

THREADING

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THREADING Grade table

	ISO 513	CARBIDE	PCBN	DIAMOND
		PVD COATED	PVD COATED	PCD
A - TURNING	P	P01		
		P10	JPS120	
		P20	JPS125	
		P30		
		P40		
B - THREADING	Steel			
C - GROOVING	M	M01		
		M10	JPS120	
		M20	JPS125	
		M30		
		M40		
D - MILLING	Stainless steel			
E - DRILLING	K	K01		
		K10	JPS120	
		K20	JPS125	
		K30		
F - ACCESSORIES	N	N01		
		N10		
		N20		ND050
		N30		
G - SPARE PARTS	H	H01		
		H10		
		H20		NBL30C
		H30		

GRADE	SUBSTRATE	HARDNESS HV	COATING		APPLICATION	FEATURES
			TECHNOLOGY	COMPOSITION		
JP5120	micrograin carbide	1.830	PVD	TiAlN	P P10 P20	Special coating technology balances wear resistance and toughness. The post-coating surface treatment effectively prevents built-up edge.
					M M10 M20	
					K K10 K20	
JP5125	micrograin carbide	1.830	PVD	TiAlN	P P20 P30	High Co micrograin carbide substrate with high toughness and latest coating technology. Universal use with great reliability and long tool life.
					M M20 M30	
					K K20 K30	
NBL350C	Low volume CBN 75%	3.400	PVD	AlTiN	H H20 H35	Hardened steel machining with a perfect combination of toughness and wear resistance.
ND050 new name: NDP001	diamond 85%	5.000	-	-	N N10 N35	High productivity threading of non-ferrous materials. Excellent surface finishing and very good toughness.

A - TURNING

B - THREADING

C - GROOVING

D - MILLING

E - DRILLING

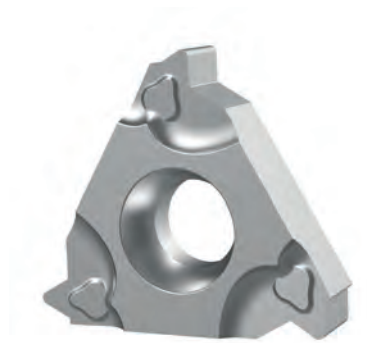
F - ACCESSORIES

G - SPARE PARTS

- A - TURNING
- B - THREADING**
- C - GROOVING
- D - MILLING
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	EXTERNAL	INTERNAL
	B7	B15
	 SQUARE SHANK	 BORING BAR
Pressed type inserts	✓	✓
Ground type inserts*	✓	✓
Advanced material inserts	✓	✓
Available sizes	16 - 22	07 - 11 - 16 - 22
Right and left thread	✓	✓
Workpiece material	P M K N S H	P M K N S H
Full profile	M - UN - W - NPT - BSPT	M - UN - W - NPT - BSPT
Partial profile	55° - 60°	55° - 60°
M ISO Metric	0.50 - 0.70 - 0.75 - 0.80 - 1.00 - 1.25 - 1.50 - 1.75 - 2.00 - 2.50 - 3.00 - 3.50 - 4.00 - 4.50 - 5.00 (mm)	0.50 - 0.75 - 1.00 - 1.25 - 1.50 - 1.75 - 2.00 - 2.50 - 3.00 - 3.50 - 4.00 - 4.50 - 5.00 (mm)
W Whitworth	19 - 14 - 11 (TPI)	19 - 14 - 11 (TPI)
UN American unified	24 - 20 - 18 - 16 - 14 - 12 - 08 (TPI)	24 - 20 - 18 - 16 - 14 - 12 - 08 (TPI)
NPT American tapered pipe	18 - 11.5 - 14 (TPI)	18 - 11.5 - 14 (TPI)
BSPT British tapered pipe	28 - 19 - 14 - 11 (TPI)	28 - 19 - 14 - 11 (TPI)
60° partial profile	A 0.50 ÷ 1.50 (mm) / 48 ÷ 16 (TPI) G 1.75 ÷ 3.00 (mm) / 14 ÷ 8 (TPI) AG 0.50 ÷ 3.00 (mm) / 48 ÷ 8 (TPI) N 3.50 ÷ 5.00 (mm) / 7 ÷ 5 (TPI)	A 0.50 ÷ 1.50 (mm) / 48 ÷ 16 (TPI) G 1.75 ÷ 3.00 (mm) / 14 ÷ 8 (TPI) AG 0.50 ÷ 3.00 (mm) / 48 ÷ 8 (TPI) N 3.50 ÷ 5.00 (mm) / 7 ÷ 5 (TPI)
55° partial profile	A 48 ÷ 16 (TPI) G 14 ÷ 8 (TPI) AG 48 ÷ 8 (TPI) N 7 ÷ 5 (TPI)	A 48 ÷ 16 (TPI) G 14 ÷ 8 (TPI) AG 48 ÷ 8 (TPI) N 7 ÷ 5 (TPI)
Holder sizes	square: 12 - 16 - 20 - 25 mm	cylindrical: 10 - 12 - 16 - 20 - 25 - 32 mm
Minimum entering hole	-	8 mm
Special features	holders without off-set for swiss type machining	boring bar with VORTEX technology and internal coolant

*Ground inserts can be tailored to cover virtually any thread type and pitch.



THREADING External threads

Inserts .B8

Holders .B12

Table "Number of passes" .B13

A - TURNING

B - THREADING

C - GROOVING

D - MILLING

E - DRILLING

F - ACCESSORIES

G - SPARE PARTS

<h1>External</h1>	HF: Micrograin carbide BL: Low volume CBN DP: Polycrystalline diamond PVD: Physical vapour deposition				HF PVD	HF PVD	BL PVD	DP	
	<h2>ISO 16-22</h2>					JP5120	JP5125	NBL350C	ND050
<ul style="list-style-type: none"> M: metric threads W: parallel pipe threads (whitworth) UN: unified inch threads NPT: American national tapered pipe threads BSPT: tapered pipe threads Partial profile with 55° or 60° angle, for metric, unified and parallel pipe threads 	Stable machining, light cut ● 1 st choice ○ suitable								
	General machining, medium cut ● 1 st choice ○ suitable								
	Unstable machining, heavy cut ⚡ 1 st choice ⚡ suitable								
Dimensions		ISO				Vc(m/min) - suggested cutting speed range (bold: 1st choice)			
		P 90 200	70 180						
		M 60 150	50 140						
		K 90 190	60 180						
		N				400 1600			
		S				50 100			
		H		60 140					
		S D1 16E 3.65 4.00 22E 4.71 5.00							

FULL PROFILE	Designation	RE	TP	PDX	PDY	IC	Stock			
							●	○	▲	▽
<p>TPM pressed type chip control oriented</p>	16ER100ISO-TPM	0.14	1	0.7	0.8	9.525	●	●		
	16ER125ISO-TPM	0.18	1.25	0.9	0.8	9.525	●	●		
	16ER150ISO-TPM	0.22	1.5	1	0.8	9.525	●	●		
	16ER175ISO-TPM	0.25	1.75	1.2	1.2	9.525	●	●		
	16ER200ISO-TPM	0.29	2	1.3	1.2	9.525	●	●		
	16ER250ISO-TPM	0.36	2.5	1.5	1.2	9.525	●	●		
	16ER300ISO-TPM	0.43	3	1.5	1.2	9.525	●	●		
	22ER350ISO-TPM	0.45	3.5	2.3	1.6	12.7	●			
	22ER400ISO-TPM	0.52	4	2.3	1.6	12.7	●			
	22ER450ISO-TPM	0.58	4.5	2.4	1.7	12.7	●			
22ER500ISO-TPM	0.63	5	2.5	1.7	12.7	●				
<p>precision ground sharpness oriented</p>	16ER050ISO	0.07	0.5	0.6	0.6	9.525	●			
	16ER070ISO	0.1	0.7	0.6	0.6	9.525	●			
	16ER075ISO	0.11	0.75	0.6	0.6	9.525	●			
	16ER080ISO	0.12	0.8	0.6	0.6	9.525	●			
	16ER100ISO	0.15	1	0.7	0.7	9.525	●			
	16ER125ISO	0.18	1.25	0.9	0.8	9.525	●			
	16ER150ISO	0.22	1.5	1	0.8	9.525	●			
	16ER175ISO	0.25	1.75	1.2	0.9	9.525	●			
	16ER200ISO	0.29	2	1.3	1	9.525	●			
	16ER250ISO	0.36	2.5	1.5	1	9.525	●			
16ER300ISO	0.43	3	1.6	1.2	9.525	●				

● stock standard, ○ non-standard stock, ▲ upcoming introduction, ▽ stock exhaustion

FULL PROFILE

- Full profile insert will form a complete thread profile including the crest.
- The distance between root and crest is controlled.
- The insert can produce only one pitch.
- Higher tool pressure compared to partial profile.

