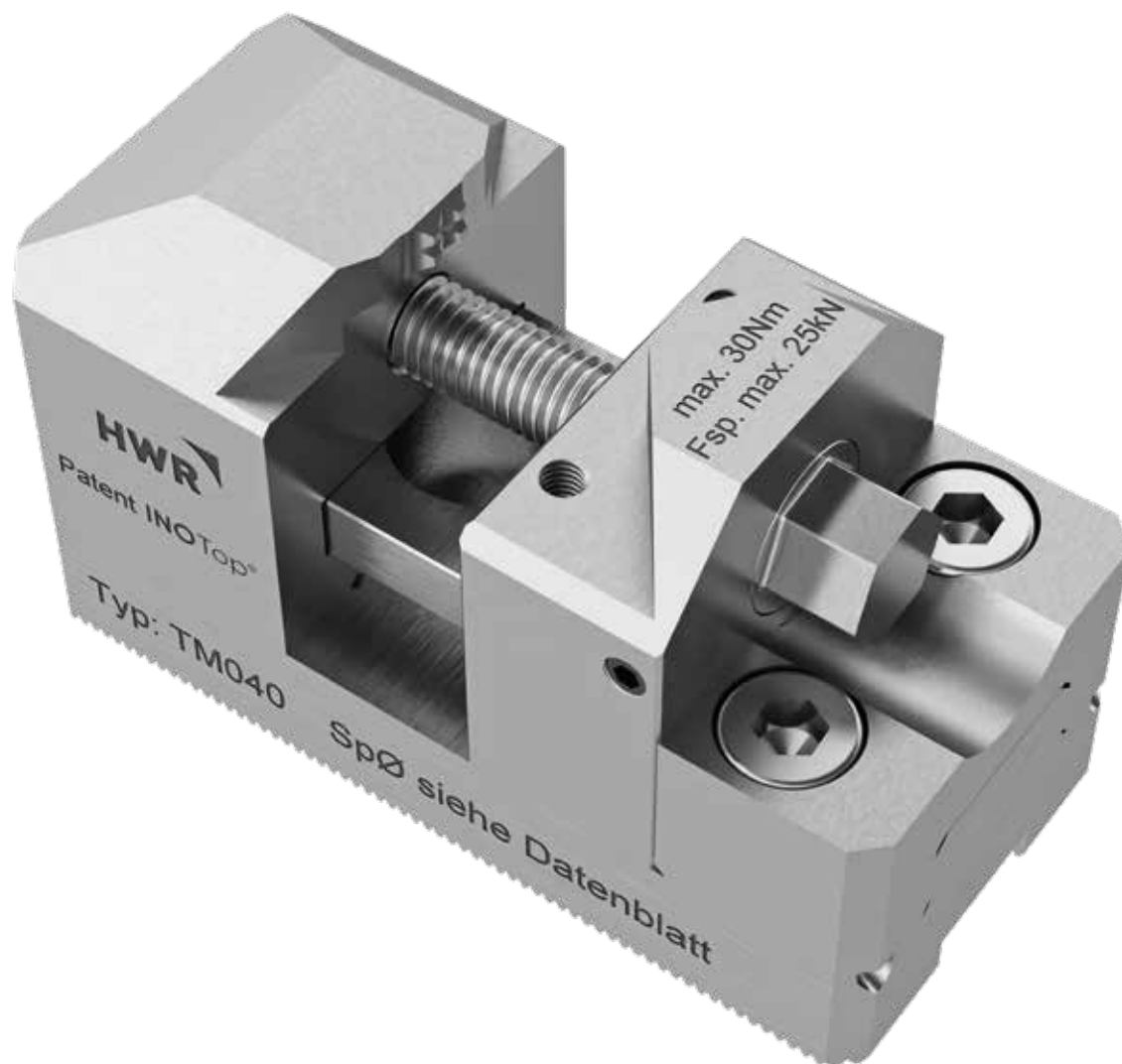




INO^{Top}® クランプシステムは、ジョー組み付けに関係なく、直径260mm以上のほぼすべての既存チャックに使用することができます。クランプ工程で発生する変形は、もはや問題にはなりません。

The INO^{Top}® clamping system can be used on almost any existing chuck from a diameter of 260 mm, no matter which jaw connection is used. Deformations caused by the clamping process are therefore no longer an issue.

INOTop®

圧力のないクランプ

Clamping without pressure

カウンターベアリングによる 最適な丸み

INOTop® は、固定カウンターベアリングの原理により、最高の真円度を実現します。INOTop® を使用することで、特に薄肉部品は多角形を形成することなくクランプすることができます。

- ・ワーククランプは外側からの圧力なしに、中央に配置されます。
- ・ポリゴン形成なし
- ・完全な真円度の仕上がり
- ・可動式ジョーによる確実なクランプ力
- ・ローコスト
- ・高価で特別なクランプステーションは必要ありません

OPTIMAL ROUNDNESS DUE TO COUNTER BEARINGS

INOTop® produces best roundness results thanks to the fixed counter bearing principle. By using INOTop®, thin-walled parts in particular can be clamped without polygon formation.

- Part is centred without pressure from outside for clamping
- Without polygon formation
- Perfect roundness results
- Defined clamping force by the moveable jaw
- Low-costs
- No expensive special clamping solutions needed



低変形クランプ

Low deformation clamping

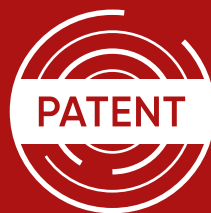
圧力をかけないクランプ

HWRの革新的なINOTop® ハイブリッドクランプジョーは、特に変形に敏感なパーツの旋削加工用に設計されました。従来のチャックにINOTop® を組付けることで、変形に敏感な部品はチャック機能により外側からの圧力はかけずにセンターを決め、内側からクランプします。そのため、INOTop® は不要なポリゴンの形成を防ぎます。従来は高価な特殊クランプを使用しなければ実現できなかった旋盤加工が、低コストで簡単に実現できるようになりました。HWRの革新的なINOTop® ハイブリッドクランプジョーにより、INOTop® は固定カウンターベアリング原理で最高の真円度を実現します。



CLAMPING WITHOUT PRESSURE

The innovative **INOTop®** hybrid clamping jaw by HWR was designed specifically for turning deformation-sensitive parts. In conventional chucks with **INOTop®**, components that are sensitive to deformation are simply centred without external pressure via the chuck function and then clamped from the inside. **INOTop®** thus prevents unwanted polygon formation. Turning results that were previously only possible with costly special clamping solutions can now be achieved at low cost quite easily. With the innovative **INOTop®** hybrid clamping jaws by HWR, **INOTop®** produces best roundness results thanks to the fixed counter bearing principle.



仕組み

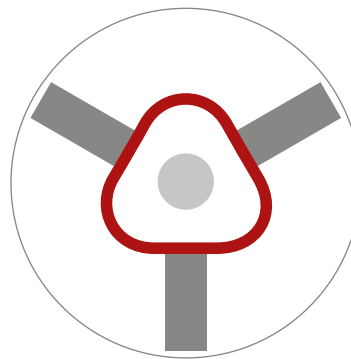
従来のクランプでは、クランプポイントを経由してワークにクランプ圧を伝えていました。しかし薄肉ワークの場合、この締め付け圧力はワークの形状に大きな影響を与え、その結果クランプによる変形が発生し、真円度に悪影響をおよぼしていました。

INO^{Top}® を使用すると、チャックの機能はワークのセンタリングのみに使用され、クランプ処理自体には使用されません。つまり、ワークのセンタリングが完了した後は、それ以上ワークにクランプ圧が掛からない程度にクランプ圧を下げる事ができるのです。センタリング処理後、INO^{Top}® のジョーにあるスピンドルを手動で操作することにより、移動するグリッパージョーはセンタリング(固定カウンターサポート)に対して内側から引っ張られます。このクランプはワークの形状に影響を与えません。

HOW IT WORKS

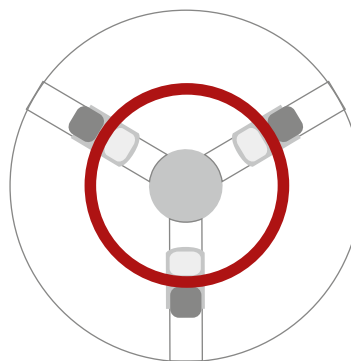
In conventional clamping, the clamping pressure is introduced into the workpiece via the clamping points. With thin-walled workpieces, this clamping pressure has a considerable influence on the geometry of the workpiece. The result is a deformation due to the clamping process, which has a negative effect on the roundness results.

