BB206
GP 47	12	18.5	7.5	26	M8x25	B206 BB206
GP 55	14	20.5	8.5	18	M10x25	B208 BB208
GP 56	14	20.5	8.5	27	M10x25	B208 BB208
GP 60	16	21.5	8.5	22	M12x25	B210 BB210
GP 11	16	21.5	8.5	30	M12x30	B210 BB210

## Clamping Depth Stop

THAME PART No.	b = CLAMPING TEETH DEPTH	TORQUE
AB 06	6	T15
AB 10	10	T15



## Save on material costs



Clamping depth of up to 25mm normally required with conventional jaws.



Clamping depth with Inogrip 6 - 10mm.

**Example:** 100mm diameter Mild Steel Bar. If you save 20mm on the grip depth the material cost savings per part would be approximately 50p.

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