PRESSED VS GROUND

TPM pressed

- Improves the chip control
- Strongly recommended in internal application especially for difficult materials
- Best cost-performance ratio

Precision ground

- Achieves the higher precision
- A sharper cutting edge can guarantee very smooth cutting action
- Every kind of thread's standard can be easily produced using the same blank

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	ISO 16-22				JP5120	JP5125	NBL350C	ND050						
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			TP: thread pitch		P	90 200	70 180							
					M	60 150	50 140							
				K	90 190	60 180								
				N						400 1600				
				S						50 100				
				H				60 140						

FULL PROFILE	Designation	RE	TP	PDX	PDY	IC	Stock			
							●	○	▲	▽
<p>precision ground left-hand</p>	16EL050ISO	0.07	0.5	0.6	0.6	9.525	●			
	16EL075ISO	0.11	0.75	0.6	0.6	9.525	●			
	16EL100ISO	0.15	1	0.7	0.7	9.525	●			
	16EL125ISO	0.18	1.25	0.9	0.8	9.525	●			
	16EL150ISO	0.22	1.5	1	0.8	9.525	●			
	16EL175ISO	0.25	1.75	1.2	0.9	9.525	●			
	16EL200ISO	0.29	2	1.3	1	9.525	●			
	16EL250ISO	0.36	2.5	1.5	1	9.525	●			
	16EL300ISO	0.43	3	1.6	1.2	9.525	●			
<p>PCD carbide backed single edge</p>	16ER100ISO-1C	0.15	1	0.7		9.525			●	
	16ER125ISO-1C	0.16	1.25	0.9		9.525			●	
	16ER150ISO-1C	0.22	1.5	1		9.525			●	
	16ER175ISO-1C	0.26	1.75	1.2		9.525			●	
	16ER200ISO-1C	0.29	2	1.3		9.525			●	
	16ER250ISO-1C	0.37	2.5	1.5		9.525			●	
	16ER300ISO-1C	0.43	3	1.5		9.525			●	
<p>PCBN solid brazing single edge</p>	16ER100ISO-1S	0.15	1	0.7		9.525		●		
	16ER125ISO-1S	0.16	1.25	0.9		9.525		●		
	16ER150ISO-1S	0.22	1.5	1		9.525		●		
	16ER175ISO-1S	0.26	1.75	1.2		9.525		●		
	16ER200ISO-1S	0.29	2	1.3		9.525		●		
	16ER250ISO-1S	0.37	2.5	1.5		9.525		●		
	16ER300ISO-1S	0.43	3	1.5		9.525		●		
<p>TPM pressed type chip control oriented</p>	16ER11W-TPM	0.3	11	1.5	1.2	9.525	●	●		
	16ER14W-TPM	0.24	14	1.5	1.2	9.525	●	●		
	16ER19W-TPM	0.17	19	1	0.8	9.525	●			

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ADVANCED THREADING

PCBN for ISO H

Please increase the number of passes when machining hardened steel with PCBN inserts. Keep the maximum infeed value lower than 0.10 mm

A - TURNING

B - THREADING

C - GROOVING

D - MILLING

E - DRILLING

F - ACCESSORIES

G - SPARE PARTS

A - TURNING

B - THREADING

C - GROOVING

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	Dimensions	ISO							Vc(m/min) - suggested cutting speed range (bold: 1st choice)	
	<p>TP: thread pitch</p> <p>S D1 16E 3.65 4.00 22E 4.71 5.00</p>	P	90 200	70 180						
	M	60 150	50 140							
	K	90 190	60 180							
	N						400 1600			
	S						50 100			
	H					60 140				

Designation		RE	TP	PDX	PDY	IC	Stock			
FULL PROFILE <p>TPM pressed type chip control oriented</p>	UN P M K 16ER08UN-TPM	0.46	8	1.7	1.3	9.525	●			
	16ER12UN-TPM	0.31	12	1.5	1.2	9.525	●			
	16ER14UN-TPM	0.26	14	1.5	1.2	9.525	●			
	16ER16UN-TPM	0.23	16	1.1	0.9	9.525	●			
	16ER18UN-TPM	0.2	18	1	0.8	9.525	●			
	16ER20UN-TPM	0.18	20	0.9	0.8	9.525	●			
	16ER24UN-TPM	0.15	24	0.8	0.8	9.525	●			
FULL PROFILE <p>TPM pressed type chip control oriented</p>	NPT P M K 16ER11.5NPT-TPM	0.25	11.5	1.5	1.2	9.525	●			
	16ER14NPT-TPM	0.22	14	1.5	1.2	9.525	●			
	16ER18NPT-TPM	0.2	18	1	0.8	9.525	●			
FULL PROFILE <p>precision ground sharpness oriented</p>	NPT P M K 16ER11.5NPT	0.07	11.5	1.5	1.1	9.525	●			
	16ER14NPT	0.06	14	1	0.8	9.525	●			
FULL PROFILE <p>TPM pressed type chip control oriented</p>	BSPT P M K 16ER11BSPT-TPM	0.3	11	1.5	1.2	9.525	●			
	16ER14BSPT-TPM	0.24	14	1.5	1.2	9.525	●			
	16ER19BSPT-TPM	0.17	19	1	0.8	9.525	●			
	16ER28BSPT-TPM	0.11	28	0.8	0.7	9.525	●			

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					PVD	PVD	PVD		
ISO 16-22					JP5120	JP5125	NBL350C	ND050	
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	General machining, medium cut	● 1 st choice	○ suitable	●	●				
	Unstable machining, heavy cut	▲ 1 st choice	▽ suitable		▲				
	Dimensions		ISO		Vc(m/min) - suggested cutting speed range (bold: 1st choice)				
<p>TP: thread pitch</p> <p>S D1 16E 3.65 4.00 22E 4.71 5.00</p>		P	90 200	70 180					
		M	60 150	50 140					
		K	90 190	60 180					
		N				400 1600			
		S				50 100			
		H			60 140				

PARTIAL PROFILE	Designation	RE	TP	PDX	PDY	IC	Stock			
							●	○	▲	▽
60° P M K TPM pressed type chip control oriented	16ERA60-TPM	0.08	-	0.9	0.8	9.525	●			
	16ERAG60-TPM	0.08	-	1.5	1.1	9.525	●			
	16ERGG60-TPM	0.25	-	1.7	1.2	9.525	●			
	22ERN60-TPM	0.51	-	2.5	1.7	12.7	●			
55° P M K TPM pressed type chip control oriented	16ERA55-TPM	0.08	-	0.9	0.8	9.525	●			
	16ERAG55-TPM	0.08	-	1.5	1.1	9.525	●			
	16ERG55-TPM	0.21	-	1.7	1.2	9.525	●			
	22ERN55-TPM	0.44	-	2.5	1.7	12.7	●			

● stock standard, ○ non-standard stock, ▲ upcoming introduction, ▽ stock exhaustion

PARTIAL PROFILE

- Partial profile insert works without cuts the outer diameter of the thread.
- The same insert can be used for a broad range of different thread pitches.
- Can produce burr that must be taken away.

PARTIAL PROFILE 60° PITCH RANGES

	M	UN
A60	0.50÷1.50	48÷16
AG60	0.50÷3.00	48÷8
G60	1.75÷3.00	14÷8
N60	3.50÷5.00	7÷5

PARTIAL PROFILE 55° PITCH RANGES

	BSW-BSF-BSP
A55	48÷16
AG55	48÷8
G55	14÷8
N55	7÷5

A - TURNING

B - THREADING

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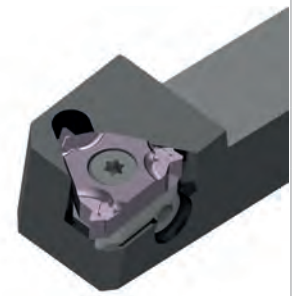
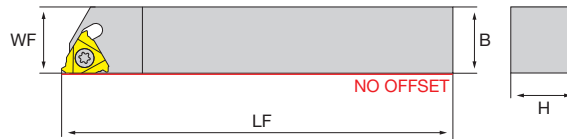
SE

ISO 16-22

- External threading holder
- Tightened by screws
- Available with shim, convenient to change inserts
- Holds both pressed type and ground type threading inserts

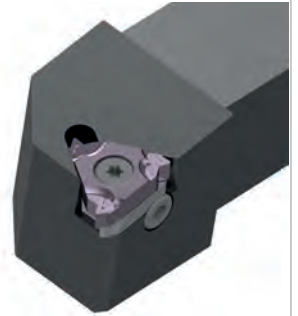
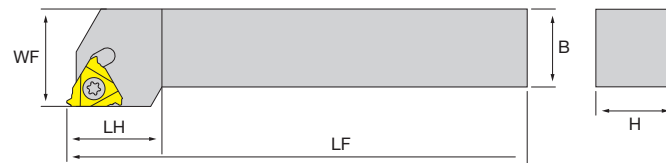
Without offset

