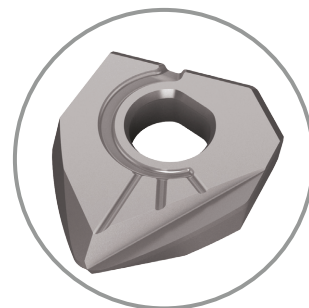
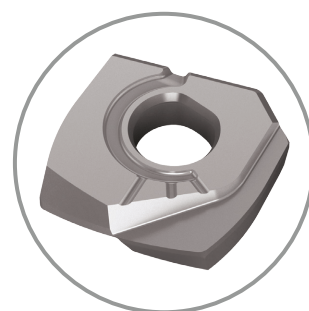


FINEMOLD⁺

**HIGH PRODUCTIVITY FINISHING
LENS AND CHAMFER BARREL INSERTS**

- ▶ Improved productivity and surface roughness compared to ball type inserts
 - ▶ Larger radius cutting edges
- ▶ Compatible with the existing FineMold⁺ holders
 - ▶ Stable clamping system
 - ▶ Excellent runout and repeatability
- ▶ Internal cooling directly on the cutting edge



PRODUCT OVERVIEW

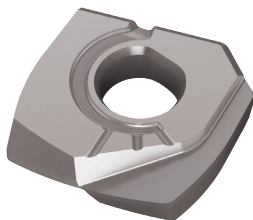
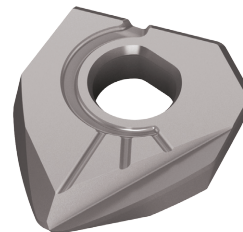
New higher productivity finishing FineMold⁺ inserts for profile milling.

The **FineMold⁺** product line has introduced two barrel type inserts available in various sizes: the **NQHL lens type** and the **NQHB chamfer type**. Both inserts include a large radius cutting edge that increases productivity by more than 40% compared to ball type mills, as they are capable of wide pitch machining.

The **NQHL lens type** allows for machining in a variety of profile forms thanks to its combined bottom and side cutting edges. Furthermore, depending on the cutting edge choice made during CAM programming, the two cutting edges can be used independently.

The inclined edge of the **NQHB chamfer** insert increases efficiency while also allowing for short overhang machining of inclined profiles.

FineMold⁺ inserts are compatible with the **FineMold⁺** product line's holders, allowing for a wide variety of shank choices.

