



NANOLOY ● ● ● ●

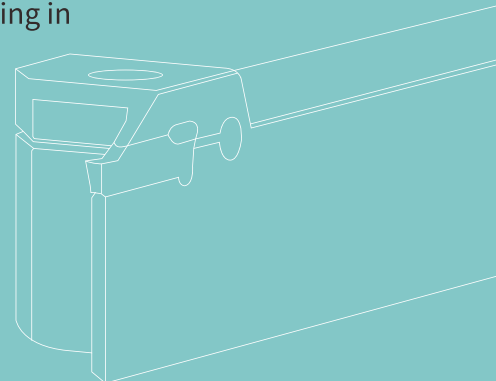
GROOVING TOOL

“N-MT” SERIES

Applying stable clamping system,
guaranteed high quality and efficiency machining

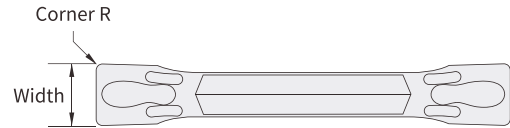
Grooving inserts & holders

1. Stable clamping system for specially designed grooving machining
2. Various machining available (grooving, parting off, turning)
3. High quality and high efficiency machining in aerospace and automobile industry

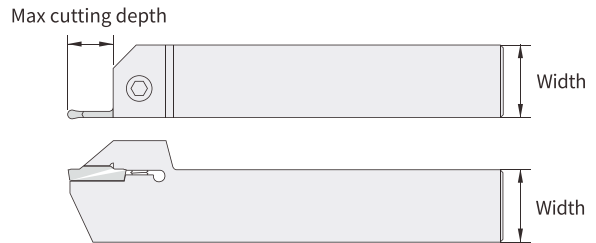


NUMBERING SYSTEM

Numbering system (Insert & holder) ^o



INSERT							
2	NG	30	N	-	04	M	- M1
Number of corner	Nano grooving	Width (3.0mm)	Edge shape		Corner R (0.4mm)	Tolerance (M class)	C/B



※Right hand shown

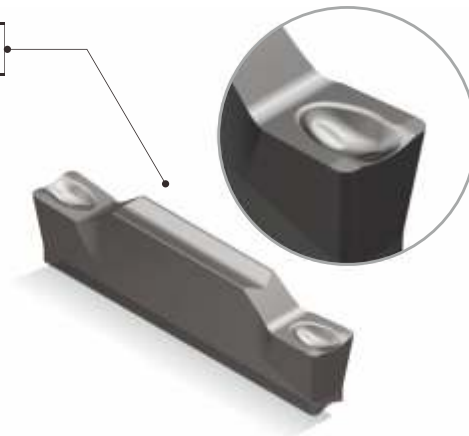
HOLDER							
NG	3	E	H	R	2525	-	T11
Nano grooving	Insert width	Application E : External I : Internal	Holder type H : Horizontal V : Vertical U : Under cut	Hand L : Left R : Right	Shank size (Height / Width 25mm)		Max cutting depth(11mm) 9~30mm



NANOLOY Chip breaker features

M1 Chip Breaker

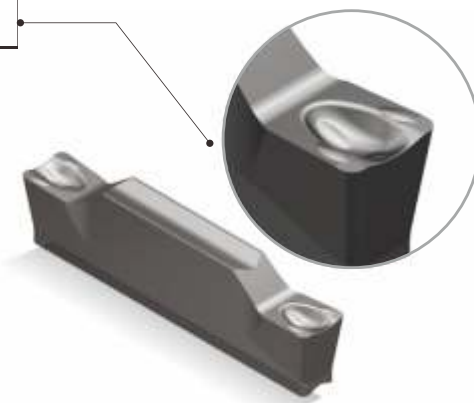
- Machining type
 - Grooving / Parting off
 - Work piece
 - P,M,S group
- M(Mold), G(Grind)



- Features : • Sharp edge
- Low cutting force
- Prevent built up edge

M1 Chip Breaker

- Machining type
 - Grooving / Turning
 - Parting off
 - Work piece
 - P,M,S group
- M(Mold), G(Grind)