When INO^{Top}® is used, the function of the chuck is only used for centering the workpiece and not for the clamping process itself. This means that the clamping pressure can be reduced to such an extent that no further clamping pressure is applied to the workpiece after the workpiece has been centered. Following the centering process, the moving gripper jaw is now pulled from the inside against the centering, the fixed counter support, by manually actuating the spindle in the INO^{Top}® jaw. The clamping has no influence on the workpiece geometry.



従来の3点クランプ

Conventional 3-point clamping



INO^{Top}® のカウンターベアリング原理

The INO^{Top}® counter bearing principle

INO^{Top}®

チャック固有データ

Chuck specific data

技術データは 92-93 ページをご覧ください

Technical data see page 92-93

チャックメーカー chuck manufacturer	チャックタイプ chuck type	チャック サイズ chuck size	チャックへのジョー組付け jaw-connection of the chuck		タイプ zeichnung type de- signation	ID番号 ident-no.	クランプ範囲 [外径] clamping range [external] min.-max./mm	ワーク肉厚 wall thickness of workpiece min.-max./mm	スイング swing Ø mm	* 必要な Tナット * needed t-nut
			ø mm	S mm / V	N mm					
Auto Strong	N-208	210	V = 1,5mm x 60°	N = 14	TM030	813030	150 - 210	3 - 25	290	GP09
	V-208		V = 1,5mm x 60°	N = 14	TM030	813030	150 - 210	3 - 25	290	GP08
	N-210	254	V = 1,5mm x 60°	N = 16	TM040	813040	165 - 254	3 - 25	335	TT70
	V-210		V = 1,5mm x 60°	N = 16	TM040	813040	160 - 254	3 - 25	335	TT22
	N-212	304	V = 1,5mm x 60°	N = 21	TM052	813052	195 - 304	3 - 25	385	TT40
	V-212		V = 1,5mm x 60°	N = 18	TM050	813050	185 - 304	3 - 25	385	GN78
	N-215	381	V = 1,5mm x 60°	N = 22	TM060	813060	275 - 381	6 - 50	490	GP15
	V-215		V = 1,5mm x 60°	N = 25,5	TM060	813060	275 - 381	6 - 50	490	X5507
	N-218	450	V = 3,0mm x 60°	N = 25,5	TM060	813060	275 - 450	6 - 50	560	GP15
	V-218		V = 3,0mm x 60°	N = 25,5	TM060	813060	335 - 450	6 - 50	560	X5507
	N-220	510	V = 3,0mm x 60°	N = 25,5	TM080	813080	345 - 510	6 - 50	620	GP15
	N-221	530	V = 3,0mm x 60°	N = 25,5	TM080	813080	295 - 530	6 - 50	640	X5507
	V-221		V = 3,0mm x 60°	N = 25,5	TM080	813080	295 - 530	6 - 50	640	
	N-224	610	V = 3,0mm x 60°	N = 25,5	TM080	813080	405 - 610	6 - 50	720	
	V-224		V = 3,0mm x 60°	N = 25,5	TM080	813080	375 - 610	6 - 50	720	
	V-232	810	V = 3,0mm x 60°	N = 25,5	TM080	813080	335 - 810	6 - 50	920	
Bison	3200 / 3500 - 200	200	S = 7,94	N = 12,69	TZ031	814031	150 - 200	3 - 25	280	
	3200 / 3500 - 250	250	S = 12,7	N = 19,04	TZ040	814040	150 - 250	3 - 25	330	
	3200 / 3500 - 315	315	S = 12,7	N = 19,04	TZ043	814043	185 - 315	3 - 25	395	
	3200 / 3500 - 400	400	S = 12,7	N = 19,04	TZ060	814060	250 - 400	6 - 50	510	
	3200 / 3500 - 500	500	S = 12,7	N = 19,04	TZ063	814063	250 - 500	6 - 50	610	
Forkardt	F+ 200	200	S = 10	N = 20	TK030	811030	150 - 206	3 - 25	290	
	FNC 200		S = 10	N = 20	TK030	811030	150 - 206	3 - 25	290	
	KTG / KTN 200		V = 1/16" x 90°	N = 17	TD040	812040	150 - 200	3 - 25	280	GG20
	NH / NHF 200		V = 1/16" x 90°	N = 17	TD040	812040	150 - 200	3 - 25	280	GG20
	QLC / QLK 200		V = 1,5mm x 60°	N = 14	TM030	813030	155 - 210	3 - 25	290	*
	QLC / QLK 200		V = 1/16" x 90°	N = 17	TD040	812040	150 - 210	3 - 25	290	GG20
	QLC-KS / QLK-KS 200		V = 1/16" x 90°	N = 17	TD040	812040	155 - 200	3 - 25	280	GG20

・ 特別なTナット
* special t-nut

チャックメーカー chuck manufacturer	チャックタイプ chuck type	チャック サイズ chuck size	チャックへのジョー組付け jaw-connection of the chuck		タイプ type de- signation	ID番号 ident-no.	クランプ範囲 [外径] clamping range [external] min.-max./mm	ワーク肉厚 wall thickness of workpiece min.-max./mm	スイング swing Ø mm	* 必要な * Tナット * needed t-nut
			ø mm	S mm / V						
Forkardt	F+ 250	250	S = 12	N = 20	TK040	811040	150 - 255	3 - 25	335	
	FNC 250		S = 12	N = 20	TK040	811040	150 - 250	3 - 25	330	
	KTG / KTN 250		V = 1/16" x 90°	N = 21	TD046	812046	150 - 250	3 - 25	330	TT35
	KTNC 250		S = 12	N = 20	TK040	811040	150 - 225	3 - 25	305	
	NH / NHF 250		V = 1/16" x 90°	N = 21	TD046	812046	155 - 250	3 - 25	330	TT35
	QLC / QLK 250		V = 1,5mm x 60°	N = 16	TM040	813040	165 - 257	3 - 25	340	TT70
	QLC / QLK 250		V = 1/16" x 90°	N = 21	TD046	812046	160 - 257	3 - 25	340	TT35
	QLC-KS / QLK-KS 250		V = 1,5mm x 60°	N = 16	TM040	813040	200 - 257	3 - 25	340	GN16
	QLC-KS / QLK-KS 250		V = 1/16" x 90°	N = 17	TD040	812040	185 - 257	3 - 25	340	GG20
	F+ 315	315	S = 12	N = 26	TK050	811050	150 - 318	3 - 25	400	
	FNC 315		S = 12	N = 20	TK040	811040	150 - 315	3 - 25	395	
	KTG / KTN 315		V = 1/16" x 90°	N = 21	TD046	812046	150 - 315	3 - 25	395	TT35
	KTNC 315		S = 12	N = 20	TK040	811040	150 - 285	3 - 25	365	
	NH / NHF 315		V = 1/16" x 90°	N = 21	TD046	812046	165 - 315	3 - 25	395	TT35
	QLC / QLK 315		V = 1,5mm x 60°	N = 21	TM052	813052	195 - 320	3 - 25	400	TT35
	QLC / QLK 315		V = 1/16" x 90°	N = 21	TD046	812046	175 - 320	3 - 25	400	TT35
	QLC-KS / QLK-KS 315		V = 1,5mm x 60°	N = 21	TM052	813052	245 - 320	3 - 25	400	TT35
	QLC-KS / QLK-KS 315		V = 1/16" x 90°	N = 21	TD046	812046	225 - 320	3 - 25	400	TT35
	F+ 400	400	S = 18	N = 30	TK080	811080	250 - 400	6 - 50	510	
	FNC 400		S = 12	N = 26	TK060	811060	250 - 388	6 - 50	495	
	KTG / KTN 400		V = 3/32" x 90°	N = 25,5	TD066	812066	250 - 400	6 - 50	510	GN40
	KTNC 400		S = 12	N = 26	TK060	811060	250 - 374	6 - 50	480	
	KTNC 400		S = 12	N = 26	TK060	811060	250 - 374	6 - 50	480	
	NHF 400		V = 1/16" x 90°	N = 21	TD060	812060	260 - 400	6 - 50	510	*
	NHF 400		V = 3/32" x 90°	N = 25,5	TD066	812066	260 - 400	6 - 50	510	GN40
	QLC / QLK 400		V = 1,5mm x 60°	N = 21	TM062	813062	280 - 400	6 - 50	510	TT35
	QLC / QLK 400		V = 1/16" x 90°	N = 21	TD060	812060	270 - 400	6 - 50	510	*
	QLC / QLK 400		V = 3/32" x 90°	N = 25,5	TD066	812066	270 - 400	6 - 50	510	GN40
	QLC-KS / QLK-KS 400		V = 1,5mm x 60°	N = 21	TM062	813062	310 - 400	6 - 50	510	TT35
	QLC-KS / QLK-KS 400		V = 1/16" x 90°	N = 21	TD060	812060	295 - 400	6 - 50	510	GN25
	F+ 500	500	S = 18	N = 30	TK080	811080	250 - 500	6 - 50	610	
	FNC 500		S = 18	N = 30	TK080	811080	250 - 500	6 - 50	610	
	KTNC 500		S = 18	N = 30	TK080	811080	250 - 459	6 - 50	565	



