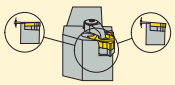
Originally fitted insert shims

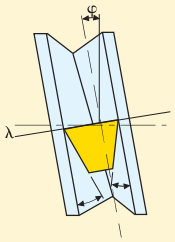
The table below shows the originally fitted insert shims. These insert shims are suitable for most operations when threading towards the chuck.

Toolholder		Clamp External and internal threading		Screw Internal threading	Jetstream Tooling® External and internal threading
Insert type		Single-tooth insert (Type S)	Single-tooth insert (Type K)	Single-tooth insert (Type S)	Single-tooth insert (Type S)
Insert shim				No insert shim (λ=2°)	
Insert size	16	GX 16-1			GXA16-1
	20		KX 20-2		
	22	NX22-1			NXA22-1
	26		KX26-2		
	27	VX27-1			VXA27-1

The helix angle can be selected from +5 to -2 by changing the insert shim. The same insert shims are used for both right and left hand holders. The centre height remains constant.



To receive the correct shape on the thread and uniform wear on the insert the cutting edge helix angle (λ) should be equal to the thread lead angle (φ).



SNR/L toolholders have no exchangeable insert shim and can therefore only be used for threading towards the chuck. The table below shows the available insert shim range.

Insert shim range

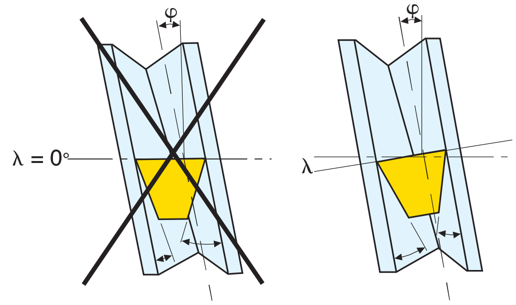
Toolholder		Clamp External and internal threading					Jetstream Tooling® Thread Turning External and internal threading		
Insert type		Multi-tooth insert (Type M)	Single-tooth insert (Type S)		Single-tooth insert (Type K)		Multi-tooth insert (Type M)	Single-tooth insert (Type S)	
Insert shim		Threading towards the chuck	Threading towards the chuck	Threading away from the chuck	Threading towards the chuck	Threading away from the chuck	Threading towards the chuck	Threading towards the chuck	Threading away from the chuck
Insert size	16	MX16-1	GX16-0, -1, -2, -3, -4	GX16-0 -99 -98			MXA16-1	GXA16-0, -1, -2, -3, -4	GXA16-0, -99, -98
	20				KX20-0, -1, -2, -3, -4, -5	KX20-0, -99			
	22	MX22-1	NX22-0, -1, -2, -3, -4	NX22-0 -99 -98			MXA22-1	NXA22-0, -1, -2, -3, -4	NXA22-0, -99, -98
	26				KX26-0, -1, -2, -3, -4, -5	KX26-0, -99			
	27	MX27-1	VX27-0, -1, -2, -3, -4	VX27-0 -99 -98			MXA27-1	VXA27-0, -1, -2, -3, -4	VXA27-0,-99,-98

The helix angle (λ) can also be calculated. See page 26 for formulae.

Thread turning – Insert shim

Choice of insert shim

Use the graph below to choose the correct insert shim.
The graph gives the last digit in the insert shim code.
Example: GX16-1



Production method

Threading towards the chuck, use right side of the graph.
Threading away from the chuck, use left side of the graph.

Vertical column - lead

Thread with one start, Lead (Ph) = pitch (P).
Thread with several starts, Lead (Ph) = pitch (P) x number of starts.

Horizontal column = pitch diameter (D_2)