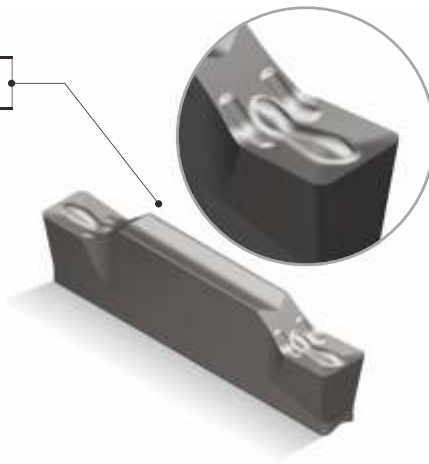
- Features : • Sharp edge
- Low cutting force
- Prevent built up edge



NANOLOY Chip breaker features

M1 Chip Breaker

- Machining type
- Grooving / Turning
Parting off
- Work piece
- P,M,S group
- M(Mold), G(Grind)



- Features : • Various machining type
- Excellent tool life
- Enhanced chip control

M1(R) Chip Breaker

- Machining type
- Profiling / Undercut
- Work piece
- P,M,S group
- M(Mold), G(Grind)



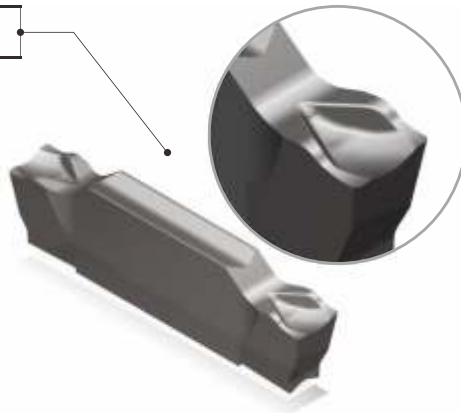
- Features : • Various machining type
- Excellent tool life
- Enhanced chip control
- Full Radius for profiling



NANOLOY Chip breaker features

C1 Chip Breaker

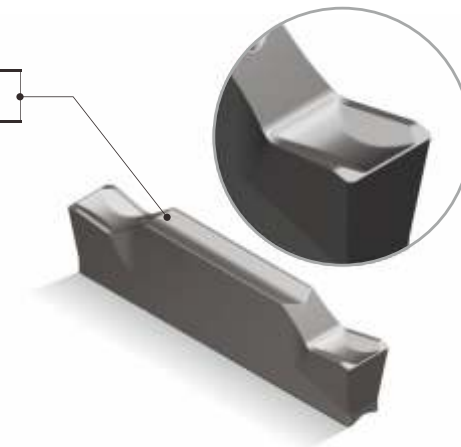
- Machining type
- Parting off
- Work piece
- P,M,S group
- G(Grind)



- Features : • Sharp edge
- Low cutting force
- Enhanced chip control

R1 Chip Breaker

- Machining type
- Grooving / Turning
- Parting off
- P,M,S group
- Work piece
- P,M,K,S group
- M(Mold)



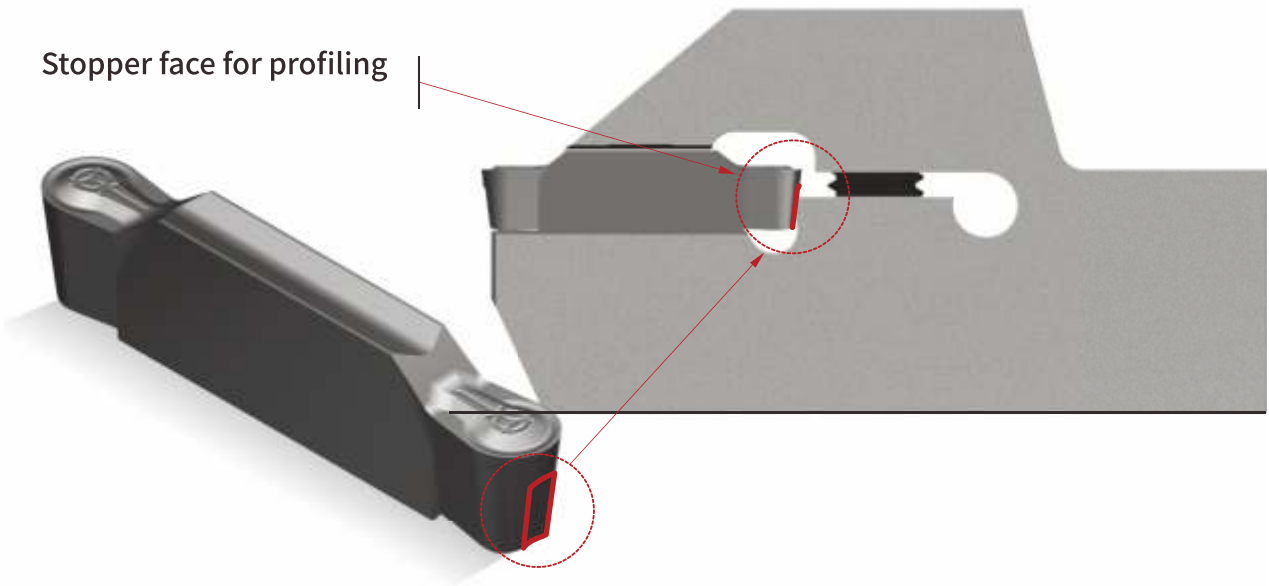
- Features : • High feed machining
- Strong cutting edge
- Enhanced productivity