INO^{Top}®

チャック固有データ

Chuck specific data

技術データは 92-93ページをご覧ください

Technical data see page 92-93

チャックメーカー chuck manufacturer	チャックタイプ chuck type	チャック サイズ chuck size	チャックへのジョー組付け jaw-connection of the chuck		タイプ type de- signation	ID番号 ident-no.	クランプ範囲 [外径] clamping range [external] min.-max./mm	ワーク肉厚 wall thickness of workpiece min.-max./mm	スイング swing Ø mm	* 必要な * Tナット * needed t-nut
			ø mm	S mm / V						
HWR	VD026	260	V = 1,5mm x 60°	N = 16	TM040-4	813141	170 - 255	3 - 25	371	TT70
	VK026		V = 1,5mm x 60°	N = 16	TM040-4	813141	170 - 255	3 - 25	371	TT70
	VK-S 026		V = 1,5mm x 60°	N = 16	TM040-4	813141	170 - 255	3 - 25	371	TT70
	VT026		V = 1,5mm x 60°	N = 16	TM040-4	813141	190 - 264	3 - 25	371	TT70
	VT-S 026		V = 1,5mm x 60°	N = 16	TM040-4	813141	190 - 264	3 - 25	371	TT70
	VD031	315	V = 1,5mm x 60°	N = 16	TM040-4	813141	170 - 315	3 - 25	425	TT70
	VK031		V = 1,5mm x 60°	N = 16	TM040-4	813141	170 - 315	3 - 25	425	TT70
	VT031		V = 1,5mm x 60°	N = 16	TM040-4	813141	215 - 315	3 - 25	425	TT70
	VT-S 031		V = 1,5mm x 60°	N = 16	TM040-4	813141	215 - 315	3 - 25	425	TT70
	VD040	400	V = 1,5mm x 60°	N = 21	TM062-4	813162	280 - 400	6 - 50	566	TT65
	VK040		V = 1,5mm x 60°	N = 21	TM062-4	813162	280 - 400	6 - 50	566	TT65
	VK-S 040		V = 1,5mm x 60°	N = 21	TM062-4	813162	280 - 400	6 - 50	566	TT65
	VT040		V = 1,5mm x 60°	N = 21	TM062-4	813162	280 - 400	6 - 50	566	TT65
	VT-S 040		V = 1,5mm x 60°	N = 21	TM062-4	813162	280 - 400	6 - 50	566	TT65
	VL042	420	V = 1,5mm x 60°	N = 16	TM040-4	813141	170 - 420	3 - 25	525	TT70
	VD050	500	V = 3,0mm x 60°	N = 25	TM080-4	813180	280 - 500	6 - 50	660	TT55
	VK050		V = 3,0mm x 60°	N = 25	TM080-4	813180	295 - 500	6 - 50	660	TT55
	VK-S 050		V = 3,0mm x 60°	N = 25	TM080-4	813180	330 - 500	6 - 50	660	TT55
	VT050		V = 3,0mm x 60°	N = 25	TM080-4	813180	335 - 500	6 - 50	660	TT55
	VT-S 050		V = 3,0mm x 60°	N = 25	TM080-4	813180	335 - 500	6 - 50	660	TT55
	VL060	600	V = モデル 2	N = 16	TR060-4	816160	280 - 600	6 - 50	740	GP11
	VD063	630	V = 3,0mm x 60°	N = 25	TM080-4	813180	280 - 630	6 - 50	792	TT55
	VK063		V = 3,0mm x 60°	N = 25	TM080-4	813180	320 - 630	6 - 50	792	TT55
	VK-S 063		V = 3,0mm x 60°	N = 25	TM080-4	813180	320 - 630	6 - 50	792	TT55
	VT-S 063		V = 3,0mm x 60°	N = 25	TM080-4	813180	320 - 630	6 - 50	792	TT55
	VL070	700	V = モデル 2	N = 16	TR060-4	816160	280 - 700	6 - 50	840	GP11
	VD080	800	V = 3,0mm x 60°	N = 25	TM080-4	813180	290 - 800	6 - 50	961	TT55
	VK080		V = 3,0mm x 60°	N = 25	TM080-4	813180	295 - 800	6 - 50	961	TT55

チャックメーカー chuck manufacturer	チャックタイプ chuck type	チャック サイズ chuck size	Backenanschluss des Futters チャックへのジョー組付け		タイプ type de- signation	ID番号 ident-no.	クランプ範囲 〔外径〕 clamping range 〔external〕 min.-max./mm	ワーク肉厚 wall thickness of workpiece min.-max./mm	スイング swing Ø mm	必要な Tナット * needed t-nut
			ø mm	S mm / V	N mm					
HWR	VK-S 080	800	V = 3,0mm x 60°	N = 25	TM080-4	813180	295 - 800	6 - 50	961	TT55
	VT-S 080		V = 3,0mm x 60°	N = 25	TM080-4	813180	295 - 800	6 - 50	961	TT55
	VD100	990	V = 3,0mm x 60°	N = 25	TM080-4	813180	290 - 990	6 - 50	1161	TT55
	VK-S 100		V = 3,0mm x 60°	N = 25	TM080-4	813180	335 - 990	6 - 50	1161	TT55
	VL100		V= モデル 2	N = 21	TR080-4	816180	280 - 990	6 - 50	1135	GP13
	VL120	1150	V= モデル 2	N = 21	TR080-4	816180	280 - 1150	6 - 50	1295	GP13
	VL140		V= モデル 2	N = 21	TR080-4	816180	280 - 1400	6 - 50	1545	GP13
	VL160	1600	V= モデル 2	N = 21	TR080-4	816180	280 - 1600	6 - 50	1745	GP13
	VL180	1800	V= モデル 2	N = 21	TR080-4	816180	280 - 1800	6 - 50	1945	GP13
	VL200	2000	V= モデル 2	N = 21	TR080-4	816180	280 - 2000	6 - 50	2145	GP13
HWR INOZet®	WT025	250	V = 2,0mm x 60°	N = 12	TW020	815020	205 - 250	3 - 25	328	GP07
	WT031	315	V = 2,0mm x 60°	N = 12	TW020	815020	205 - 315	3 - 25	393	GP07
	WT031-4		V = 2,0mm x 60°	N = 12	TW020-8	815121	240 - 315	3 - 25	393	GP07
	WT038	380	V = 3,5mm x 60°	N = 16	TW030	815030	325 - 380	6 - 50	484	GP11
	WT040	400	V = 3,5mm x 60°	N = 16	TW030	815030	325 - 400	6 - 50	504	GP11
	WT045	450	V = 3,5mm x 60°	N = 16	TW030	815030	325 - 450	6 - 50	554	GP11
	WT050	500	V = 3,5mm x 60°	N = 21	TW040	815040	325 - 500	6 - 50	604	GP13
	WT050-4		V = 3,5mm x 60°	N = 16	TW030-8	815131	380 - 500	6 - 50	604	GP11
	WT053	530	V = 3,5mm x 60°	N = 21	TW040	815040	325 - 530	6 - 50	634	GP13
	WT063	630	V = 3,5mm x 60°	N = 21	TW040	815040	325 - 630	6 - 50	734	GP13
	WT063-4		V = 3,5mm x 60°	N = 16	TW030-8	815131	380 - 630	6 - 50	734	GP11
	WT070-4	700	V = 3,5mm x 60°	N = 16	TW030-8	815131	390 - 700	6 - 50	804	GP11
	WT080-4	800	V = 3,5mm x 60°	N = 21	TW040-8	815141	390 - 800	6 - 50	904	GP13
Kitagawa	B-208	210	V = 1,5mm x 60°	N = 14	TM030	813030	150 - 210	3 - 25	290	GP09
	BB-208		V = 1,5mm x 60°	N = 14	TM030	813030	150 - 210	3 - 25	290	GP09
	B-10	254	V = 1,5mm x 60°	N = 16	TM040	813040	165 - 254	3 - 25	335	TT22
	B-210		V = 1,5mm x 60°	N = 16	TM040	813040	170 - 254	3 - 25	335	TT70
	BB-210		V = 1,5mm x 60°	N = 16	TM040	813040	170 - 254	3 - 25	335	TT70
	N-10		V = 1,5mm x 60°	N = 16	TM040	813040	165 - 254	3 - 25	335	TT22
	B-12		V = 1,5mm x 60°	N = 18	TM050	813050	180 - 304	3 - 25	385	GN78
	B-212	304	V = 1,5mm x 60°	N = 21	TM052	813052	195 - 304	3 - 25	385	TT40
	N-12		V = 1,5mm x 60°	N = 18	TM050	813050	185 - 304	3 - 25	385	GN78
	BB-212		V = 1,5mm x 60°	N = 21	TM052	813052	195 - 315	3 - 25	395	TT36
	B-15	381	V = 1,5mm x 60°	N = 22	TM060	813060	275 - 381	6 - 50	490	GP15
	B-215		V = 1,5mm x 60°	N = 25,5	TM060	813064	255 - 381	6 - 50	490	X5507
	N-15		V = 1,5mm x 60°	N = 25,5	TM060	813064	275 - 381	6 - 50	490	X5507