Right-hand shown



Standard design

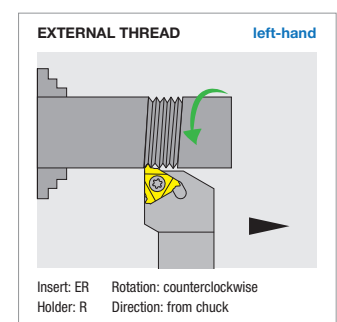
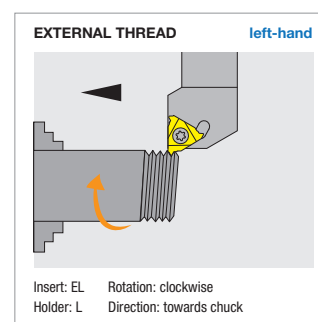
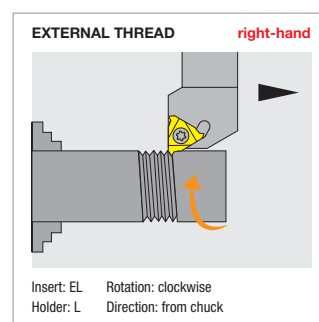
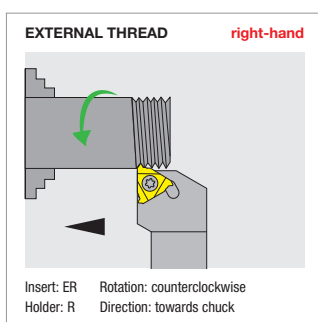
Right-hand shown



Designation	Stock		H	B	WF	LF	LH				MIID
	L	R									
WITHOUT OFFSET											
NT-SE/r1212H16N	○	○	12	12	12	100	-				16EL/R000
NT-SE/r1616H16N	○	○	16	16	16	100	-				16EL/R000
STANDARD DESIGN											
NT-SE/r1616H16	●	●	16	16	20	100	22				16EL/R000
NT-SE/r2020K16	●	●	20	20	25	125	25				16EL/R000
NT-SE/r2525M16	●	●	25	25	32	150	25				16EL/R000
NT-SE/r2525M22		●	25	25	32	150	29				22ER000
NT-SE/r3232M22		●	32	32	40	170	32				22ER000

● stock standard, ○ non-standard stock, ▲ upcoming introduction, ▽ stock exhaustion

Spare parts	Shim	Shim	Locking screws	L wrench	Insert screws	Flag wrenches
NT-SEL00000160	NT-SH065	-	NT-SC003	NT-WR025	NT-ST35115T15	NT-FT15
NT-SER00000160	-	NT-SH060	NT-SC003	NT-WR025	NT-ST35115T15	NT-FT15
NT-SER00000220	-	NT-SH066	NT-SC004	NT-WR030	NT-ST40140T15	NT-FT15



M - External ISO-metric threads

TP	6.00	5.50	5.00	4.50	4.00	3.50	3.00	2.50	2.00	1.75	1.50	1.25	1.00	0.80	0.75	0.70	0.50	
NO. OF INFEEDES	RADIAL INFEEDE PER PASS																	
1	0.46	0.43	0.41	0.37	0.34	0.34	0.28	0.27	0.24	0.22	0.22	0.21	0.18	0.17	0.16	0.14	0.11	
2	0.43	0.40	0.39	0.34	0.32	0.31	0.26	0.24	0.22	0.20	0.20	0.17	0.16	0.15	0.14	0.12	0.09	
3	0.35	0.32	0.32	0.28	0.25	0.25	0.21	0.20	0.18	0.17	0.17	0.14	0.12	0.12	0.11	0.10	0.07	
4	0.30	0.28	0.27	0.24	0.22	0.21	0.18	0.17	0.16	0.14	0.14	0.11	0.11	0.08	0.07	0.07	0.06	
5	0.29	0.26	0.24	0.22	0.20	0.18	0.16	0.15	0.14	0.12	0.12	0.10	0.08	-	-	-	-	
6	0.26	0.24	0.24	0.22	0.18	0.18	0.15	0.15	0.12	0.10	0.08	0.08	-	-	-	-	-	
7	0.24	0.21	0.22	0.20	0.17	0.16	0.14	0.12	0.11	0.10	-	-	-	-	-	-	-	
8	0.23	0.20	0.20	0.18	0.15	0.15	0.13	0.11	0.08	0.08	-	-	-	-	-	-	-	
9	0.22	0.19	0.19	0.17	0.14	0.14	0.12	0.11	-	-	-	-	-	-	-	-	-	
10	0.19	0.18	0.18	0.16	0.13	0.12	0.11	0.08	-	-	-	-	-	-	-	-	-	
11	0.18	0.17	0.16	0.14	0.12	0.11	0.10	-	-	-	-	-	-	-	-	-	-	
12	0.16	0.15	0.15	0.13	0.12	0.08	0.08	-	-	-	-	-	-	-	-	-	-	
13	0.15	0.14	0.12	0.12	0.11	-	-	-	-	-	-	-	-	-	-	-	-	
14	0.13	0.13	0.10	0.10	0.08	-	-	-	-	-	-	-	-	-	-	-	-	
15	0.13	0.12	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
16	0.10	0.10	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
TOTAL INFEEDE	3.82	3.52	3.19	2.87	2.53	2.23	1.92	1.60	1.25	1.13	0.93	0.81	0.65	0.52	0.48	0.43	0.33	

green background are standard items all other sizes can make specials

W - External Whitworth threads

TP	4	4.5	5	6	7	8	9	10	11	12	14	16	18	19	20	26	28	
NO. OF INFEEDES	RADIAL INFEEDE PER PASS																	
1	0.49	0.46	0.45	0.38	0.37	0.32	0.30	0.29	0.28	0.28	0.24	0.24	0.23	0.22	0.21	0.19	0.18	
2	0.46	0.43	0.43	0.36	0.35	0.30	0.28	0.27	0.26	0.26	0.22	0.22	0.22	0.22	0.21	0.18	0.17	
3	0.38	0.38	0.38	0.30	0.29	0.24	0.23	0.22	0.22	0.22	0.18	0.19	0.19	0.18	0.17	0.15	0.14	
4	0.36	0.33	0.32	0.26	0.25	0.21	0.20	0.19	0.19	0.18	0.15	0.16	0.16	0.14	0.14	0.12	0.12	
5	0.34	0.29	0.28	0.22	0.22	0.19	0.18	0.17	0.16	0.16	0.13	0.13	0.13	0.12	0.11	0.08	0.08	
6	0.31	0.25	0.25	0.21	0.19	0.17	0.15	0.15	0.14	0.14	0.11	0.11	0.08	0.08	0.08	-	-	
7	0.29	0.24	0.22	0.19	0.18	0.15	0.14	0.14	0.13	0.13	0.09	0.08	-	-	-	-	-	
8	0.27	0.22	0.20	0.17	0.16	0.14	0.13	0.13	0.12	0.08	0.08	-	-	-	-	-	-	
9	0.24	0.20	0.19	0.16	0.15	0.13	0.12	0.12	0.08	-	-	-	-	-	-	-	-	
10	0.22	0.18	0.18	0.15	0.14	0.12	0.12	0.08	-	-	-	-	-	-	-	-	-	
11	0.20	0.17	0.17	0.14	0.12	0.12	0.08	-	-	-	-	-	-	-	-	-	-	
12	0.19	0.16	0.15	0.14	0.08	0.08	-	-	-	-	-	-	-	-	-	-	-	
13	0.17	0.15	0.12	0.12	-	-	-	-	-	-	-	-	-	-	-	-	-	
14	0.15	0.14	0.10	0.10	-	-	-	-	-	-	-	-	-	-	-	-	-	
15	0.12	0.12	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
16	0.10	0.10	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
TOTAL INFEEDE	4.29	3.82	3.44	2.90	2.50	2.17	1.93	1.76	1.58	1.45	1.20	1.13	1.01	0.96	0.92	0.72	0.69	