STABLE CLAMPING










- Applying self-centering system, excellent insert repeatability
- High precision machining with stable clamping

Stopper face for profiling



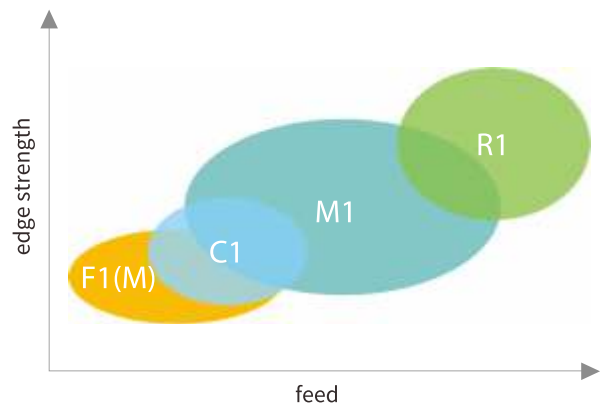
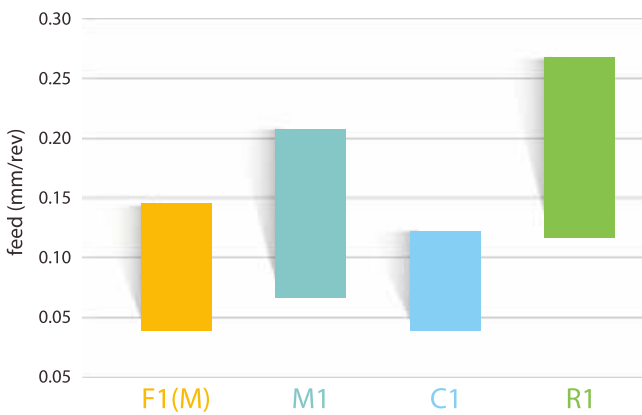
Enhanced contact force with increase contact area ► Stable machining available

MACHINING TYPE BY GEOMETRY


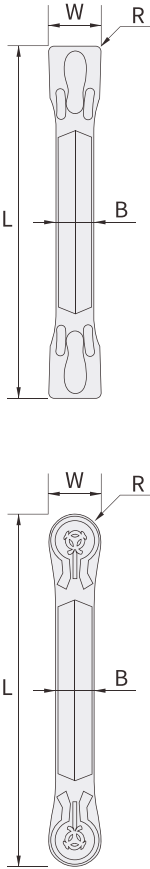





Insert shape	Application				
	Grooving	Turning	Parting off	Profiling	Under cut
 F1	✓		✓		
 F1M	✓	✓	✓		
 M1	✓	✓	✓		
 F1 (RADIUS)				✓	✓
 M1 (RADIUS)				✓	✓
 C1			✓		
 R1	✓	✓	✓		