INO^{Top}®

チャック固有データ

Chuck specific data

技術データは 92-93 ページをご覧ください

Technical data see page 92-93

* 特別なTナット

* special t-nut

チャックメーカー chuck manufacturer	チャックタイプ chuck type	チャック サイズ chuck size ø mm	チャックへのジョー組付け jaw-connection of the chuck		タイプ type de- signation	ID番号 ident-no.	クランプ範囲 [外径] clamping range [external] min.-max./mm	ワーク肉厚 wall thickness of workpiece min.-max./mm	スイング swing Ø mm	* 必要な * Tナット * needed t-nut
			S mm / V	N mm						
Kitagawa	B-18	450	V = 1,5mm x 60°	N = 22	TM060	813060	275 - 450	6 - 50	490	GP15
	BB-218		V = 1,5mm x 60°	N = 25,5	TM060	813060	275 - 450	6 - 50	560	X5507
	N-21	530	V = 3,0mm x 60°	N = 25	TM080	813080	330 - 450	6 - 50	560	
	B-21		V = 3,0mm x 60°	N = 25	TM080	813080	285 - 530	6 - 50	640	
	N-24	610	V = 3,0mm x 60°	N = 25	TM080	813080	315 - 530	6 - 50	720	
	B-24		V = 3,0mm x 60°	N = 25	TM080	813080	335 - 610	6 - 50	720	
	NV-24		V = 3,0mm x 60°	N = 25	TM080	813080	380 - 610	6 - 50	720	
	NV-28	700	V = 3,0mm x 60°	N = 25	TM080	813080	380 - 700	6 - 50	810	
Röhm	DURO 200	200	S = 10	N = 20	TK030	811030	150 - 206	3 - 25	290	
	DURO-A 200		S = 10	N = 20	TK030	811030	150 - 206	3 - 25	290	
	DURO-NC 200		S = 10	N = 20	TK030	811030	150 - 215	3 - 25	295	
	DURO-NCES 200		S = 10	N = 20	TK030	811030	150 - 215	3 - 25	295	
	DURO-T 200		S = 10	N = 20	TK030	811030	150 - 206	3 - 25	290	
	KFD 200		V = 1/16" x 90°	N = 17	TD040	812040	150 - 200	3 - 25	280	GE16
	KFD-HE 200		V = 1/16" x 90°	N = 17	TD040	812040	150 - 210	3 - 25	290	GE16
	KFD-HF 200		V = 1/16" x 90°	N = 21	TD046	812046	165 - 200	3 - 25	280	*
	KFD-HS 200		V = 1/16" x 90°	N = 17	TD040	812040	150 - 200	3 - 25	280	GE16
	LVE 200		V = 1/16" x 90°	N = 17	TD040	812040	150 - 200	3 - 25	280	GE16
	ZG / ZS 200		S = 7,96	N = 12,69	TZ030	814030	150 - 200	3 - 25	280	
	DURO-NCSE 210	210	S = 10	N = 20	TK030	811030	150 - 209	3 - 25	290	
	KFD-HE 210		V = 1,5mm x 60°	N = 14	TM030	813030	150 - 210	3 - 25	290	*
	DURO-NCSE 225	225	S = 10	N = 20	TK030	811030	150 - 225	3 - 25	305	
	DURO-NCSE 225		S = 10	N = 20	TK030	811030	150 - 225	3 - 25	305	
	DURO 250	250	S = 12	N = 20	TK040	811040	150 - 255	3 - 25	335	
	DURO-A 250		S = 12	N = 20	TK040	811040	150 - 249	3 - 25	330	
	DURO-NC 250		S = 12	N = 20	TK040	811040	150 - 260	3 - 25	340	
	DURO-NCES 250		S = 12	N = 20	TK040	811040	150 - 260	3 - 25	340	
	DURO-T 250		S = 12	N = 20	TK040	811040	150 - 256	3 - 25	340	

チェックメーカー chuck manufacturer	チャックタイプ chuck type	チャック サイズ chuck size	Backenanschluss des Futters チャックへのジョー組付け		タイプ type de- signation	ID番号 ident-no.	クランプ範囲 [外径] clamping range [external] min.-max./mm	ワーク肉厚 wall thickness of workpiece min.-max./mm	スイング swing Ø mm	* 必要な * Tナット * needed t-nut
			ø mm	S mm / V						
Röhmm	KFD 250	250	V = 1/16" x 90°	N = 21	TD046	812046	160 - 250	3 - 25	330	TT34
	KFD-HE 250		V = 1,5mm x 60°	N = 16	TM040	813040	170 - 254	3 - 25	335	TT70
	KFD-HE 250		V = 1/16" x 90°	N = 21	TD046	812046	165 - 254	3 - 25	335	TT34
	KFD-HS 250		V = 1/16" x 90°	N = 17	TD040	812040	150 - 250	3 - 25	330	GE21/17
	LVE 250		V = 1/16" x 90°	N = 21	TD046	812046	175 - 250	3 - 25	330	TT34
	ZG / ZS 250		S = 12,72	N = 19,03	TZ040	814040	150 - 250	3 - 25	330	
	DURO-NCSE 265	265	S = 12	N = 20	TK040	811040	150 - 261	3 - 25	345	
	DURO 315	315	S = 12	N = 26	TK050	811050	152 - 318	3 - 25	400	
	DURO-NC 315		S = 12	N = 26	TK050	811050	154 - 320	3 - 25	400	
	DURO-NCES 315		S = 12	N = 20	TK040	811040	150 - 315	3 - 25	395	
	DURO-NCSE 315		S = 12	N = 26	TK050	811050	150 - 315	3 - 25	395	
	DURO-T 315		S = 12	N = 26	TK050	811050	150 - 322	3 - 25	405	
	KFD 315		V = 1/16" x 90°	N = 21	TD046	812046	175 - 290	3 - 25	370	TT34
	KFD-HE 315		V = 1,5mm x 60°	N = 21	TM052	813052	220 - 315	3 - 25	395	X6115
	KFD-HE 315		V = 1/16" x 90°	N = 21	TD046	812046	210 - 315	3 - 25	395	TT34
	KFD-HS 315		V = 1/16" x 90°	N = 21	TD046	812046	175 - 315	3 - 25	395	TT34
	LVE 315		V = 1/16" x 90°	N = 21	TD046	812046	190 - 315	3 - 25	395	TT34
	ZG / ZS 315		S = 12,72	N = 19,03	TZ043	814043	185 - 315	3 - 25	395	
	ZG / ZS 350	350	S = 12,72	N = 19,03	TZ060	814060	250 - 350	6 - 50	460	
	DURO 400	400	S = 18	N = 30	TK080	811080	250 - 400	6 - 50	510	
	DURO-NC 400		S = 18	N = 30	TK080	811080	250 - 400	6 - 50	510	
	DURO-NCES 400		S = 12	N = 26	TK060	811060	250 - 375	6 - 50	485	
	DURO-T 400		S = 18	N = 30	TK080	811080	250 - 407	6 - 50	515	
	KFD 400		V = 3/32" x 90°	N = 25,5	TD066	812066	265 - 400	6 - 50	510	GE40
	KFD-HE 400		V = 3/32" x 90°	N = 25,5	TD066	812066	285 - 400	6 - 50	510	GE40
	KFD-HS 400		V = 3/32" x 90°	N = 25,5	TD066	812066	280 - 400	6 - 50	510	GE40
	LVE 420		V = 3/32" x 90°	N = 25,5	TD066	812066	315 - 400	6 - 50	510	GE40
	LVE 480		V = 3/32" x 90°	N = 25,5	TD066	812066	365 - 400	6 - 50	510	GE40
	ZG / ZS 350		S = 12,72	N = 19,03	TZ060	814060	250 - 400	6 - 50	510	
	ZG / ZS 350		S = 12,72	N = 19,03	TZ060	814060	250 - 400	6 - 50	510	
	ZG / ZS 400	500	S = 12,72	N = 19,03	TZ060	814060	250 - 350	6 - 50	460	
	ZG / ZS 400		S = 12,72	N = 19,03	TZ060	814060	250 - 400	6 - 50	510	
	DURO 500		S = 18	N = 30	TK080	811080	250 - 500	6 - 50	610	
	DURO-NC 500		S = 18	N = 30	TK080	811080	250 - 500	6 - 50	610	
	DURO-T 500	630	S = 18	N = 30	TK080	811080	250 - 507	6 - 50	615	
	ZG / ZS 500		S = 12,72	N = 19,03	TZ063	814063	250 - 500	6 - 50	610	
	DURO-NCSE 630		S = 18	N = 30	TK080	811080	250 - 583	6 - 50	690	