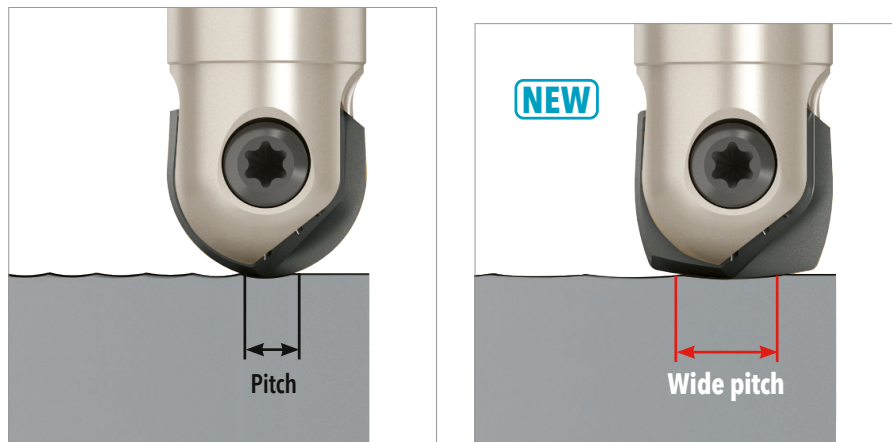
NEW FINEMOLD⁺ INSERTS**NEW****NQHL****NEW****NQHB**

TECHNICAL FEATURES

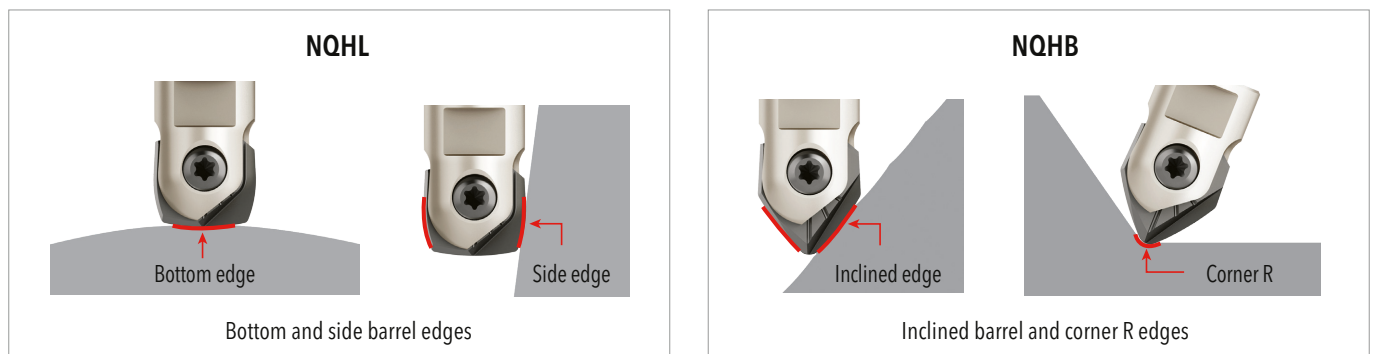
- Larger radius cutting edges



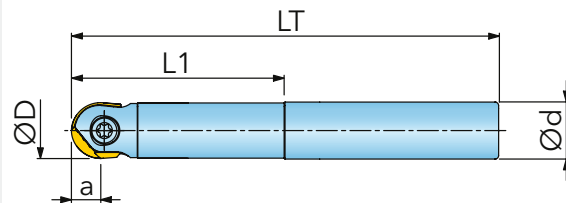
- Improved productivity and surface roughness compared to ball type inserts



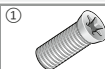
- Inserts with combine lense-barrel shape for a wider variety of applications



ADAPTION ACC. TO DIN 1835 A



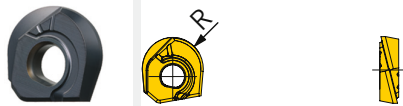
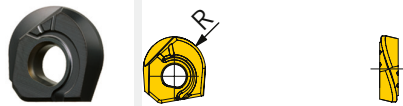
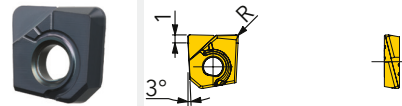
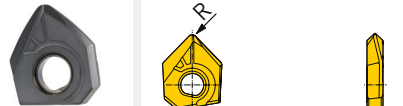
Designation	D	d	LT	L1	a	Z	Z _{eff}	IK	kg
12A9R008020T0R00	8	8	90	20	4	1	2	✓	0,030
12A9S010030T1R00	10	10	90	30	5	1	2	✓	0,045
12A9T012030T2R00	12	12	110	30	6	1	2	✓	0,085
12A9U016040T3R00	16	16	130	40	8	1	2	✓	0,275
12A9V020040T4R00	20	20	110	40	10	1	2	✓	0,220
12A9V020050T4R00	20	20	150	50	10	1	2	✓	0,315
12A9V020070T4R00	20	20	220	70	10	1	2	✓	0,475

SPARE PARTS


Diametr range

8	SM25-080-B1 (1,1Nm)	TXPLUS08x90-B
10	SM30-083-B1 (2,0Nm)	TX10x90-B
12	SM40-106-B1 (4,0Nm)	DS-TP15S (TX-Plus)
16	SM50-139-B1 (5,0Nm)	TX20x90-B
20	SM60-167-B1 (6,0Nm)	TX25x90-B