GROOVING TOOL

APPLYING AREA


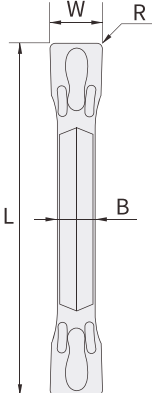

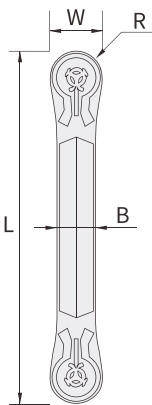


GROOVING INSERT SERIES – M CLASS

Insert shape	Designation	Dimension (mm)				Coated			Feed (mm/rev)	Configuration
		W	L	B	R	NV3005	NV3025	NV3065		
 <p>F1</p>	2NG20N-02M-F1	2	20	1.7	0.2	○	●	○	0.03~0.12	
	2NG30N-02M-F1	3	20	2.2	0.2	○	●	○	0.05~0.18	
	2NG30N-03M-F1	3	20	2.2	0.3	○	●	○	0.05~0.18	
	2NG30N-04M-F1	3	20	2.2	0.4	○	●	○	0.05~0.20	
	2NG40N-04M-F1	4	20	3.2	0.4	○	●	○	0.05~0.20	
	2NG40N-08M-F1	4	20	3.2	0.8	○	●	○	0.05~0.25	
	2NG50N-02M-F1	5	25	4	0.2	○	●	○	0.05~0.15	
	2NG50N-04M-F1	5	25	4	0.4	○	●	○	0.05~0.20	
2NG50N-08M-F1	5	25	4	0.8	○	●	○	0.05~0.25		
 <p>M1</p> <p>General purpose</p>	2NG20N-02M-M1	2	20	1.7	0.2	○	●	○	0.03~0.12	
	2NG30N-02M-M1	3	20	2.2	0.2	○	●	○	0.05~0.20	
	2NG30N-04M-M1	3	20	2.2	0.4	○	●	○	0.05~0.25	
	2NG40N-02M-M1	4	20	3.2	0.2	○	●	○	0.05~0.20	
	2NG40N-04M-M1	4	20	3.2	0.4	○	●	○	0.05~0.25	
	2NG40N-08M-M1	4	20	3.2	0.8	○	●	○	0.05~0.27	
	2NG50N-02M-M1	5	25	4	0.2	○	●	○	0.05~0.20	
	2NG50N-04M-M1	5	25	4	0.4	○	●	○	0.05~0.25	
	2NG50N-08M-M1	5	25	4	0.8	○	●	○	0.05~0.30	
	2NG60N-08M-M1	6	25	5	0.8	○	●	○	0.05~0.22	
2NG80N-08M-M1	8	30.3	6	0.8	○	●	○	0.05~0.30		
 <p>F1M</p>	2NG30N-04M-F1M	3	20	2.2	0.4	○	●	○	0.05~0.20	
	2NG40N-03M-F1M	4	20	3.2	0.3	○	●	○	0.05~0.18	
	2NG40N-04M-F1M	4	20	3.2	0.4	○	●	○	0.05~0.20	
	2NG40N-08M-F1M	4	20	3.2	0.8	○	●	○	0.05~0.20	
	2NG50N-02M-F1M	5	25	4	0.2	○	●	○	0.05~0.15	
	2NG50N-04M-F1M	5	25	4	0.4	○	●	○	0.05~0.20	
	2NG50N-08M-F1M	5	25	4	0.8	○	●	○	0.05~0.25	
	2NG60N-03M-F1M	6	25	5	0.3	○	●	○	0.05~0.20	
 <p>M1 (Radius)</p> <p>Profiling</p>	2NG30R-15M-M1	3	20	2.2	1.5	○	●	○	0.05~0.20	
	2NG40R-20M-M1	4	20	3.2	2	○	●	○	0.05~0.22	
	2NG50R-25M-M1	5	25	4	2.5	○	●	○	0.05~0.25	
	2NG60R-30M-M1	6	25	5	0.3	○	●	○	0.05~0.27	
 <p>F1 (Radius)</p> <p>Profiling</p>	2NG30R-15M-F1	3	20	2.2	1.5	○	●	○	0.05~0.15	
	2NG40R-20M-F1	4	20	3.2	2	○	●	○	0.05~0.20	
	2NG50R-25M-F1	5	25	4	2.5	○	●	○	0.05~0.22	
 <p>R1</p> <p>Roughing</p>	2NG20N-02M-R1	2	20	1.7	0.2	○	●	○	0.08~0.15	
	2NG30N-02M-R1	3	20	2.2	0.2	○	●	○	0.08~0.20	
	2NG40N-03M-R1	4	20	3.2	0.3	○	●	○	0.08~0.22	
	2NG50N-03M-R1	5	25	4	0.3	○	●	○	0.08~0.25	
	2NG60N-03M-R1	6	25	5	0.3	○	●	○	0.08~0.27	
	2NG80N-04M-R1	8	30.3	6	0.4	○	●	○	0.08~0.30	