INO^{Top}®

チャック固有データ

Chuck specific data

技術データは 92-93ページをご覧ください

Technical data see page 92-93

チャックメーカー chuck manufacturer	チャックタイプ chuck type	チャック サイズ chuck size ø mm	チャックへのジョー組付け jaw-connection of the chuck		タイプ type de- signation	ID番号 ident-no.	クランプ範囲 [外径] clamping range [external] min.-max./mm	ワーク肉厚 wall thickness of workpiece min.-max./mm	スイング swing Ø mm	* 必要な Tナット * needed t-nut
			S mm / V	N mm						
Samchully	HC-08	210	V = 1,5mm x 60°	N = 14	TM030	813030	155 - 210	3 - 25	290	GP08
	HCH-08		V = 1,5mm x 60°	N = 14	TM030	813030	150 - 210	3 - 25	290	GP08
	HH-208 / MH-208		V = 1,5mm x 60°	N = 14	TM030	813030	155 - 210	3 - 25	290	GP09
	HS-08		V = 1,5mm x 60°	N = 14	TM030	813030	150 - 210	3 - 25	290	GP09
	HC-10	254	V = 1,5mm x 60°	N = 16	TM040	813040	165 - 254	3 - 25	335	TT22
	HCH-10		V = 1,5mm x 60°	N = 16	TM040	813040	165 - 254	3 - 25	335	TT22
	HH-210 / MH-210		V = 1,5mm x 60°	N = 16	TM040	813040	195 - 254	3 - 25	335	TT70
	HS-10		V = 1,5mm x 60°	N = 16	TM040	813040	160 - 254	3 - 25	335	TT70
	HC-12	304	V = 1,5mm x 60°	N = 18	TM050	813050	185 - 304	3 - 25	385	GN78
	HCH-12		V = 1,5mm x 60°	N = 18	TM050	813050	180 - 304	3 - 25	385	GN78
	HS-12		V = 1,5mm x 60°	N = 21	TM052	813052	185 - 304	3 - 25	385	TT40
	HH-212 / MH-212	315	V = 1,5mm x 60°	N = 21	TM052	813052	205 - 315	3 - 25	395	TT40
	HC-15	381	V = 1,5mm x 60°	N = 25,5	TM060	813060	275 - 381	6 - 50	490	X5507
	HCH-15 / HCH-18		V = 1,5mm x 60°	N = 22	TM060	813060	275 - 381	6 - 50	490	GP15
Schunk	ROTA G 200	200	S = 10	N = 20	TK030	811030	153 - 206	3 - 25	290	
	ROTA S plus 200		S = 10	N = 20	TK030	811030	150 - 206	3 - 25	290	
	ROTA NC 210	210	V = 1,5mm x 60°	N = 14	TM030	813030	150 - 210	3 - 25	290	GP08
	ROTA NC 210		V = 1/16" x 90°	N = 17	TD040	812040	150 - 210	3 - 25	290	GF212
	ROTA NCF 210		V = 1,5mm x 60°	N = 14	TM030	813030	150 - 210	3 - 25	290	GP08
	ROTA NCF 210		V = 1/16" x 90°	N = 17	TD040	812040	150 - 210	3 - 25	290	GF212
	ROTA NCK 210		V = 1,5mm x 60°	N = 14	TM030	813030	150 - 210	3 - 25	290	GP09
	ROTA NCK plus 210		V = 1,5mm x 60°	N = 14	TM030	813030	150 - 210	3 - 25	290	GP09
	ROTA NCK plus 210		V = 1/16" x 90°	N = 17	TD040	812040	150 - 210	3 - 25	290	GF212
	ROTA NCO 210		V = 1/16" x 90°	N = 17	TD040	812040	150 - 210	3 - 25	290	GF212
	ROTA THW 210		S = 10	N = 20	TK030	811030	150 - 210	3 - 25	290	

チャックメーカー chuck manufacturer	チャックタイプ chuck type	チャック サイズ chuck size	チャックへのジョー組付け jaw-connection of the chuck		タイプ type de- signation	ID番号 ident-no.	クランプ範囲 [外径] clamping range [external]	ワーク肉厚 wall thickness of workpiece	スイング swing	* 必要な Tナット * needed t-nut
			φ mm	S mm / V			min.-max./mm	min.-max./mm	φ mm	
Schunk	ROTA NC plus 215	215	V = 1/16" x 90°	N = 17	TD040	812040	160 - 215	3 - 25	295	GF212
	ROTA NC plus 215		V = 1,5mm x 60°	N = 14	TM030	813030	165 - 215	3 - 25	295	GP09
	ROTA NCD 215		V = 1/16" x 90°	N = 17	TD040	812040	150 - 215	3 - 25	295	GG20
	ROTA NCD 215		V = 1,5mm x 60°	N = 14	TM030	813030	150 - 215	3 - 25	295	GP09
	ROTA NCF plus 215		V = 1/16" x 90°	N = 17	TD040	812040	160 - 215	3 - 25	295	GF212
	ROTA NCF plus 215		V = 1,5mm x 60°	N = 14	TM030	813030	165 - 215	3 - 25	295	GP09
	ROTA THW plus 215		S = 10	N = 20	TK030	811030	150 - 215	3 - 25	295	
	ROTA NCW 225	225	S = 10	N = 20	TK030	811030	150 - 225	3 - 25	305	
	ROTA G 250	250	S = 12	N = 20	TK040	811040	150 - 256	3 - 25	340	
	ROTA NC 250		V = 1,5mm x 60°	N = 16	TM040	813040	170 - 254	3 - 25	335	TT22
	ROTA NC 250		V = 1/16" x 90°	N = 21	TD046	812046	165 - 254	3 - 25	335	TT46
	ROTA NCD 250		V = 1,5mm x 60°	N = 21	TM040	813040	165 - 250	3 - 25	330	TT22
	ROTA NCD 250		V = 1/16" x 90°	N = 21	TD046	812046	155 - 250	3 - 25	330	TT35
	ROTA NCF 250		V = 1,5mm x 60°	N = 16	TM040	813040	170 - 254	3 - 25	335	TT22
	ROTA NCF 250		V = 1/16" x 90°	N = 21	TD046	812046	165 - 254	3 - 25	335	TT46
	ROTA NCK 250		V = 1,5mm x 60°	N = 16	TM040	813040	150 - 254	3 - 25	335	TT70
	ROTA NCK plus 250		V = 1/16" x 90°	N = 17	TD040	812040	160 - 254	3 - 25	335	GF212
	ROTA NCK plus 250		V = 1,5mm x 60°	N = 16	TM040	813040	165 - 254	3 - 25	335	TT70
	ROTA S plus 250		S = 12	N = 20	TK040	811040	150 - 256	3 - 25	340	
	ROTA THW 250		S = 12	N = 20	TK040	811040	150 - 250	3 - 25	330	
	ROTA NCD 255	255	V = 1,5mm x 60°	N = 21	TM040	813040	160 - 255	3 - 25	335	TT70
	ROTA NCD 255		V = 1/16" x 90°	N = 21	TD046	812046	155 - 255	3 - 25	335	TT35
	ROTA NC plus 260	260	V = 1,5mm x 60°	N = 16	TM040	813040	180 - 260	3 - 25	340	TT70
	ROTA NC plus 260		V = 1/16" x 90°	N = 21	TD046	812046	180 - 254	3 - 25	335	TT46
	ROTA NCF plus 260		V = 1,5mm x 60°	N = 16	TM040	813040	180 - 260	3 - 25	340	TT70
	ROTA NCF plus 260		V = 1/16" x 90°	N = 21	TD046	812046	170 - 260	3 - 25	340	TT46
	ROTA NCO 260		V = 1/16" x 90°	N = 21	TD046	812046	175 - 254	3 - 25	335	TT46
	ROTA THW plus 260		S = 12	N = 20	TK040	811040	150 - 260	3 - 25	340	
	ROTA NCW 265	265	S = 12	N = 20	TK040	811040	150 - 256	3 - 25	340	
	ROTA G 315	315	S = 12	N = 20	TK040	811040	150 - 322	3 - 25	405	
	ROTA NC 315-86		V = 1,5mm x 60°	N = 18	TM050	813050	200 - 315	3 - 25	395	GN78
	ROTA NC 315-86		V = 1/16" x 90°	N = 21	TD046	812046	195 - 315	3 - 25	395	TT35
	ROTA NC plus 315		V = 1,5mm x 60°	N = 21	TM052	813052	195 - 315	3 - 25	395	GF34
	ROTA NC plus 315		V = 1/16" x 90°	N = 21	TD046	812046	195 - 315	3 - 25	395	TT46