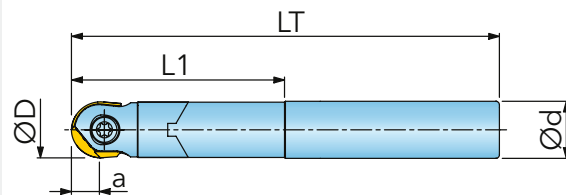
① = Insert screw ② = Torx bit

A Ball nose insert neutral						B Ball nose insert helical						C Toric insert					
																	
D Chamfer type insert						E Lens-barrel type insert											
																	
Designation	fz(min/max)	R	Grade	IN2005	IN2006	Designation	fz(min/max)	R	Grade	IN2005	IN2006	Designation	fz(min/max)	R	Grade	IN2005	IN2006
Ball nose insert neutral						Ball nose insert helical						Chamfer type insert					
NQHG0802MOR-FM	0,08/0,20	4	A			NQHG0802MOR-SM	0,08/0,20	4	B			NQHB0802R20	0,05/0,12	1,0	D		
NQHG1003MOR-FM	0,10/0,25	5	A			NQHG1003MOR-SM	0,10/0,25	5	B			NQHB1003R25	0,05/0,12	1,2	D		
NQHG1203MOR-FM	0,10/0,30	6	A			NQHG1203MOR-SM	0,10/0,30	6	B			NQHB1203R30	0,08/0,15	1,5	D		
NQHG1604MOR-FM	0,10/0,30	8	A			NQHG1604MOR-SM	0,10/0,30	8	B			NQHB1604R40	0,08/0,15	2,0	D		
NQHG2005MOR-FM	0,10/0,30	10	A			NQHG2005MOR-SM	0,10/0,30	10	B			NQHB2005R50	0,08/0,15	2,5	D		
NQHG2506MOR-FM	0,10/0,30	12,5	A			NQHG2506MOR-SM	0,10/0,30	12,5	B			NQHB2506R63	0,08/0,15	3,0	D		
NQHG3007MOR-FM	0,10/0,30	15	A			NQHG3007MOR-SM	0,10/0,30	15	B			NQHB3007R75	0,08/0,20	3,5	D		
NQHG3207MOR-FM	0,10/0,30	16	A			NQHG3207MOR-SM	0,10/0,30	16	B			Lens-barrel type insert					
Toric insert												NQHL1203R24	0,08/0,15	0,7	E		
GQHG0802R03	0,10/0,20	0,3	C									NQHL1604R32	0,08/0,15	0,8	E		
GQHG0802R05	0,10/0,20	0,5	C									NQHL2005R40	0,08/0,15	1,0	E		
GQHG0802R10	0,10/0,20	1	C									NQHL2506R50	0,08/0,15	1,3	E		
GQHG1003R05	0,10/0,25	0,5	C									NQHL3007R60	0,08/0,20	1,5	E		
GQHG1003R10	0,10/0,25	1	C														
GQHG1003R15	0,10/0,25	1,5	C														
GQHG1203R05	0,10/0,30	0,5	C														
GQHG1203R10	0,10/0,30	1	C														
GQHG1203R15	0,10/0,30	1,5	C														
GQHG1203R20	0,10/0,30	2	C														

● = P ● = M ● = K ● = N ● = S ○ = H

FINEMOLD⁺ COPY MILL 12A... CARBIDE SHANK

ADAPTION ACC. TO DIN 1835 A



Designation	D	d	LT	L1	a	Z	Z _{eff}	kg
12A5R008030T0R00	8	8	100	30	4	1	2	0,065
12A5R008075T1R00	8	10	140	75	4	1	2	0,120
12A5S010035T1R00	10	10	100	35	5	1	2	0,100
12A5S010075T1R00	10	10	140	75	5	1	2	0,140
12A5S010140T1R00	10	10	220	140	5	1	2	0,220
12A5T012050T2R00	12	12	120	50	6	1	2	0,170
12A5T012090T2R00	12	12	160	90	6	1	2	0,230
12A5T012150T2R00	12	12	220	150	6	1	2	0,315
12A5U016060T3R00	16	16	120	60	8	1	2	0,290
12A5U016080T3R00	16	16	160	80	8	1	2	0,405
12A5U016150T3R00	16	16	220	150	8	1	2	0,565

SPARE PARTS



Diameter range

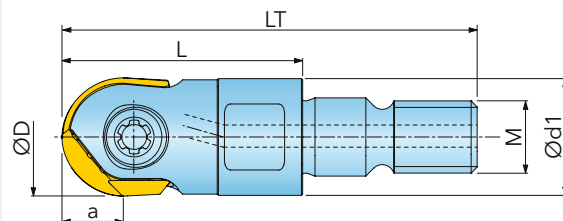
8	SM25-080-B1 (1,1Nm)	TXPLUS08x90-B
10	SM30-083-B1 (2,0Nm)	TX10x90-B
12	SM40-106-B1 (4,0Nm)	DS-TP15S (TX-Plus)
16	SM50-139-B1 (5,0Nm)	TX20x90-B