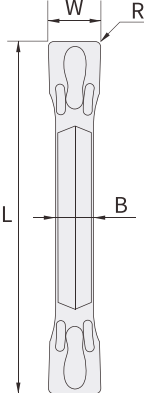
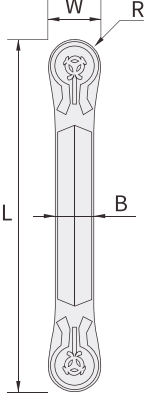

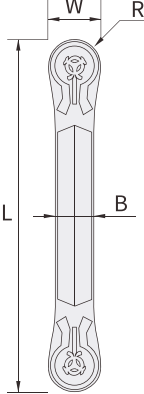

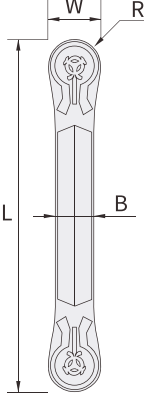

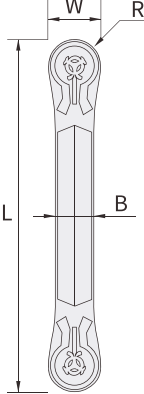
● Stock item

GROOVING INSERT SERIES – G CLASS

Insert shape	Designation	Dimension (mm)				Coated			Feed (mm/rev)	Configuration
		W	L	B	R	NV3005	NV3025	NV3065		
 <p>General purpose</p> <p>M1</p>	2NG20N-02G-M1	3	20	2.2	0.2	○	●	○	0.05~0.20	
	2NG20N-03G-M1	3	20	2.2	0.3	○	●	○	0.05~0.20	
	2NG20N-04G-M1	3	20	2.2	0.4	○	●	○	0.05~0.20	
	2NG30N-02G-M1	3	20	3.2	0.2	○	●	○	0.05~0.25	
	2NG30N-03G-M1	3	20	3.2	0.3	○	●	○	0.05~0.25	
	2NG30N-04G-M1	3	20	3.2	0.4	○	●	○	0.05~0.25	
	2NG40N-02G-M1	4	20	3.2	0.2	○	●	○	0.05~0.25	
	2NG40N-03G-M1	4	20	3.2	0.3	○	●	○	0.05~0.25	
	2NG40N-04G-M1	4	20	3.2	0.4	○	●	○	0.05~0.25	
	2NG40N-06G-M1	4	20	3.2	0.6	○	●	○	0.05~0.25	
	2NG40N-08G-M1	4	20	3.2	0.8	○	●	○	0.05~0.30	
	2NG50N-02G-M1	5	25	4	0.2	○	●	○	0.05~0.22	
	2NG50N-03G-M1	5	25	4	0.3	○	●	○	0.05~0.25	
	2NG50N-04G-M1	5	25	4	0.4	○	●	○	0.05~0.25	
	2NG50N-06G-M1	5	25	4	0.6	○	●	○	0.05~0.30	
	2NG50N-08G-M1	5	25	4	0.8	○	●	○	0.05~0.30	
	2NG60N-02G-M1	6	25	5	0.2	○	●	○	0.05~0.25	
	2NG60N-03G-M1	6	25	5	0.3	○	●	○	0.05~0.25	
	2NG60N-04G-M1	6	25	5	0.4	○	●	○	0.05~0.25	
	2NG60N-06G-M1	6	25	5	0.6	○	●	○	0.05~0.30	
	2NG60N-08G-M1	6	25	5	0.8	○	●	○	0.05~0.30	
	2NG80N-04G-M1	8	30.3	6	0.4	○	●	○	0.05~0.30	