INO^{Top}®

チャック固有データ

Chuck specific data

技術データは 92-93ページをご覧ください

Technical data see page 92-93

チャックメーカー chuck manufacturer	チャックタイプ chuck type	チャック サイズ chuck size	チャックへのジョー組付け jaw-connection of the chuck		タイプ type de- signation	ID番号 ident-no.	クランプ範囲 [外径] clamping range [external] min.-max./mm	ワーク肉厚 stärke wall thickness of workpiece min.-max./mm	スイング swing Ø mm	必要な Tナット * needed t-nut
			ø mm	S mm / V						
Schunk	ROTA NCD 315	315	V = 1/16" x 90°	N = 21	TD046	812046	180 - 315	3 - 25	395	TT35
	ROTA NCD 315		V = 1,5mm x 60°	N = 21	TM052	813052	195 - 315	3 - 25	395	TT35
	ROTA NCF 315		V = 1,5mm x 60°	N = 18	TM050	813050	195 - 315	3 - 25	395	GN78
	ROTA NCF 315		V = 1/16" x 90°	N = 21	TD046	812046	190 - 315	3 - 25	395	TT35
	ROTA NCF plus 315		V = 1,5mm x 60°	N = 21	TM052	813052	195 - 315	3 - 25	395	TT40
	ROTA NCF plus 315		V = 1/16" x 90°	N = 21	TD046	812046	195 - 315	3 - 25	395	TT46
	ROTA NCK plus 315		V = 1,5mm x 60°	N = 21	TM052	813052	190 - 304	3 - 25	385	TT40
	ROTA NCK plus 315		V = 1/16" x 90°	N = 21	TD046	812046	185 - 304	3 - 25	385	TT46
	ROTA NCO 315		V = 1/16" x 90°	N = 21	TD046	812046	185 - 315	3 - 25	395	TT46
	ROTA NCW 315		S = 12	N = 20	TK040	811040	150 - 303	3 - 25	385	
	ROTA S plus 315		S = 12	N = 26	TK050	811050	150 - 323	3 - 25	405	
	ROTA THW 315		S = 12	N = 20	TK040	811040	150 - 303	3 - 25	385	
	ROTA THW plus 315		S = 12	N = 20	TK040	811040	150 - 315	3 - 25	395	
	ROTA G 400	400	S = 12	N = 26	TK060	811060	250 - 394	6 - 50	500	
	ROTA NC 400		V = 1,5mm x 60°	N = 22	TM060	813060	265 - 400	6 - 50	510	GP15
	ROTA NC 400		V = 3/32" x 90°	N = 25,5	TD066	812066	285 - 400	6 - 50	510	GN40
	ROTA NCD 400		V = 3/32" x 90°	N = 25,5	TD066	812066	270 - 400	6 - 50	510	GN40
	ROTA NCF 400		V = 1,5mm x 60°	N = 22	TM060	813060	265 - 400	6 - 50	510	GP15
	ROTA NCF 400		V = 3/32" x 90°	N = 25,5	TD066	812066	285 - 390	6 - 50	500	GN40
	ROTA NCO 400		V = 3/32" x 90°	N = 25,5	TD066	812066	260 - 400	6 - 50	510	GE40
	ROTA S plus 400		S = 18	N = 30	TK080	811080	250 - 408	6 - 50	515	
	ROTA THW 400		S = 12	N = 26	TK060	811060	250 - 376	6 - 50	485	
	ROTA THW plus 400		S = 12	N = 26	TK060	811060	250 - 376	6 - 50	485	
	ROTA G 500	500	S = 18	N = 30	TK080	811080	250 - 507	6 - 50	615	
	ROTA S plus 500		S = 18	N = 30	TK080	811080	250 - 507	6 - 50	615	
	ROTA THW plus 500		S = 18	N = 30	TK080	811080	250 - 463	6 - 50	570	

チャックメーカー chuck manufacturer	チャックタイプ chuck type	チャック サイズ chuck size ø mm	チャックへのジョー組付け jaw-connection of the chuck		タイプ type de- signation	ID番号 ident-no.	クランプ範囲 〔外径〕 clamping range 〔external〕 min.-max./mm	ワーク肉厚 wall thickness of workpiece min.-max./mm	スイング swing Ø mm	* 必要な Tナット * needed t-nut
			S mm / V	N mm						
Schunk	ROTA G 630	630	S = 18	N = 30	TK080	811080	250 - 639	6 - 50	745	
	ROTA THW 630		S = 18	N = 30	TK080	811080	250 - 586	6 - 50	695	
	ROTA THW plus 630		S = 18	N = 30	TK080	811080	250 - 583	6 - 50	690	
	ROTA NCO 800	800	V = 3/32" x 90°	N = 25,5	TD066	812066	365 - 800	6 - 50	910	GN40
SMW Autoblok	HFK / HFKS 200-48	200	V = 1/16" x 90°	N = 17	TD040	812040	150 - 200	3 - 25	280	GG20
	HFK / HFKS 200-66		V = 1/16" x 90°	N = 17	TD040	812040	150 - 200	3 - 25	280	GG20
	AL-D 210	210	V = 1/16" x 90°	N = 17	TD040	812040	150 - 210	3 - 25	290	GF212
	AL-M 210		V = 1,5mm x 60°	N = 14	TM030	813030	155 - 210	3 - 25	290	GF213
	AN-D 210		V = 1/16" x 90°	N = 17	TD040	812040	150 - 210	3 - 25	290	GF212
	AN-M 210		V = 1,5mm x 60°	N = 14	TM030	813030	150 - 210	3 - 25	290	GF213
	BB-D 210		V = 1/16" x 90°	N = 17	TD040	812040	150 - 210	3 - 25	290	GF212
	BB-M 210		V = 1,5mm x 60°	N = 14	TM030	813030	155 - 210	3 - 25	290	GF213
	BH-D 210		V = 1/16" x 90°	N = 17	TD040	812040	150 - 210	3 - 25	290	GF212
	BHD-FC 210		V = 1/16" x 90°	N = 17	TD040	812040	150 - 210	3 - 25	290	GF212
	BH-M 210		V = 1,5mm x 60°	N = 14	TM030	813030	150 - 210	3 - 25	290	GF213
	BHM-FC 210		V = 1,5mm x 60°	N = 14	TM030	813030	150 - 210	3 - 25	290	GF213
	HFKN-D 210		V = 1/16" x 90°	N = 17	TD040	812040	150 - 210	3 - 25	290	GF212
	HFKN-M 210		V = 1,5mm x 60°	N = 14	TM030	813030	150 - 210	3 - 25	290	GF213
	HG-F 210		S = 10	N = 20	TK030	811030	150 - 198	3 - 25	280	
	HG-N 210		S = 10	N = 20	TK030	811030	150 - 201	3 - 25	285	
	KNCS-N 210		S = 10	N = 20	TK030	811030	150 - 215	3 - 25	295	
	KNCS-N 225	225	S = 10	N = 20	TK030	811030	150 - 225	3 - 25	310	
	AL-D 250	250	V = 1/16" x 90°	N = 21	TD046	812046	170 - 254	3 - 25	335	TT46
	AL-M 250		V = 1,5mm x 60°	N = 16	TM040	813040	175 - 254	3 - 25	335	TT24
	AN-D 250		V = 1/16" x 90°	N = 21	TD046	812046	165 - 254	3 - 25	335	TT46
	AN-M 250		V = 1,5mm x 60°	N = 16	TM040	813040	170 - 254	3 - 25	335	TT24
	BB-D 250		V = 1/16" x 90°	N = 21	TD046	812046	175 - 254	3 - 25	335	TT46
	BB-M 250		V = 1,5mm x 60°	N = 16	TM040	813040	180 - 254	3 - 25	335	TT24
	BH-D 250		V = 1/16" x 90°	N = 21	TD046	812046	165 - 254	3 - 25	335	TT46
	BHD-FC 250		V = 1/16" x 90°	N = 21	TD046	812046	165 - 250	3 - 25	330	TT46
	BH-M 250		V = 1,5mm x 60°	N = 16	TM040	813040	170 - 254	3 - 25	335	TT24
	BHM-FC 250		V = 1,5mm x 60°	N = 16	TM040	813040	170 - 250	3 - 25	330	TT24
	HFK / HFKS 250		V = 1/16" x 90°	N = 21	TD046	812046	165 - 250	3 - 25	330	TT35