Threading away from the chuck

Pitch diameter D_2 (mm) – threading away from the chuck

		5	15	20	25	30	40	45	50	60	65	70	75	85	90	95	100	110	115	120	130	135	140	150	155	160	165	170	180	190	200	225	250	300								TPI	P_h mm
–	2	–	–	–	–	–	–	–	–	–	–	–	–	–	–	98	98	98	98	98	98	98	98	98	99	99	99	99	99	99	99	99	99	99					0	0	1	80	–
–	3	–	–	–	–	–	–	–	–	–	98	98	98	98	98	98	98	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99				0	0	0	1	72	–
8,0	–	–	–	–	–	–	–	–	–	98	98	98	98	98	98	98	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	0			0	0	0	0	1	64	–
–	4	–	–	–	–	–	–	–	98	98	98	98	98	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	0			0	0	0	0	1	2	56	–
6,0	–	–	–	–	–	–	–	98	98	98	98	98	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	0				0	0	0	0	1	2	–	0,5
–	5	–	–	–	–	–	98	98	98	98	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	0	0				0	0	0	0	0	1	2	48	–
5,0	–	–	–	–	–	–	98	98	98	98	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	0				0	0	0	0	0	1	1	2	44	–
–	6	–	–	–	–	–	98	98	98	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	0	0	0	0					0	0	0	0	0	0	1	1	2	40	–
4,0	–	–	–	–	–	98	98	98	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	0	0	0	0	0					0	0	0	0	0	1	1	1	3	36	–
–	7	–	–	–	–	98	98	99	99	99	99	99	99	99	99	99	99	99	99	0	0	0	0	0	0					0	0	0	0	0	0	1	1	1	3	–	0,75
3,5	–	–	–	–	–	98	98	99	99	99	99	99	99	99	99	99	99	99	0	0	0	0	0	0					0	0	0	0	0	0	0	1	1	1	3	32	–
–	8	–	–	–	98	98	99	99	99	99	99	99	99	99	99	99	99	99	0	0	0	0	0	0	0				0	0	0	0	0	0	0	1	1	1	1	3	28	–
3,0	–	–	–	–	98	98	99	99	99	99	99	99	99	99	99	99	99	0	0	0	0	0	0	0	0				0	0	0	0	0	0	0	0	1	1	1	1	4	–	1,0
–	9	–	–	–	98	98	99	99	99	99	99	99	99	99	99	99	99	0	0	0	0	0	0	0	0			0	0	0	0	0	0	0	0	0	1	1	1	1	4	24	–
–	10	–	–	98	98	98	99	99	99	99	99	99	99	99	99	0	0	0	0	0	0	0	0	0			0	0	0	0	0	0	0	0	0	1	1	1	1	2	5	–	1,25
2.5	–	–	–	98	98	98	99	99	99	99	99	99	99	99	99	0	0	0	0	0	0	0	0	0			0	0	0	0	0	0	0	0	0	1	1	1	1	2	5	20	–
–	11	–	–	98	98	99	99	99	99	99	99	99	99	0	0	0	0	0	0	0	0	0	0			0	0	0	0	0	0	0	0	1	1	1	1	1	1	2	5	18	–
–	12	–	–	98	98	99	99	99	99	99	99	99	99	0	0	0	0	0	0	0	0	0			0	0	0	0	0	0	0	0	0	1	1	1	1	1	1	2	5	–	1,5
2,0	–	–	98	98	99	99	99	99	99	99	99	99	0	0	0	0	0	0	0	0	0	0			0	0	0	0	0	0	0	0	0	1	1	1	1	1	1	2	–	16	–
–	13	–	98	98	99	99	99	99	99	99	99	99	0	0	0	0	0	0	0	0	0			0	0	0	0	0	0	0	0	0	1	1	1	1	1	1	2	2	–	–	1,75
–	14	–	98	98	99	99	99	99	99	99	99	0	0	0	0	0	0	0	0	0				0	0	0	0	0	0	0	0	1	1	1	1	1	1	1	2	2	–	14	–
1,75	–	–	98	98	99	99	99	99	99	99	0	0	0	0	0	0	0	0	0				0	0	0	0	0	0	0	0	1	1	1	1	1	1	1	1	2	2	–	13	–
–	16	–	98	99	99	99	99	99	99	0	0	0	0	0	0	0	0	0	0			0	0	0	0	0	0	0	0	0	1	1	1	1	1	1	1	1	2	2	–	–	2,0
1,5	–	–	98	99	99	99	99	99	99	0	0	0	0	0	0	0	0	0			0	0	0	0	0	0	0	0	0	1	1	1	1	1	1	1	1	2	2	3	–	12	–
–	18	–	98	99	99	99	99	99	99	0	0	0	0	0	0	0	0				0	0	0	0	0	0	0	0	0	1	1	1	1	1	1	1	1	2	2	3	–	11	–
–	20	–	98	99	99	99	99	99	0	0	0	0	0	0	0	0				0	0	0	0	0	0	0	0	1	1	1	1	1	1	1	1	1	2	2	2	3	–	–	2,5
1,25	–	–	98	99	99	99	99	99	0	0	0	0	0	0	0	0			0	0	0	0	0	0	0	0	0	1	1	1	1	1	1	1	1	1	2	2	2	3	–	10	–
–	24	–	99	99	99	99	0	0	0	0	0	0	0	0	0			0	0	0	0	0	0	0	0	1	1	1	1	1	1	1	1	1	1	1	2	2	3	3	–	9	–
1,0	–	–	99	99	99	99	0	0	0	0	0	0	0	0				0	0	0	0	0	0	0	0	1	1	1	1	1	1	1	1	1	1	1	2	2	3	4	–	–	3,0
–	28	–	99	99	99	99	0	0	0	0	0	0	0	0			0	0	0	0	0	0	0	1	1	1	1	1	1	1	1	1	1	1	1	1	2	2	3	4	–	8	–
–	32	–	99	99	99	0	0	0	0	0	0	0	0			0	0	0	0	0	0	0	1	1	1	1	1	1	1	1	1	1	1	1	1	2	2	3	3	4	–	–	3,5
0,75	–	–	99	99	99	0	0	0	0	0	0	0			0	0	0	0	0	0	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2	2	3	3	4	–	7	–
–	36	–	99	99	0	0	0	0	0	0	0				0	0	0	0	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2	2	2	3	4	5	–	–	4,0
–	40	98	99	99	0	0	0	0	0	0				0	0	0	0	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2	2	2	3	3	4	5	–	6	–
–	44	98	99	0	0	0	0	0	0				0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2	2	2	2	3	4	5	–	–	–	5,0
–	48	98	99	0	0	0	0	0				0	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2	2	2	2	3	4	5	–	–	5	–
0,5	–	98	99	0	0	0	0				0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2	2	2	2	2	3	4	4	5	–	–	–	6,0
–	56	98	99	0	0	0	0			0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2	2	2	2	2	3	3	4	5	–	–	–	4	–
–	64	99	0	0	0	0			0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2	2	2	2	2	2	2	3	3	4	5	–	–	–	–	–	8,0
–	72	99	0	0					1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2	2	2	2	2	2	2	3	3	3	4	5	–	–	–	–	3	–
–	80	99	0						1	1	1	1	1	1	1	1	1	1	2	2	2	2	2	2	2	2	2	3	3	3	3	4	4	5	5	–	–	–	–	–	–		–
P_h mm	TPI								300	250	225	200	190	180	170	165	160	155	150	140	135	130	120	115	110	100	95	90	85	75	70	65	60	50	45	40	30	25	20	15	5		

Pitch diameter D_2 (mm) – threading towards the chuck

Threading towards the chuck