	2NG80N-06G-M1	8	30.3	6	0.6	○	●	○	0.05~0.35	
	2NG80N-08G-M1	8	30.3	6	0.8	○	●	○	0.05~0.35	
 <p>F1</p>	2NG20N-02G-F1	2	20	1.7	0.2	○	●	○	0.03~0.12	
	2NG20N-03G-F1	2	20	1.7	0.3	○	●	○	0.05~0.20	
	2NG20N-04G-F1	2	20	1.7	0.4	○	●	○	0.05~0.20	
	2NG27N-08G-F1	2.7	20	2.2	0.8	○	●	○	0.05~0.25	
	2NG30N-02G-F1	3	20	2.2	0.2	○	●	○	0.05~0.20	
	2NG30N-03G-F1	3	20	2.2	0.3	○	●	○	0.05~0.20	
	2NG30N-04G-F1	3	20	2.2	0.4	○	●	○	0.05~0.20	
	2NG30N-06G-F1	3	20	2.2	0.6	○	●	○	0.05~0.25	
	2NG30N-08G-F1	3	20	2.2	0.8	○	●	○	0.05~0.25	
	2NG40N-02G-F1	4	20	3.2	0.2	○	●	○	0.05~0.20	
	2NG40N-03G-F1	4	20	3.2	0.3	○	●	○	0.05~0.20	
	2NG40N-04G-F1	4	20	3.2	0.4	○	●	○	0.05~0.20	
	2NG40N-06G-F1	4	20	3.2	0.6	○	●	○	0.05~0.25	
	2NG40N-08G-F1	4	20	3.2	0.8	○	●	○	0.05~0.25	
	2NG50N-02G-F1	5	25	4	0.2	○	●	○	0.05~0.20	
	2NG50N-03G-F1	5	25	4	0.3	○	●	○	0.05~0.22	
	2NG50N-04G-F1	5	25	4	0.4	○	●	○	0.05~0.22	
	2NG50N-06G-F1	5	25	4	0.6	○	●	○	0.05~0.25	
	2NG50N-08G-F1	5	25	4	0.8	○	●	○	0.05~0.25	
	2NG60N-02G-F1	6	25	5	0.2	○	●	○	0.03~0.12	
	2NG60N-03G-F1	6	25	5	0.3	○	●	○	0.05~0.20	
	2NG60N-04G-F1	6	25	5	0.4	○	●	○	0.05~0.20	
	2NG60N-06G-F1	6	25	5	0.6	○	●	○	0.05~0.25	
	2NG60N-08G-F1	6	25	5	0.8	○	●	○	0.05~0.25	
2NG80N-04G-F1	8	30.3	6	0.4	○	●	○	0.05~0.20		
2NG80N-06G-F1	8	30.3	6	0.6	○	●	○	0.05~0.25		
2NG80N-08G-F1	8	30.3	6	0.8	○	●	○	0.05~0.25		
2NG80N-12G-F1	8	30.3	6	1.2	○	●	○	0.05~0.30		