INO^{Top}®

チャック固有データ

Chuck specific data

技術データは 92-93ページをご覧ください

Technical data see page 92-93

チャックメーカー chuck manufacturer	チャックタイプ chuck type	チャック サイズ chuck size ø mm	チャックへのジョー組付け jaw-connection of the chuck		タイプ type de- signation	ID番号 ident-no.	クランプ範囲 [外径] clamping range [external] min.-max./mm	ワーク肉厚 wall thickness of workpiece min.-max./mm	スイング swing Ø mm	* 必要な Tナット Nutenstein t-needed
			S mm / V	N mm						
SMW Autoblok	HFKN-D 260	260	V = 1/16" x 90°	N = 21	TD046	812046	165 - 254	3 - 25	335	TT46
	HFKN-M 260		V = 1,5mm x 60°	N = 21	TM040	813040	170 - 260	3 - 25	340	*
	HG-F 260		S = 12	N = 20	TK040	811040	150 - 249	3 - 25	330	
	HG-N 260		S = 12	N = 20	TK040	811040	150 - 249	3 - 25	330	
	KNCS-N 260		S = 12	N = 20	TK040	811040	150 - 258	3 - 25	340	
	HFK / HFKS 270	270	V = 1/16" x 90°	N = 21	TD046	812046	175 - 270	3 - 25	350	TT35
	KNCS-N 275	275	S = 12	N = 20	TK040	811040	150 - 273	3 - 25	355	
	AL-D 315	315	V = 1/16" x 90°	N = 21	TD046	812046	185 - 315	3 - 25	395	TT46
	AL-M 315		V = 1,5mm x 60°	N = 21	TM052	813052	190 - 315	3 - 25	395	GF34
	AN-D 315		V = 1/16" x 90°	N = 21	TD046	812046	180 - 315	3 - 25	395	TT46
	AN-M 315		V = 1,5mm x 60°	N = 21	TM052	813052	185 - 315	3 - 25	395	GF34
	BB-D 315		V = 1/16" x 90°	N = 21	TD046	812046	225 - 315	3 - 25	395	TT46
	BB-M 315		V = 1,5mm x 60°	N = 21	TM052	813052	230 - 315	3 - 25	395	GF34
	BHD-FC 315		V = 1/16" x 90°	N = 21	TD046	812046	195 - 315	3 - 25	395	TT46
	BH-M 315		V = 1,5mm x 60°	N = 21	TM052	813052	200 - 315	3 - 25	395	GF34

・ 特別なTナット
* special t-nut

チャックメーカー chuck manufacturer	チャックタイプ chuck type	チャック サイズ chuck size ø mm	チャックへのジョー組付け jaw-connection of the chuck		タイプ type de- signation	ID番号 ident-no.	クランプ範囲 [外径] clamping range [external] min.-max./mm	ワーク肉厚 wall thickness of workpiece min.-max./mm	スイング swing Ø mm	* 必要な Tナット * needed t-nut
			S mm / V	N mm						
SMW Autoblok	BHM-FC 315	315	V = 1,5mm x 60°	N = 21	TM052	813052	200 – 315	3 – 25	395	GF34
	HB-D 315		V = 1/16" x 90°	N = 21	TD046	812046	190 – 315	3 – 25	395	*
	HFK / HFKS 315		V = 1/16" x 90°	N = 21	TD046	812046	185 – 315	3 – 25	395	TT35
	HFKN-D 315		V = 1/16" x 90°	N = 21	TD046	812046	205 – 315	3 – 25	395	TT46
	HFKN-M 315		V = 1,5mm x 60°	N = 21	TM052	813052	210 – 315	3 – 25	395	GF34
	HG-F 315		S = 12	N = 26	TK050	811050	150 – 315	3 – 25	395	
	HG-N 315		S = 12	N = 20	TK040	811040	150 – 305	3 – 25	385	
	KNCS-N 315	325	S = 12	N = 20	TK040	811040	150 – 315	3 – 25	395	
	KNCS-N 325		S = 12	N = 20	TK040	811040	150 – 324	3 – 25	405	
	KNCS-N 340		S = 12	N = 20	TK040	811040	165 – 340	3 – 25	420	
	KNCS-N 340	340	S = 12	N = 20	TK040	811040	165 – 340	3 – 25	420	
	AN-D 400		V = 3/32" x 90°	N = 25,5	TD066	812066	285 – 390	6 – 50	500	GE40
	AN-M 400		V = 1,5mm x 60°	N = 22	TM060	813060	285 – 390	6 – 50	500	X7960
	BH-D 400	400	V = 3/32" x 90°	N = 25,5	TD066	812066	285 – 390	6 – 50	500	GE40
	BHD-FC 400		V = 3/32" x 90°	N = 25,5	TD066	812066	285 – 390	6 – 50	500	GE40
	BH-M 400		V = 1,5mm x 60°	N = 22	TM060	813060	285 – 390	6 – 50	500	X7960
	HFK / HFKS 400		V = 3/32" x 90°	N = 25,5	TD066	812066	285 – 400	6 – 50	510	GN40
	HFKN-D 400		V = 3/32" x 90°	N = 25,5	TD066	812066	250 – 400	6 – 50	510	GN40
	HG-F 400		S = 18	N = 30	TK080	811080	250 – 400	6 – 50	510	
	HG-N 400		S = 12	N = 26	TK060	811060	250 – 372	6 – 50	480	
	KNCS-N 400		S = 12	N = 26	TK060	811060	250 – 400	6 – 50	510	
	KNCS-N 400		S = 12	N = 26	TK060	811060	250 – 400	6 – 50	510	
	HG-N 500	500	S = 18	N = 30	TK080	811080	250 – 462	6 – 50	570	
	KNCS-N 500		S = 18	N = 30	TK080	811080	250 – 492	6 – 50	600	
	HG-N 630	630	S = 18	N = 30	TK080	811080	262 – 622	6 – 50	730	
	KNCS-N 630		S = 18	N = 30	TK080	811080	250 – 583	6 – 50	690	