green background are standard items all other sizes can make specials

A - TURNING

B - THREADING

C - GROOVING

D - MILLING

E - DRILLING

F - ACCESSORIES

G - SPARE PARTS

UN - External UN threads

TP	4	4.5	5	6	7	8	9	10	11	12	13	14	16	18	20	24	28	32
NO. OF INFEEDS	RADIAL INFEED PER PASS																	
1	0.47	0.45	0.43	0.36	0.35	0.30	0.28	0.27	0.27	0.27	0.25	0.23	0.22	0.23	0.20	0.19	0.17	0.17
2	0.44	0.41	0.40	0.34	0.33	0.28	0.26	0.26	0.25	0.26	0.24	0.22	0.21	0.21	0.19	0.17	0.15	0.15
3	0.40	0.39	0.36	0.27	0.26	0.25	0.21	0.20	0.20	0.20	0.18	0.17	0.16	0.16	0.15	0.14	0.11	0.13
4	0.36	0.31	0.31	0.23	0.22	0.21	0.20	0.17	0.19	0.18	0.17	0.15	0.14	0.14	0.12	0.12	0.09	0.08
5	0.32	0.26	0.26	0.22	0.21	0.18	0.17	0.16	0.16	0.15	0.14	0.13	0.13	0.12	0.10	0.08	0.08	-
6	0.27	0.23	0.23	0.20	0.19	0.16	0.15	0.15	0.14	0.13	0.12	0.11	0.11	0.08	0.08	-	-	-
7	0.25	0.21	0.20	0.18	0.17	0.14	0.14	0.14	0.12	0.12	0.11	0.10	0.08	-	-	-	-	-
8	0.23	0.20	0.19	0.16	0.15	0.13	0.12	0.12	0.11	0.08	0.08	0.08	-	-	-	-	-	-
9	0.22	0.18	0.19	0.15	0.14	0.12	0.12	0.11	0.08	-	-	-	-	-	-	-	-	-
10	0.21	0.17	0.18	0.14	0.12	0.12	0.11	0.08	-	-	-	-	-	-	-	-	-	-
11	0.19	0.16	0.17	0.13	0.11	0.11	0.08	-	-	-	-	-	-	-	-	-	-	-
12	0.18	0.15	0.15	0.12	0.08	0.08	-	-	-	-	-	-	-	-	-	-	-	-
13	0.16	0.14	0.12	0.11	-	-	-	-	-	-	-	-	-	-	-	-	-	-
14	0.15	0.14	0.10	0.10	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15	0.12	0.12	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
16	0.10	0.10	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TOTAL INFEED	4.07	3.62	3.29	2.71	2.33	2.08	1.84	1.66	1.52	1.39	1.29	1.19	1.05	0.94	0.84	0.70	0.60	0.53

green background are standard items all other sizes can make specials

NPT - External NPT threads

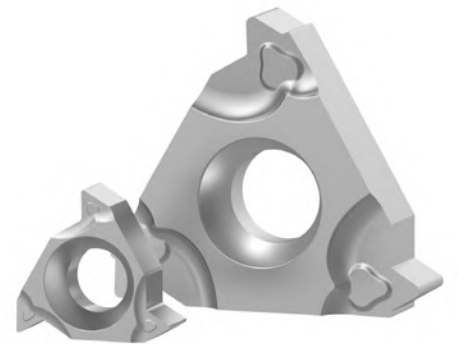
TP	8	11.5	14	18	27
NO. OF INFEEDS	RADIAL INFEED PER PASS				
1	0.28	0.25	0.24	0.22	0.19
2	0.25	0.22	0.22	0.18	0.15
3	0.22	0.18	0.17	0.15	0.13
4	0.19	0.16	0.15	0.14	0.11
5	0.18	0.16	0.14	0.13	0.09
6	0.18	0.14	0.13	0.12	0.08
7	0.17	0.14	0.12	0.10	-
8	0.17	0.12	0.10	0.08	-
9	0.16	0.12	0.10	-	-
10	0.16	0.10	0.08	-	-
11	0.14	0.09	-	-	-
12	0.13	0.08	-	-	-
13	0.12	-	-	-	-
14	0.11	-	-	-	-
15	0.08	-	-	-	-
TOTAL INFEED	2.54	1.76	1.45	1.12	0.75

green background are standard items all other sizes can make specials

BSPT - British tapered pipe threads

TP	11	14	19	28
NO. OF INFEEDS	RADIAL INFEED PER PASS			
1	0.25	0.24	0.22	0.17
2	0.23	0.20	0.19	0.14
3	0.21	0.17	0.15	0.11
4	0.18	0.14	0.12	0.10
5	0.16	0.12	0.12	0.06
6	0.14	0.12	0.06	-
7	0.13	0.11	-	-
8	0.12	0.06	-	-
9	0.06	-	-	-
TOTAL INFEED	1.58	1.20	0.86	0.58

green background are standard items all other sizes can make specials



THREADING Internal threads

Inserts Micro .B14

Holders Micro .B15

Inserts ISO 11 - 16 - 22 .B16

Holders ISO 11 - 16 - 22 .B21

Table "Number of passes" .B23

A - TURNING

B - THREADING

C - GROOVING

D - MILLING

E - DRILLING

F - ACCESSORIES

G - SPARE PARTS

<h1>Internal</h1>	HF: Micrograin carbide PVD: Physical vapour deposition		HF PVD
	<h2>Micro 07</h2>		JP5125
<ul style="list-style-type: none"> M: metric threads W: parallel pipe threads (whitworth) UN: unified inch threads NPT: American national tapered pipe threads BSPT: tapered pipe threads Partial profile with 55° or 60° angle, for metric, unified and parallel pipe threads 	Stable machining, light cut	● 1 st choice ○ suitable	○
	General machining, medium cut	● 1 st choice ○ suitable	●
	Unstable machining, heavy cut	▲ 1 st choice ▲ suitable	▲
Dimensions		ISO	
		Vc(m/min) - suggested cutting speed range (bold: 1st choice)	
		P	70 180
		M	50 140
		K	60 180
		N	
		S	
		H	

Designation		RE	TP	PDX	PDY	IC	Stock
PARTIAL PROFILE	60° P M K TPM pressed type chip control oriented	0.08	-	0.7	0.6	4.762	●
	07IRA60-TPM						
PARTIAL PROFILE	55° P M K TPG pressed type ground profile	0.08	-	0.7	0.6	4.762	●
	07IRA55-TPG						

● stock standard, ○ non-standard stock, ▲ upcoming introduction, ▽ stock exhaustion

PARTIAL PROFILE

- Partial profile insert works without cuts the outer diameter of the thread.
- The same insert can be used for a broad range of different thread pitches.
- Can produce burr that must be taken away.

PARTIAL PROFILE 07IR PITCH RANGES

	M	UN
A60	0.50÷1.50	48÷16
BSW-BSF-BSP		
A55	48÷16	

<h1>V SI</h1>		
<h2>Micro 07</h2>		
<ul style="list-style-type: none"> • Internal threading holder • Vortex boring bar (High standard steel) • Special chip evacuation path • With coolant through 		

Designation	Stock		DMIN	DCON	WF	LF	LH	GAMO			MIID
	L	R									
NT-V10H-SI/07-08		●	8	10	4	100	20	21°			07IR ∞

● stock standard, ○ non-standard stock, ▲ upcoming introduction, ▽ stock exhaustion

Spare parts	Insert screws	Flag wrenches
	NT-V10H-SI07-08	 NT-ST22049T07

INTERNAL THREAD right-hand

Insert: IR Rotation: counterclockwise
Holder: R Direction: towards chuck

INTERNAL THREAD left-hand

Insert: IR Rotation: counterclockwise
Holder: R Direction: from chuck

A - TURNING

B - THREADING

C - GROOVING

D - MILLING

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F - ACCESSORIES

G - SPARE PARTS

A - TURNING

B - THREADING

C - GROOVING

D - MILLING

E - DRILLING

F - ACCESSORIES

G - SPARE PARTS

<h1>Internal</h1> <h2>ISO 11-16-22</h2> <ul style="list-style-type: none"> M: metric threads W: parallel pipe threads (whitworth) UN: unified inch threads NPT: American national tapered pipe threads BSPT: tapered pipe threads Partial profile with 55° or 60° angle, for metric, unified and parallel pipe threads 	HF: Micrograin carbide BL: Low volume CBN DP: Polycrystalline diamond PVD: Physical vapour deposition	HF PVD	HF PVD	BL PVD	DP
	Stable machining, light cut ● 1 st choice ○ suitable General machining, medium cut ● 1 st choice ○ suitable Unstable machining, heavy cut ▲ 1 st choice ▼ suitable	JP5120 JP5125 NBL350C ND050			
Dimensions	ISO	Vc(m/min) - suggested cutting speed range (bold: 1st choice)			
<p>TP: thread pitch</p> <p>S D1 11 3.18 3.20 16 3.65 4.00 22 4.71 5.00</p>	P 90 70 200 180				
	M 60 50 150 140				
	K 90 60 190 180				
	N			400 1600	
	S			50 100	
	H		60 140		