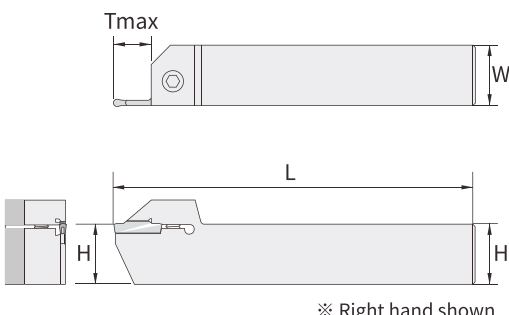
● Stock item

GROOVING INSERT SERIES – G CLASS

Insert shape	Designation	Dimension (mm)				Coated			Feed (mm/rev)	Configuration
		W	L	B	R	NV3005	NV3025	NV3065		
 F1M	2NG30N-02G-F1M	3	20	2.2	0.2	○	●	○	0.05~0.18	 
	2NG30N-03G-F1M	3	20	2.2	0.3	○	●	○	0.05~0.20	
	2NG30N-04G-F1M	3	20	2.2	0.4	○	●	○	0.05~0.20	
	2NG30N-06G-F1M	3	20	2.2	0.6	○	●	○	0.05~0.22	
	2NG30N-08G-F1M	3	20	2.2	0.8	○	●	○	0.05~0.22	
	2NG40N-02G-F1M	4	20	3.2	0.2	○	●	○	0.05~0.18	
	2NG40N-03G-F1M	4	20	3.2	0.3	○	●	○	0.05~0.20	
	2NG40N-04G-F1M	4	20	3.2	0.4	○	●	○	0.05~0.20	
	2NG40N-06G-F1M	4	20	3.2	0.6	○	●	○	0.05~0.22	
	2NG40N-08G-F1M	4	20	3.2	0.8	○	●	○	0.05~0.22	
	2NG50N-02G-F1M	5	25	4	0.2	○	●	○	0.03~0.12	
	2NG50N-03G-F1M	5	25	4	0.3	○	●	○	0.05~0.20	
	2NG50N-04G-F1M	5	25	4	0.4	○	●	○	0.05~0.20	
	2NG50N-06G-F1M	5	25	4	0.6	○	●	○	0.05~0.25	
2NG50N-08G-F1M	5	25	4	0.8	○	●	○	0.05~0.25		
 M1 (Radius)	2NG20R-10G-M1	2	20	1.7	1	○	●	○	0.03~0.15	
	2NG30R-15G-M1	3	20	2.2	1.5	○	●	○	0.05~0.20	
	2NG40R-20G-M1	4	20	3.2	2	○	●	○	0.05~0.22	
	2NG50R-25G-M1	5	25	4	2.5	○	●	○	0.05~0.25	
	2NG60R-30G-M1	6	25	5	3	○	●	○	0.05~0.25	
	2NG80R-40G-M1	8	30.3	6	4	○	●	○	0.05~0.30	
 F1 (Radius)	2NG30R-15G-F1	3	20	2.2	1.5	○	●	○	0.05~0.15	
	2NG40R-20G-F1	4	20	3.2	2	○	●	○	0.05~0.20	
	2NG50R-25G-F1	5	25	4	2.5	○	●	○	0.05~0.22	
 C1	2NG20C-02G-L/Rα-C1	2	20	1.7	0.2	○	●	○	0.03~0.12	
	2NG20C-03G-L/Rα-C1	2	20	1.7	0.3	○	●	○	0.03~0.15	
	2NG20C-04G-L/Rα-C1	2	20	1.7	0.4	○	●	○	0.03~0.20	
	2NG30C-02G-L/Rα-C1	3	20	2.2	0.2	○	●	○	0.03~0.15	
	2NG30C-03G-L/Rα-C1	3	20	2.2	0.3	○	●	○	0.03~0.18	
2NG30C-04G-L/Rα-C1	3	20	2.2	0.4	○	●	○	0.03~0.20		