INOTop®

一般的な技術データ

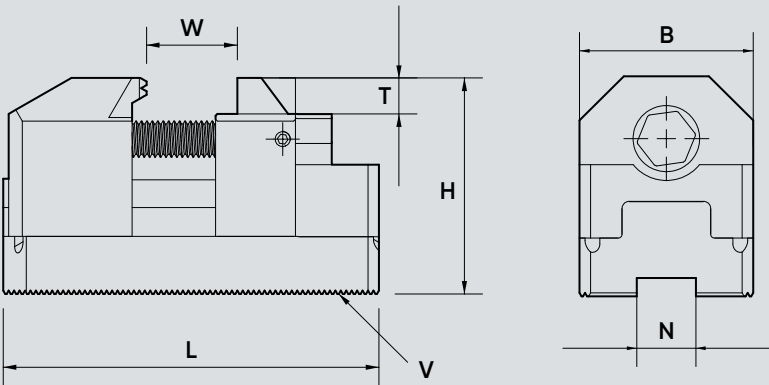
General technical data

INOTop®	ID番号 ident-no.	ワーク肉厚 wall thickness of workpiece	クランプ深さ clamping depth	幅 width	高さ height	長さ length	最大締め付け トルク max. tightening torque	最大クランプ力 max clamping force/jaw	ジョー組付け jaw-connection		重量/セット weight/ set
		W min.-max./mm	T mm	B mm	H mm	L mm	Nm	kN	S mm / V	N mm	kg
TM030	813030	3 - 25	10	47	60	103,5	30	25	V = 1,5mm x 60°	N = 14	4,3
TM040	813040	3 - 25	10	47	60	103,5	30	25	V = 1,5mm x 60°	N = 16	4,3
TM050	813050	3 - 25	10	47	60	103,5	30	25	V = 1,5mm x 60°	N = 18	4,2
TM052	813052	3 - 25	10	47	60	103,5	30	25	V = 1,5mm x 60°	N = 21	4,2
TM060	813060	6 - 50	20	66	84	160	40	30	V = 1,5mm x 60°	N = 22	12
TM062	813062	6 - 50	20	66	84	160	40	30	V = 1,5mm x 60°	N = 21	12
TM080	813080	6 - 50	20	66	84	160	40	30	V = 3,0mm x 60°	N = 25	12

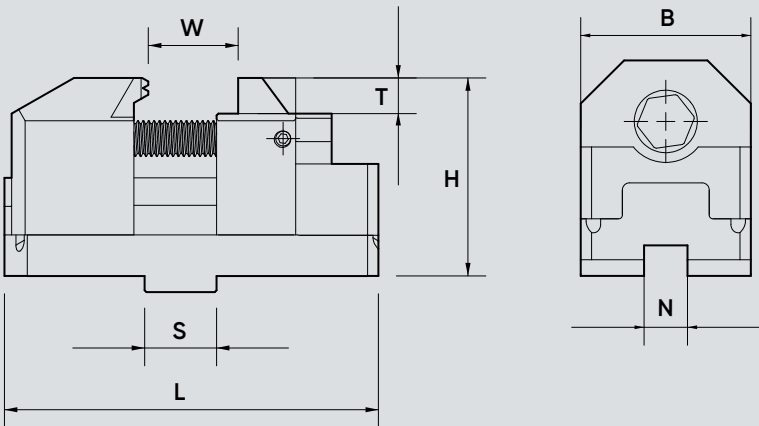
TD040	812040	3 - 25	10	47	60	103	30	25	V = 1/16" x 90°	N = 17	4,3
TD046	812046	3 - 25	10	47	60	103	30	25	V = 1/16" x 90°	N = 21	4,2
TD060	812060	6 - 50	20	66	84	160	40	30	V = 1/16" x 90°	N = 21	12,3
TD063	812063	6 - 50	20	66	84	160	40	30	V = 3/32" x 90°	N = 20	12,3
TD066	812066	6 - 50	20	66	84	160	40	30	V = 3/32" x 90°	N = 25,5	12,4

TK030	811030	3 - 25	10	47	55,5	104	30	25	S = 20	N = 10	4,2
TK040	811040	3 - 25	10	47	55,5	104	30	25	S = 20	N = 12	4,1
TK050	811050	3 - 25	10	47	55,5	104	30	25	S = 26	N = 12	4,1
TK060	811060	6 - 50	20	66	79,5	160	40	30	S = 26	N = 12	12,9
TK080	811080	6 - 50	20	66	79,5	160	40	30	S = 30	N = 18	12,5

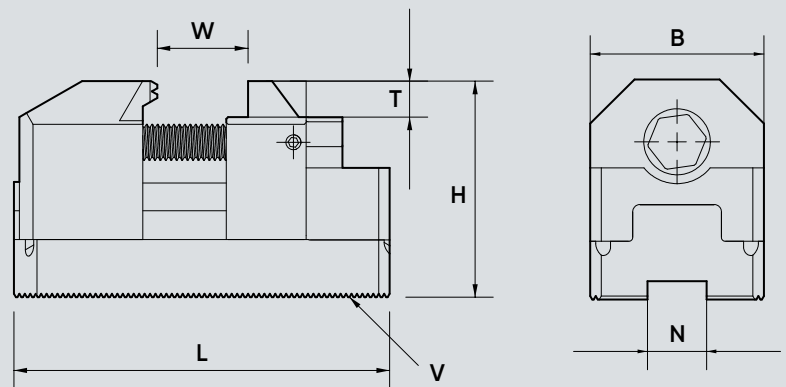
セレーション
Serration



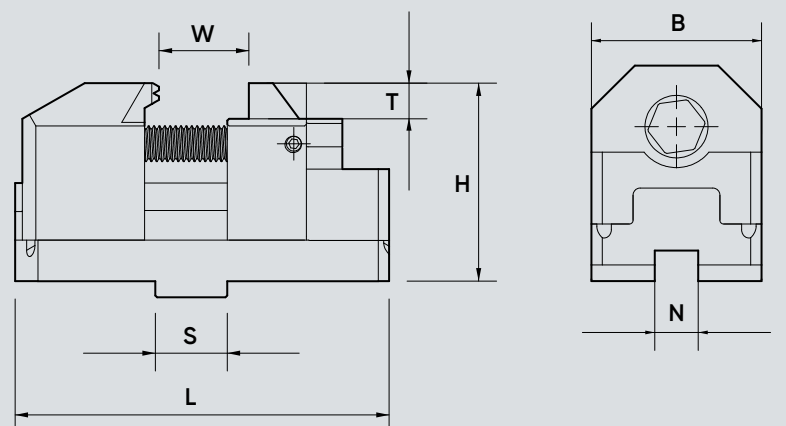
タングおよび溝幅
Tongue and groove



セレーション
Serration



タングおよび溝幅
Tongue and groove



INO ^{Top} ®	ID番号 ident-no.	ワーク肉厚 wall thickness of workpiece	クランプ深さ clamping depth	幅 width	高さ height	長さ length	最大締め付け トルク max. tightening torque	最大クランプ力 max clamping force/jaw	ジョー組付け jaw-connection		重量/セット weight/ set
		W min.-max./mm	T mm	B mm	H mm	L mm	Nm	kN	S mm / V	N mm	kg
TZ030	814030	3 - 25	10	47	55,5	104	30	25	S = 12,68	N = 7,94	4,2
TZ031	814031	3 - 25	10	47	55,5	104	30	25	S = 12,68	N = 7,94	4,2
TZ040	814040	3 - 25	10	47	55,5	104	30	25	S = 19,03	N = 12,7	4,1
TZ043	814043	3 - 25	10	47	55,5	122	30	25	S = 19,03	N = 12,7	4,5
TZ060	814060	6 - 50	20	66	79,5	160	40	30	S = 19,03	N = 12,7	12,7
TZ063	814063	6 - 50	20	66	79,5	160	40	30	S = 19,03	N = 12,7	12,2
TW020	815020	3 - 25	10	47	60	160	30	25	V = 2,0mm x 60°	N = 12	4,4
TW030	815030	6 - 50	20	66	84	160	40	30	V = 3,5mm x 60°	N = 16	13
TW040	815040	6 - 50	20	66	84	160	40	30	V = 3,5mm x 60°	N = 21	12,8
TM040-4	813141	3 - 25	10	47	60	103,5	30	25	V = 1,5mm x 60°	N = 16	5,7
TM052-4	813053	3 - 25	10	47	60	103,5	30	25	V = 1,5mm x 60°	N = 21	5,6
TM062-4	813162	6 - 50	20	66	84	160	40	30	V = 1,5mm x 60°	N = 21	16,1
TM066-4	813166	6 - 50	20	66	84	160	40	30	V = 1,5mm x 60°	N = 16	18
TM080-4	813180	6 - 50	20	66	84	160	40	30	V = 3,0mm x 60°	N = 25	16
TR060-4	816160	6 - 50	20	66	84	160	40	30	V = Modul 2	N = 16	17,6
TR080-4	816180	6 - 50	20	66	84	160	40	30	V = Modul 2	N = 21	16,8
TW020-8	815121	3 - 25	10	47	60	160	30	25	V = 2,0mm x 60°	N = 12	5,9
TW030-8	815131	6 - 50	20	66	84	160	40	30	V = 3,5mm x 60°	N = 16	17,4
TW040-8	815141	6 - 50	20	66	84	160	40	30	V = 3,5mm x 60°	N = 21	17,1