FULL PROFILE	Designation	RE	TP	PDX	PDY	IC	Stock			
							●	○	▲	▼
<p>TPM pressed type chip control oriented</p>	11R100ISO-TPM	0.07	1	0.7	0.8	6.35	●			
	11R125ISO-TPM	0.09	1.25	0.9	0.8	6.35	●			
	11R150ISO-TPM	0.11	1.5	1	0.8	6.35	●			
	11R175ISO-TPM	0.13	1.75	1.1	0.9	6.35	●			
	11R200ISO-TPM	0.15	2	1.1	0.9	6.35	●			
	16R100ISO-TPM	0.07	1	0.7	0.8	9.525	●	●		
	16R125ISO-TPM	0.09	1.25	0.9	0.8	9.525	●	●		
	16R150ISO-TPM	0.11	1.5	1	0.8	9.525	●	●		
	16R175ISO-TPM	0.13	1.75	1.2	1.2	9.525	●	●		
	16R200ISO-TPM	0.15	2	1.3	1.2	9.525	●	●		
	16R250ISO-TPM	0.18	2.5	1.5	1.2	9.525	●	●		
	16R300ISO-TPM	0.22	3	1.5	1.2	9.525	●	●		
	22R350ISO-TPM	0.22	3.5	2.3	1.6	12.7	●			
	22R400ISO-TPM	0.25	4	2.3	1.6	12.7	●			
	22R450ISO-TPM	0.28	4.5	2.4	1.6	12.7	●			
	22R500ISO-TPM	0.32	5	2.3	1.6	12.7	●			

● stock standard, ○ non-standard stock, ▲ upcoming introduction, ▼ stock exhaustion

FULL PROFILE

- Full profile insert will form a complete thread profile including the crest.
- The distance between root and crest is controlled.
- The insert can produce only one pitch.
- Higher tool pressure compared to partial profile.

PRESSED VS GROUND

TPM pressed

- Improves the chip control
- Strongly recommended in internal application especially for difficult materials
- Best cost-performance ratio

Precision ground

- Achieves the higher precision
- A sharper cutting edge can guarantee very smooth cutting action
- Every kind of thread's standard can be easily produced using the same blank

<h1>Internal</h1>	HF: Micrograin carbide BL: Low volume CBN DP: Polycrystalline diamond PVD: Physical vapour deposition				HF PVD	HF PVD	BL PVD	DP																																																																		
	<h2>ISO 11-16-22</h2>					JP5120	JP5125	NBL350C	ND050																																																																	
<ul style="list-style-type: none"> M: metric threads W: parallel pipe threads (whitworth) UN: unified inch threads NPT: American national tapered pipe threads BSPT: tapered pipe threads Partial profile with 55° or 60° angle, for metric, unified and parallel pipe threads 	Stable machining, light cut ● 1 st choice ○ suitable	General machining, medium cut ● 1 st choice ○ suitable	Unstable machining, heavy cut ⚡ 1 st choice ⚡ suitable																																																																							
	Dimensions				ISO					Vc(m/min) - suggested cutting speed range (bold: 1st choice)																																																																
					<table border="1"> <tr> <td>P</td> <td>90</td> <td>70</td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td></td> <td>200</td> <td>180</td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>M</td> <td>60</td> <td>50</td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td></td> <td>150</td> <td>140</td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>K</td> <td>90</td> <td>60</td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td></td> <td>190</td> <td>180</td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>N</td> <td></td> <td></td> <td></td> <td></td> <td>400</td> <td>1600</td> </tr> <tr> <td>S</td> <td></td> <td></td> <td></td> <td></td> <td>50</td> <td>100</td> </tr> <tr> <td>H</td> <td></td> <td></td> <td></td> <td>60</td> <td></td> <td>140</td> </tr> </table>				P	90	70						200	180					M	60	50						150	140					K	90	60						190	180					N					400	1600	S					50	100	H				60		140			
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Designation		RE	TP	PDX	PDY	IC	Stock						
FULL PROFILE <p>precision ground sharpness oriented</p>	M P M K	11R050ISO	0.036	0.5	0.6	0.6	6.35	●					
		11R075ISO	0.05	0.75	0.6	0.6	6.35	●					
		11R100ISO	0.072	1	0.7	0.6	6.35	●					
		11R125ISO	0.09	1.25	0.9	0.8	6.35	●					
		11R150ISO	0.11	1.5	1	0.8	6.35	●					
		11R175ISO	0.13	1.75	1.1	0.9	6.35	●					
		11R200ISO	0.15	2	1.3	1	6.35	●					
		16R100ISO	0.072	1	0.7	0.6	9.525	●					
		16R125ISO	0.09	1.25	0.9	0.8	9.525	●					
		16R150ISO	0.11	1.5	1	0.8	9.525	●					
		16R175ISO	0.13	1.75	1.2	0.9	9.525	●					
		16R200ISO	0.14	2	1.3	1	9.525	●					
		16R250ISO	0.18	2.5	1.5	1.1	9.525	●					
		16R300ISO	0.22	3	1.5	1.1	9.525	●					
FULL PROFILE <p>precision ground left-hand</p>	M P M K	11L050ISO	0.036	0.5	0.6	0.6	6.35	●					
		11L075ISO	0.05	0.75	0.6	0.6	6.35	●					
		11L100ISO	0.072	1	0.7	0.6	6.35	●					
		11L125ISO	0.09	1.25	0.9	0.8	6.35	●					
		11L150ISO	0.11	1.5	1	0.8	6.35	●					
		11L175ISO	0.13	1.75	1.1	0.9	6.35	●					
		11L200ISO	0.14	2	1.3	1	6.35	●					
		16L100ISO	0.072	1	0.7	0.6	9.525	●					
		16L125ISO	0.09	1.25	0.9	0.8	9.525	●					
		16L150ISO	0.11	1.5	1	0.8	9.525	●					
		16L175ISO	0.13	1.75	1.2	0.9	9.525	●					
		16L200ISO	0.14	2	1.3	1	9.525	●					
		16L250ISO	0.18	2.5	1.5	1.1	9.525	●					
		16L300ISO	0.22	3	1.5	1.1	9.525	●					

● stock standard, ○ non-standard stock, ▲ upcoming introduction, ▽ stock exhaustion

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<h1>Internal</h1> <h2>ISO 11-16-22</h2> <ul style="list-style-type: none"> M: metric threads W: parallel pipe threads (whitworth) UN: unified inch threads NPT: American national tapered pipe threads BSPT: tapered pipe threads Partial profile with 55° or 60° angle, for metric, unified and parallel pipe threads 	HF: Micrograin carbide BL: Low volume CBN DP: Polycrystalline diamond PVD: Physical vapour deposition				HF PVD	HF PVD	BL PVD	DP		
	Stable machining, light cut ● 1 st choice ○ suitable General machining, medium cut ● 1 st choice ○ suitable Unstable machining, heavy cut ⚡ 1 st choice ⚡ suitable				JP5120	JP5125	NBL350C	ND050		
Dimensions		ISO		Vc(m/min) - suggested cutting speed range (bold: 1st choice)						
		TP: thread pitch S D1 11 3.18 3.20 16 3.65 4.00 22 4.71 5.00		P	90 200	70 180				
				M	60 150	50 140				
				K	90 190	60 180				
				N				400 1600		
				S				50 100		
				H			60 140			

Designation		RE	TP	PDX	PDY	IC	Stock			
FULL PROFILE PCD carbide backed single edge	M N 16IR100ISO-1C	0.08	1	0.7	0.8	9.525				●
	16IR125ISO-1C	0.09	1.25	0.9		9.525				●
	16IR150ISO-1C	0.11	1.5	1		9.525				●
	16IR175ISO-1C	0.13	1.75	1.2		9.525				●
	16IR200ISO-1C	0.15	2	1.3		9.525				●
	16IR250ISO-1C	0.18	2.5	1.5		9.525				●
	16IR300ISO-1C	0.22	3	1.5		9.525				●
FULL PROFILE PCBN solid brazing single edge	M H 16IR100ISO-1S	0.08	1	0.7	0.8	9.525				●
	16IR125ISO-1S	0.09	1.25	0.9		9.525				●
	16IR150ISO-1S	0.11	1.5	1		9.525				●
	16IR175ISO-1S	0.13	1.75	1.2		9.525				●
	16IR200ISO-1S	0.15	2	1.3		9.525				●
	16IR250ISO-1S	0.18	2.5	1.5		9.525				●
	16IR300ISO-1S	0.22	3	1.5		9.525				●
FULL PROFILE TPM pressed type chip control oriented	W P M K 11IR14W-TPM	0.24	14	1.1	0.9	6.35		●		
	16IR11W-TPM	0.3	11	1.5	1.2	9.525	●	●		
	16IR14W-TPM	0.24	14	1.5	1.2	9.525	●	●		
	16IR19W-TPM	0.17	19	1	0.8	9.525		●		
FULL PROFILE TPM pressed type chip control oriented	UN P M K 16IR08UN-TPM	0.23	8	1.7	1.3	9.525		●		
	16IR12UN-TPM	0.16	12	1.5	1.2	9.525		●		
	16IR14UN-TPM	0.13	14	1.5	1.2	9.525		●		
	16IR16UN-TPM	0.12	16	1.1	0.9	9.525		●		
	16IR18UN-TPM	0.1	18	1	0.8	9.525		●		
	16IR20UN-TPM	0.09	20	0.9	0.8	9.525		●		
	16IR24UN-TPM	0.08	24	0.8	0.8	9.525		●		

● stock standard, ○ non-standard stock, ▲ upcoming introduction, ▽ stock exhaustion

FULL PROFILE

- Full profile insert will form a complete thread profile including the crest.
- The distance between root and crest is controlled.
- The insert can produce only one pitch.
- Higher tool pressure compared to partial profile.