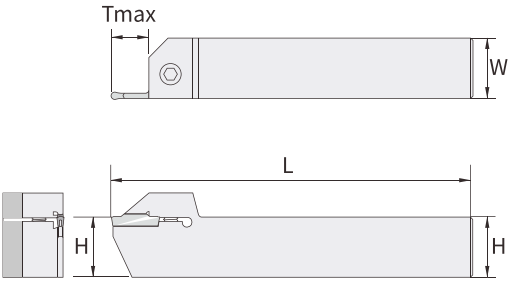
● Stock item

GROOVING TOOL HOLDER SERIES

Application	Designation	Dimension (mm)					Configuration
		Insert width	H	W	L	Tmax	
External holder	NG2EHR/L2020-T09	2	20	20	125	9	 <p>※ Right hand shown</p>
	NG2EHR/L2020-T13		20	20	125	13	
	NG2EHR/L2020-T15		20	20	125	15	
	NG2EHR/L2525-T09		25	25	150	9	
	NG2EHR/L2525-T13		25	25	150	13	
	NG2EHR/L2525-T15		25	25	150	15	
	NG2EHR/L2525-T17		25	25	150	17	
	NG2EHR/L3225-T09		32	25	150	9	
	NG2EHR/L3225-T13		32	25	150	13	
	NG2EHR/L3225-T15		32	25	150	15	
	NG2EHR/L3225-T17	32	25	150	17		
	NG3EHR/L2020-T09	3	20	20	120	9	
	NG3EHR/L2020-T11		20	20	120	11	
	NG3EHR/L2020-T13		20	20	120	13	
	NG3EHR/L2020-T15		20	20	120	15	
	NG3EHR/L2020-T17		20	20	120	17	
	NG3EHR/L2020-T20		20	20	120	20	
	NG3EHR/L2525-T09		25	25	150	9	
	NG3EHR/L2525-T11		25	25	150	11	
	NG3EHR/L2525-T13		25	25	150	13	
	NG3EHR/L2525-T15		25	25	150	15	
	NG3EHR/L2525-T17		25	25	150	17	
	NG3EHR/L2525-T20		25	25	150	20	
	NG3EHR/L3225-T09		32	25	150	9	
	NG3EHR/L3225-T11		32	25	150	11	
	NG3EHR/L3225-T13		32	25	150	13	
	NG3EHR/L3225-T15		32	25	150	15	
	NG3EHR/L3225-T17		32	25	150	17	
	NG3EHR/L3225-T20		32	25	150	20	
	NG3EHR/L3232-T09		32	32	150	9	
	NG3EHR/L3232-T11		32	32	150	11	
	NG3EHR/L3232-T13	32	32	150	13		
	NG3EHR/L3232-T15	32	32	150	15		
	NG3EHR/L3232-T17	32	32	150	17		
	NG3EHR/L3232-T20	32	32	150	20		
	NG4EHR/L2020-T09	4	20	20	125	9	
	NG4EHR/L2020-T11		20	20	125	11	
	NG4EHR/L2020-T13		20	20	125	13	
	NG4EHR/L2020-T15		20	20	125	15	
	NG4EHR/L2525-T09		25	25	150	9	
	NG4EHR/L2525-T11		25	25	150	11	
	NG4EHR/L2525-T13		25	25	150	13	
	NG4EHR/L2525-T15		25	25	150	15	
	NG4EHR/L3225-T09		32	25	150	9	
	NG4EHR/L3225-T11		32	25	150	11	
	NG4EHR/L3225-T13		32	25	150	13	
	NG4EHR/L3225-T15		32	25	150	15	
	NG4EHR/L3225-T17		32	25	150	17	
NG4EHR/L3225-T20	32		25	150	20		

*Holder can be customized by customer's order

GROOVING TOOL HOLDER SERIES

Application	Designation	Dimension (mm)					Configuration
		Insert width	H	W	L	Tmax	
External holder	NG5EHR/L2525-T15	5	25	25	150	15	 <p>※ Right hand shown</p>
	NG5EHR/L2525-T20		25	25	150	20	
	NG5EHR/L3225-T15		32	25	150	15	
	NG5EHR/L3225-T20		32	25	150	20	
	NG5EHR/L3225-T25		32	25	150	25	
	NG5EHR/L3232-T15	6	32	32	170	15	
	NG5EHR/L3232-T20		32	32	170	20	
	NG5EHR/L3232-T25		32	32	170	25	
	NG6EHR/L2525-T15		25	25	150	15	
	NG6EHR/L2525-T20		25	25	150	20	
	NG6EHR/L2525-T25	25	25	150	25		
	NG6EHR/L3225-T15	8	32	25	150	15	
	NG6EHR/L3225-T20		32	25	150	20	
	NG6EHR/L3225-T25		32	25	150	25	
	NG6EHR/L3232-T15		32	32	170	15	
	NG6EHR/L3232-T20		32	32	170	20	
	NG6EHR/L3232-T25		32	32	170	25	
	NG8EHR/L3225-T15		32	25	170	15	
	NG8EHR/L3225-T20		32	25	170	20	
	NG8EHR/L3225-T25		32	25	170	25	
	NG8EHR/L3225-T30		32	25	170	30	
	NG8EHR/L3232-T15		32	32	170	15	
	NG8EHR/L3232-T20		32	32	170	20	
	NG8EHR/L3232-T25	32	32	170	25		
NG8EHR/L3232-T30	32	32	170	30			
NG8EHR/L3232-T32	32	32	170	32			

*Holder can be customized by customer's order

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