① = Insert screw ② = Torx bit

A Ball nose insert neutral						B Ball nose insert helical						C Toric insert					
D Chamfer type insert						E Lens-barrel type insert											
Designation	fz(min/max)	R	Grade	IN2005	IN2006	Designation	fz(min/max)	R	Grade	IN2005	IN2006	Designation	fz(min/max)	R	Grade	IN2005	IN2006
Ball nose insert neutral						Ball nose insert helical						Toric insert					
NQHG0802MOR-FM	0,08/0,20	4	A			NQHG0802MOR-SM	0,08/0,20	4	B			GQHG0802R03	0,10/0,20	0,3	C		
NQHG1003MOR-FM	0,10/0,25	5	A			NQHG1003MOR-SM	0,10/0,25	5	B			GQHG0802R05	0,10/0,20	0,5	C		
NQHG1203MOR-FM	0,10/0,30	6	A			NQHG1203MOR-SM	0,10/0,30	6	B			GQHG0802R10	0,10/0,20	1	C		
NQHG1604MOR-FM	0,10/0,30	8	A			NQHG1604MOR-SM	0,10/0,30	8	B			GQHG1003R05	0,10/0,25	0,5	C		
NQHG2005MOR-FM	0,10/0,30	10	A			NQHG2005MOR-SM	0,10/0,30	10	B			GQHG1003R10	0,10/0,25	1	C		
NQHG2506MOR-FM	0,10/0,30	12,5	A			NQHG2506MOR-SM	0,10/0,30	12,5	B			GQHG1003R15	0,10/0,25	1,5	C		
NQHG3007MOR-FM	0,10/0,30	15	A			NQHG3007MOR-SM	0,10/0,30	15	B			GQHG1203R05	0,10/0,30	0,5	C		
NQHG3207MOR-FM	0,10/0,30	16	A			NQHG3207MOR-SM	0,10/0,30	16	B			GQHG1203R10	0,10/0,30	1	C		
Ball nose insert helical						Chamfer type insert						Lens-barrel type insert					
NQHG0802MOR-SM	0,08/0,20	4	B			NQHB0802R20	0,05/0,12	1,0	D			NQHL1203R24	0,08/0,15	0,7	E		
NQHG1003MOR-SM	0,10/0,25	5	B			NQHB1003R25	0,05/0,12	1,2	D			NQHL1604R32	0,08/0,15	0,8	E		
NQHG1203MOR-SM	0,10/0,30	6	B			NQHB1203R30	0,08/0,15	1,5	D			NQHL2005R40	0,08/0,15	1,0	E		
NQHG1604MOR-SM	0,10/0,30	8	B			NQHB1604R40	0,08/0,15	2,0	D			NQHL2506R50	0,08/0,15	1,3	E		
NQHG2005MOR-SM	0,10/0,30	10	B			NQHB2005R50	0,08/0,15	2,5	D			NQHL3007R60	0,08/0,20	1,5	E		
NQHG2506MOR-SM	0,10/0,30	12,5	B			NQHB2506R63	0,08/0,15	3,0	D								
NQHG3007MOR-SM	0,10/0,30	15	B			NQHB3007R75	0,08/0,20	3,5	D								
NQHG3207MOR-SM	0,10/0,30	16	B														
Toric insert						Lens-barrel type insert											
GQHG0802R03	0,10/0,20	0,3	C														
GQHG0802R05	0,10/0,20	0,5	C														
GQHG0802R10	0,10/0,20	1	C														
GQHG1003R05	0,10/0,25	0,5	C														
GQHG1003R10	0,10/0,25	1	C														
GQHG1003R15	0,10/0,25	1,5	C														
GQHG1203R05	0,10/0,30	0,5	C														
GQHG1203R10	0,10/0,30	1	C														
GQHG1203R15	0,10/0,30	1,5	C														
GQHG1203R20	0,10/0,30	2	C														

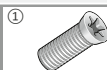
● = P ● = M ● = K ● = N ● = S ○ = H

WITH SCREW-IN TYPE ADAPTION



Designation	D	d1	LT	L	a	M	Z	Zeff	IK	kg
12A9S010020X4R00	10	9,7	34,5	20	5	M6	1	2	✓	0,010
12A9T012023X4R00	12	11,5	37,5	23	6	M6	1	2	✓	0,015
12A9T012023X5R00	12	13	40,8	23	6	M8	1	2	✓	0,020
12A9U016030X5R00	16	13	47,8	30	8	M8	1	2	✓	0,030
12A9V020030X6R00	20	19	49,8	30	10	M10	1	2	✓	0,050
12A9W025035X7R00	25	24	57	35	12,5	M12	1	2	✓	0,085
12A9X030043X8R00	30	29	67	43	15	M16	1	2	✓	0,175
12A9Y032043X8R00	32	29,5	67	43	16	M16	1	2	✓	0,185