ADVANCED THREADING

PCBN for ISO H

Please increase the number of passes when machining hardened steel with PCBN inserts. Keep the maximum infeed value lower than 0.10 mm

PRESSED VS GROUND

TPM pressed

- Improves the chip control
- Strongly recommended in internal application especially for difficult materials
- Best cost-performance ratio

Precision ground

- Achieves the higher precision
- A sharper cutting edge can guarantee very smooth cutting action
- Every kind of thread's standard can be easily produced using the same blank

A - TURNING

B - THREADING

C - GROOVING

D - MILLING

E - DRILLING

F - ACCESSORIES

G - SPARE PARTS

<h1>Internal</h1> <h2>ISO 11-16-22</h2>	HF: Micrograin carbide BL: Low volume CBN DP: Polycrystalline diamond PVD: Physical vapour deposition				HF PVD	HF PVD	BL PVD	DP																																			
					JP5120	JP5125	NBL350C	ND050																																			
<ul style="list-style-type: none"> M: metric threads W: parallel pipe threads (whitworth) UN: unified inch threads NPT: American national tapered pipe threads BSPT: tapered pipe threads Partial profile with 55° or 60° angle, for metric, unified and parallel pipe threads 	Stable machining, light cut	● 1 st choice ○ suitable	●	○	●	●																																					
	General machining, medium cut	● 1 st choice ○ suitable	●	●																																							
	Unstable machining, heavy cut	⊕ 1 st choice ⊖ suitable		⊕																																							
	Dimensions		ISO		Vc(m/min) - suggested cutting speed range (bold: 1st choice)																																						
<p>TP: thread pitch</p> <p>S D1</p> <p>11l 3.18 3.20 16l 3.65 4.00 22l 4.71 5.00</p>		<table border="1"> <tr> <td>P</td> <td>90 200</td> <td>70 180</td> <td></td> <td></td> <td></td> </tr> <tr> <td>M</td> <td>60 150</td> <td>50 140</td> <td></td> <td></td> <td></td> </tr> <tr> <td>K</td> <td>90 190</td> <td>60 180</td> <td></td> <td></td> <td></td> </tr> <tr> <td>N</td> <td></td> <td></td> <td></td> <td>400 1600</td> <td></td> </tr> <tr> <td>S</td> <td></td> <td></td> <td></td> <td>50 100</td> <td></td> </tr> <tr> <td>H</td> <td></td> <td></td> <td>60 140</td> <td></td> <td></td> </tr> </table>		P	90 200	70 180				M	60 150	50 140				K	90 190	60 180				N				400 1600		S				50 100		H			60 140						
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H			60 140																																								

PARTIAL PROFILE	Designation	RE	TP	PDX	PDY	IC	Stock			
							●	○	▲	▽
<p>TPM pressed type chip control oriented</p>	11IRA55-TPM	0.08	-	0.9	0.8	6.35	●			
	16IRA55-TPM	0.08	-	0.9	0.8	9.525	●			
	16IRAG55-TPM	0.08	-	1.5	1.1	9.525	●			
	16IRG55-TPM	0.21	-	1.7	1.2	9.525	●			
	22IRN55-TPM	0.44	-	2.5	1.7	12.7	●			

● stock standard, ○ non-standard stock, ▲ upcoming introduction, ▽ stock exhaustion

PARTIAL PROFILE

- Partial profile insert works without cuts the outer diameter of the thread.
- The same insert can be used for a broad range of different thread pitches.
- Can produce burr that must be taken away.

PARTIAL PROFILE 55° PITCH RANGES

	BSW-BSF-BSP
A55	48±16
AG55	48÷8
G55	14÷8
N55	7÷5

V SI

ISO 11-16-22

- Internal threading holder
- Vortex boring bar (High standard steel)
- Special chip evacuation path
- With coolant through

Reduced neck Right-hand shown

Standard design Right-hand shown

Designation	Stock		DMIN	DCON	WF	LF	LH	GAMO			MIID
	L	R									
REDUCED NECK											
NT-V16M-SI ¹ /R11-12		●	12	16	6.3	150	25	18°			11IR ⁰⁰⁰
NT-V16M-SI ¹ /R11-15		●	15	16	7.5	150	25	18°			11IR ⁰⁰⁰
STANDARD DESIGN											
NT-V10M-SI ¹ /R11-10		●	10	10	5.2	150	25	21°			11IR ⁰⁰⁰
NT-V16M-SI ¹ /R16-20		●	20	16	10	150	35	15°			16IR ⁰⁰⁰
NT-V20Q-SI ¹ /R16-24		●	24	20	12	180	35	15°			16IR ⁰⁰⁰
NT-V25R-SI ¹ /R16-30		●	30	25	15	200	35	15°			16IR ⁰⁰⁰
NT-V32S-SI ¹ /R16-37		●	37	32	18.5	250	35	15°			16IR ⁰⁰⁰

● stock standard, ○ non-standard stock, ▲ upcoming introduction, ▽ stock exhaustion

Spare parts	Shim	Locking screws	L wrench	Insert screws	Flag wrenches
NT-V ⁰⁰ M-SIR11- [∞]	-	-	-	NT-ST25059T08	NT-FT08
NT-V16M-SIR16-20	-	-	-	NT-ST35089T15	NT-FT15
NT-V20Q-SIR16-24	NT-SH065	NT-SC003	NT-WR025	NT-ST35120T15	NT-FT15
NT-V25R-SIR16-30	NT-SH065	NT-SC003	NT-WR025	NT-ST35120T15	NT-FT15
NT-V32S-SIR16-37	NT-SH065	NT-SC003	NT-WR025	NT-ST35120T15	NT-FT15

INTERNAL THREAD right-hand

Insert: IR Rotation: counterclockwise
Holder: R Direction: towards chuck

INTERNAL THREAD left-hand

Insert: IR Rotation: counterclockwise
Holder: R Direction: from chuck

A - TURNING

B - THREADING

C - GROOVING

D - MILLING

E - DRILLING

F - ACCESSORIES

G - SPARE PARTS

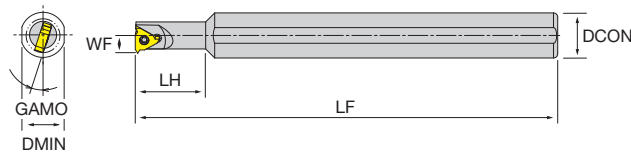
SI

ISO 11-16-22

- Internal threading holder
- Steel boring bar
- Without coolant through
- Small diameters with reduced neck

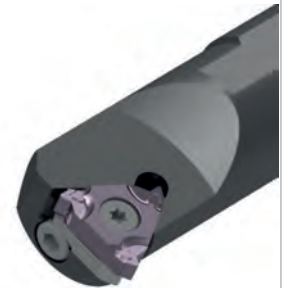
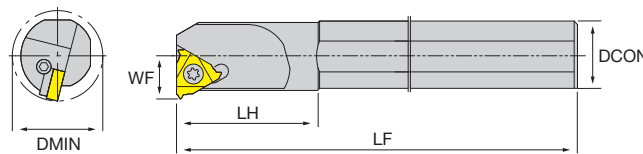
Reduced neck

Right-hand shown



Standard design

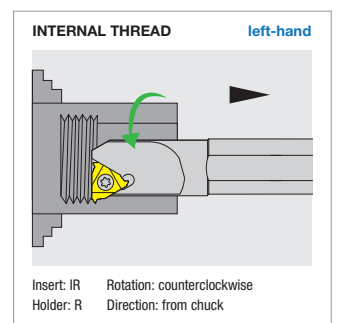
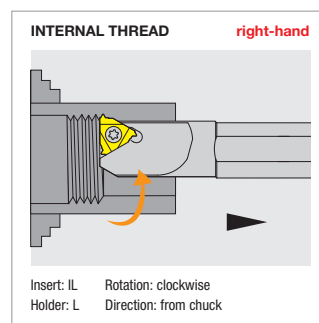
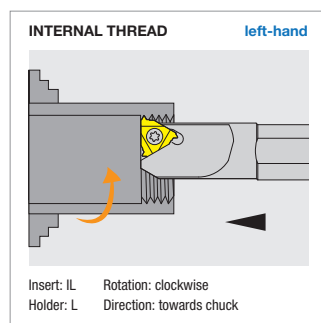
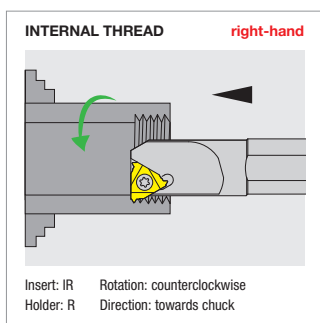
Right-hand shown



Designation	Stock		DMIN	DCON	WF	LF	LH	GAMO			MIID
	L	R									
REDUCED NECK											
NT-SI ¹ /R1012-11		●	10	12	5.2	150	25	21°			11IR ⁰⁰⁰
NT-SI ¹ /R1216-11		●	12	16	6.3	150	25	18°			11IR ⁰⁰⁰
NT-SI ¹ /R1516-11		●	15	16	7.5	150	25	15°			11IR ⁰⁰⁰
STANDARD DESIGN											
NT-SI ¹ /R2016-16	●	●	20	16	10	150	35	15°			16IL/R ⁰⁰⁰
NT-SI ¹ /R2420S-16	●	●	24	20	12	180	35	15°			16IL/R ⁰⁰⁰
NT-SI ¹ /R3025S-16	●	●	30	25	15	200	35	15°			16IL/R ⁰⁰⁰
NT-SI ¹ /R3732S-16	●	●	37	32	18.5	250	35	15°			16IL/R ⁰⁰⁰
NT-SI ¹ /R3025S-22		●	30	25	16	200	35	15°			22IR ⁰⁰⁰
NT-SI ¹ /R3732S-22		●	37	32	19.5	250	35	15°			22IR ⁰⁰⁰
NT-SI ¹ /R4440S-22		●	44	40	24.5	300	35	15°			22IR ⁰⁰⁰

● stock standard, ○ non-standard stock, ▲ upcoming introduction, ▽ stock exhaustion

Spare parts	Shim	Shim	Locking screws	L wrench	Insert screws	Flag wrenches
NT-SI ¹ /R ⁰⁰⁰⁰ -11	-	-	-	-	NT-ST25069T08	NT-FT08
NT-SI ¹ /R ⁰⁰⁰⁰ -16	-	-	-	-	NT-ST35089T15	NT-FT15
NT-SIL ⁰⁰⁰⁰ S-16	NT-SH060	-	NT-SC003	NT-WR025	NT-ST35115T15	NT-FT15
NT-SIR ⁰⁰⁰⁰ S-16	-	NT-SH065	NT-SC003	NT-WR025	NT-ST35115T15	NT-FT15
NT-SIR ⁰⁰⁰⁰ S-22	-	NT-SH067	NT-SC004	NT-WR030	NT-ST40140T15	NT-FT15



M - Internal ISO-metric threads

TP	6.00	5.50	5.00	4.50	4.00	3.50	3.00	2.50	2.00	1.75	1.50	1.25	1.00	0.80	0.75	0.70	0.50	
NO. OF INFEEDES	RADIAL INFEEDE PER PASS																	
1	0.46	0.43	0.42	0.37	0.34	0.32	0.28	0.26	0.23	0.22	0.20	0.17	0.17	0.17	0.16	0.13	0.10	
2	0.43	0.40	0.40	0.34	0.31	0.30	0.26	0.25	0.21	0.20	0.18	0.17	0.15	0.14	0.13	0.12	0.08	
3	0.35	0.33	0.32	0.28	0.24	0.24	0.21	0.18	0.17	0.15	0.15	0.14	0.11	0.11	0.10	0.10	0.07	
4	0.30	0.26	0.26	0.23	0.21	0.19	0.16	0.15	0.15	0.13	0.13	0.10	0.09	0.07	0.07	0.07	0.06	
5	0.26	0.22	0.22	0.21	0.18	0.17	0.14	0.13	0.12	0.10	0.11	0.09	0.08	-	-	-	-	
6	0.22	0.20	0.20	0.19	0.15	0.15	0.13	0.12	0.11	0.09	0.08	0.08	-	-	-	-	-	
7	0.20	0.18	0.17	0.16	0.14	0.14	0.12	0.11	0.10	0.08	-	-	-	-	-	-	-	
8	0.19	0.17	0.16	0.15	0.13	0.13	0.11	0.10	0.08	0.08	-	-	-	-	-	-	-	
9	0.18	0.16	0.16	0.14	0.12	0.12	0.10	0.10	-	-	-	-	-	-	-	-	-	
10	0.16	0.15	0.15	0.13	0.12	0.11	0.10	0.08	-	-	-	-	-	-	-	-	-	
11	0.15	0.14	0.14	0.12	0.11	0.10	0.09	-	-	-	-	-	-	-	-	-	-	
12	0.15	0.14	0.14	0.12	0.10	0.08	0.08	-	-	-	-	-	-	-	-	-	-	
13	0.14	0.13	0.12	0.11	0.10	-	-	-	-	-	-	-	-	-	-	-	-	
14	0.13	0.12	0.10	0.10	0.08	-	-	-	-	-	-	-	-	-	-	-	-	
15	0.12	0.12	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
16	0.10	0.10	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
TOTAL INFEEDE	3.54	3.25	2.96	2.65	2.33	2.05	1.78	1.48	1.17	1.05	0.85	0.75	0.60	0.49	0.46	0.42	0.31	

green background are standard items all other sizes can make specials

W - Internal Whitworth threads

TP	4	4.5	5	6	7	8	9	10	11	12	14	16	18	19	20	26	28	
NO. OF INFEEDES	RADIAL INFEEDE PER PASS																	
1	0.49	0.46	0.45	0.38	0.37	0.32	0.30	0.29	0.28	0.28	0.24	0.24	0.23	0.22	0.21	0.19	0.18	
2	0.46	0.43	0.43	0.36	0.35	0.30	0.28	0.27	0.26	0.26	0.22	0.22	0.22	0.22	0.21	0.18	0.17	
3	0.38	0.38	0.38	0.30	0.29	0.24	0.23	0.22	0.22	0.22	0.18	0.19	0.19	0.18	0.17	0.15	0.14	
4	0.36	0.33	0.32	0.26	0.25	0.21	0.20	0.19	0.19	0.18	0.15	0.16	0.16	0.14	0.14	0.12	0.12	
5	0.34	0.29	0.28	0.22	0.22	0.19	0.18	0.17	0.16	0.16	0.13	0.13	0.13	0.12	0.11	0.08	0.08	
6	0.31	0.25	0.25	0.21	0.19	0.17	0.15	0.15	0.14	0.14	0.11	0.11	0.08	0.08	0.08	-	-	
7	0.29	0.24	0.22	0.19	0.18	0.15	0.14	0.14	0.13	0.13	0.09	0.08	-	-	-	-	-	
8	0.27	0.22	0.20	0.17	0.16	0.14	0.13	0.13	0.12	0.08	0.08	-	-	-	-	-	-	
9	0.24	0.20	0.19	0.16	0.15	0.13	0.12	0.12	0.08	-	-	-	-	-	-	-	-	
10	0.22	0.18	0.18	0.15	0.14	0.12	0.12	0.08	-	-	-	-	-	-	-	-	-	
11	0.20	0.17	0.17	0.14	0.12	0.12	0.08	-	-	-	-	-	-	-	-	-	-	
12	0.19	0.16	0.15	0.14	0.08	0.08	-	-	-	-	-	-	-	-	-	-	-	
13	0.17	0.15	0.12	0.12	-	-	-	-	-	-	-	-	-	-	-	-	-	
14	0.15	0.14	0.10	0.10	-	-	-	-	-	-	-	-	-	-	-	-	-	
15	0.12	0.12	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
16	0.10	0.10	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
TOTAL INFEEDE	4.29	3.82	3.44	2.90	2.50	2.17	1.93	1.76	1.58	1.45	1.20	1.13	1.01	0.96	0.92	0.72	0.69	

green background are standard items all other sizes can make specials

A - TURNING

B - THREADING

C - GROOVING

D - MILLING

E - DRILLING

F - ACCESSORIES

G - SPARE PARTS

UN - Internal UN threads

TP	4	4.5	5	6	7	8	9	10	11	12	13	14	16	18	20	24	28	32
NO. OF INFEEDES	RADIAL INFEEDE PER PASS																	
1	0.44	0.41	0.42	0.35	0.34	0.30	0.28	0.27	0.27	0.27	0.25	0.23	0.22	0.23	0.20	0.18	0.17	0.17
2	0.41	0.38	0.38	0.33	0.32	0.28	0.26	0.25	0.23	0.23	0.20	0.18	0.18	0.17	0.16	0.15	0.14	0.14
3	0.39	0.34	0.33	0.25	0.24	0.22	0.19	0.18	0.18	0.18	0.15	0.14	0.14	0.14	0.13	0.13	0.09	0.10
4	0.33	0.28	0.27	0.21	0.21	0.18	0.16	0.15	0.15	0.15	0.13	0.13	0.12	0.12	0.10	0.10	0.08	0.08
5	0.28	0.23	0.23	0.18	0.17	0.15	0.14	0.13	0.13	0.13	0.12	0.11	0.10	0.10	0.09	0.08	0.08	-
6	0.24	0.20	0.20	0.16	0.15	0.13	0.13	0.12	0.11	0.11	0.11	0.10	0.09	0.08	0.08	-	-	-
7	0.22	0.19	0.18	0.15	0.14	0.12	0.12	0.11	0.11	0.10	0.10	0.09	0.08	-	-	-	-	-
8	0.21	0.18	0.17	0.14	0.13	0.11	0.11	0.10	0.10	0.08	0.08	0.08	-	-	-	-	-	-
9	0.20	0.17	0.16	0.13	0.12	0.11	0.10	0.10	0.08	-	-	-	-	-	-	-	-	-
10	0.18	0.16	0.15	0.12	0.12	0.10	0.09	0.08	-	-	-	-	-	-	-	-	-	-
11	0.17	0.15	0.14	0.12	0.11	0.10	0.08	-	-	-	-	-	-	-	-	-	-	-
12	0.16	0.14	0.14	0.11	0.08	0.08	-	-	-	-	-	-	-	-	-	-	-	-
13	0.15	0.14	0.12	0.11	-	-	-	-	-	-	-	-	-	-	-	-	-	-
14	0.14	0.13	0.10	0.10	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15	0.12	0.12	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
16	0.10	0.10	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TOTAL INFEEDE	3.74	3.32	2.99	2.46	2.13	1.88	1.66	1.49	1.36	1.25	1.14	1.06	0.93	0.84	0.76	0.64	0.56	0.49

green background are standard items all other sizes can make specials

NPT - Internal NPT threads

TP	8	11.5	14	18	27.0
NO. OF INFEEDES	RADIAL INFEEDE PER PASS				
1	0.28	0.28	0.28	0.28	0.28
2	0.25	0.25	0.25	0.25	0.25
3	0.22	0.22	0.22	0.22	0.22
4	0.19	0.19	0.19	0.19	0.19
5	0.18	0.18	0.18	0.18	0.18
6	0.18	0.18	0.18	0.18	0.18
7	0.17	0.17	0.17	0.17	0.17
8	0.17	0.17	0.17	0.17	0.17
9	0.16	0.16	0.16	0.16	0.16
10	0.16	0.16	0.16	0.16	0.16
11	0.14	0.14	0.14	0.14	0.14
12	0.13	0.13	0.13	0.13	0.13
13	0.12	0.12	0.12	0.12	0.12
14	0.11	0.11	0.11	0.11	0.11
15	0.08	0.08	0.08	0.08	0.08
TOTAL INFEEDE	2.54	1.76	1.45	1.12	0.75

green background are standard items all other sizes can make specials

BSPT - British tapered pipe threads

TP	11	14	19	28
NO. OF INFEEDES	RADIAL INFEEDE PER PASS			
1	0.25	0.24	0.22	0.17
2	0.23	0.20	0.19	0.14
3	0.21	0.17	0.15	0.11
4	0.18	0.14	0.12	0.10
5	0.16	0.12	0.12	0.06
6	0.14	0.12	0.06	-
7	0.13	0.11	-	-
8	0.12	0.06	-	-
9	0.06	-	-	-
TOTAL INFEEDE	1.58	1.20	0.86	0.58

green background are standard items all other sizes can make specials

ISO 513	MATERIAL	HARDNESS HB	JP5120			JP5125			
			min	start	max	min	start	max	
P1 - P2	Free cutting steel and low carbon (ex. 1.0715/9 smn 28/avp, 1.0503/c45)	≤ 200	● 100	150	200	○ 100	140	180	
			● 90	130	170	● 80	120	160	
			● 70	100	130	⚙ 60	100	130	
P3 - P4	Medium and high alloy steel (ex. 1.7225/42 CrMo 4, 1.3505/100 Cr 6)	200 ÷ 300	● 90	130	170	○ 80	120	160	
			● 80	110	140	● 70	100	120	
			● 60	80	100	⚙ 60	80	100	
P5 - P6	High tensile strength and tool steel (ex. 1.2344/X 40 CrMoV 5 1/ORVAR, Hardox400®)	300 ÷ 400	● 80	110	150	○ 70	100	130	
			● 70	100	130	● 60	90	120	
			● 60	80	100	⚙ 60	80	100	
P7	Ferritic and martensitic stainless steel (ex. 1.4021/X 20 Cr 13/AISI420)	≤ 200	● 100	150	200	○ 100	140	180	
			● 90	130	170	● 80	120	160	
			● 70	100	130	⚙ 60	80	100	
P8	Precipitation hardening stainless steel (ex. 1.4548/X 5 CrNiCuNb 17 4/17-4-PH)	≤ 450	● 70	90	110	○ 60	80	100	
			● 60	80	100	● 50	70	90	
			● 50	60	70	⚙ 50	60	70	
M1	Austenitic stainless steel (ex. 1.4305/X 10 CrNiS 18 9/AISI303)	> 200	● 70	110	150	○ 60	100	140	
			● 60	100	140	● 50	90	130	
			● 50	80	110	⚙ 50	80	110	
M2 - M3	Austenitic and Duplex stainless steel (ex. 1.4401/X 5 CrNiMo 17 12 2/AISI316)		● 70	100	130	○ 60	90	120	
			● 60	90	120	● 60	80	100	
			● 50	70	90	⚙ 50	70	90	
K1	Grey cast iron (ex. 0.6025/GG 25/EN-GJL-250)	150 ÷ 250	● 110	150	190	○ 100	140	180	
			● 90	135	160	● 80	115	150	
			● 60	90	120	⚙ 60	90	120	
K2	Nodular cast iron (ex. 0.7050/GGG 50/EN-GJS-500-7)	150 ÷ 350	● 90	130	170	○ 80	120	160	
			● 80	105	130	● 70	95	120	
			● 60	80	100	⚙ 60	80	100	
K3 - K4	Austenitic and ADI cast iron (ex. 0.6660/GGL-NiCr 20 2/Ni-Resist 2, GJS-1000-5/ADI1000)	250 ÷ 500	● 80	115	150	○ 70	105	140	
			● 70	100	130	● 60	90	120	
			● 50	75	100	⚙ 50	75	100	
ISO 513	MATERIAL	HARDNESS HB	ND050 (NDP001)						
			min	start	max				
N1	Aluminium alloys ≤ Si 12% (ex. 3.4365/AlZn5.5MgCu/ERGA)		● 400	1000	1600				
			● 250	400	550				
			● 300	600	900				
N2	Aluminium alloys Si > 12% (ex. 3.2382/G-AlSi12)		● 250	400	550				
			● 300	600	900				
			● 50	75	100				
N3	Copper alloy (ex. 2.0060/E-Cu57)		● 300	600	900				
			● 250	400	550				
			● 50	75	100				
S4 - S5	Titanium alloys (ex. TiAl2Sn4Zr2MoSi)		● 50	75	100				
			● 250	400	550				
			● 300	600	900				

Complete workpiece materials p. H1.

A - TURNING

B - THREADING

C - GROOVING

D - MILLING

E - DRILLING

F - ACCESSORIES

G - SPARE PARTS

A - TURNING

B - THREADING

C - GROOVING

D - MILLING

E - DRILLING

F - ACCESSORIES

G - SPARE PARTS

ISO 513	MATERIAL	HARDNESS HB	NBL350C				
			min	start	max		
H1	Case-hardened steel (ex. 1.7131/16 MnCr 5)	50 ÷ 56	● 60	100	140		
	Bearing steel, quenched and tempered steel (ex. 1.3505/100 Cr 6)	54 ÷ 62	● 60	90	120		
	Hardened tool steel (ex. 1.2436/X 210 CrW 12/2312)	60 ÷ 65	● 50	70	90		

Complete workpiece materials p. H1.