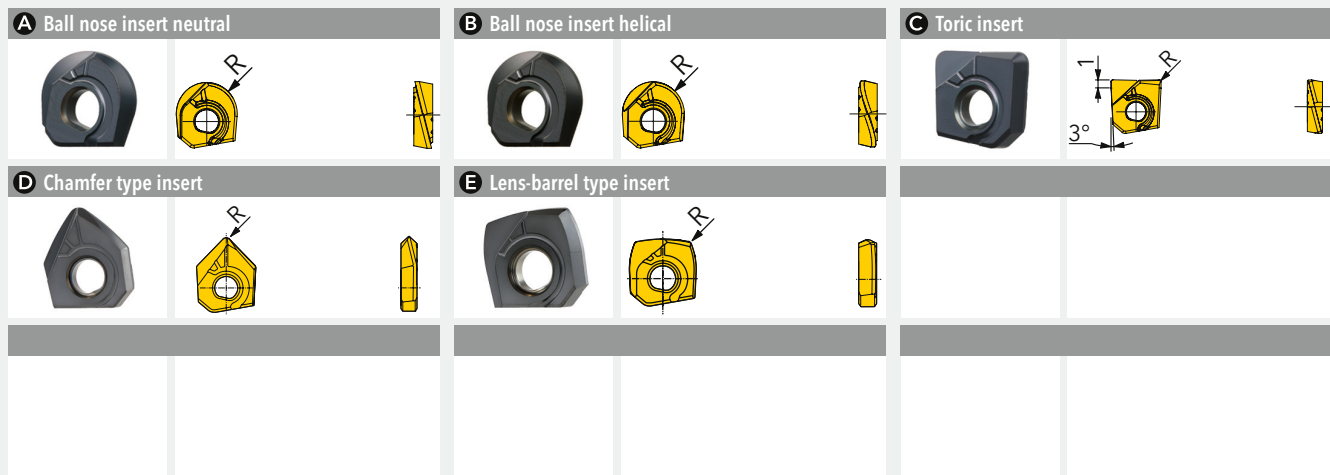
SPARE PARTS



Diameter range

10	SM30-083-B1 (2,0Nm)	TX10x90-B
12	SM40-106-B1 (4,0Nm)	DS-TP15S (TX-Plus)
16	SM50-139-B1 (5,0Nm)	TX20x90-B
20	SM60-167-B1 (6,0Nm)	TX25x90-B
25	SM70-210-B1 (6,0Nm)	TX25x90-B
30 - 32	SM80-250-B1 (8,0Nm)	DS-T30T

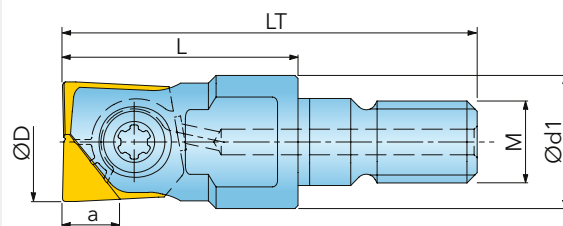
① = Insert screw ② = Torx bit



Designation	fz(min/max)	R	Grade	IN2005	IN2006	Designation	fz(min/max)	R	Grade	IN2005	IN2006
Ball nose insert neutral						Ball nose insert helical					
NQHG0802MOR-FM	0,08/0,20	4	A			NQHG0802MOR-SM	0,08/0,20	4	B		
NQHG1003MOR-FM	0,10/0,25	5	A			NQHG1003MOR-SM	0,10/0,25	5	B		
NQHG1203MOR-FM	0,10/0,30	6	A			NQHG1203MOR-SM	0,10/0,30	6	B		
NQHG1604MOR-FM	0,10/0,30	8	A			NQHG1604MOR-SM	0,10/0,30	8	B		
NQHG2005MOR-FM	0,10/0,30	10	A			NQHG2005MOR-SM	0,10/0,30	10	B		
NQHG2506MOR-FM	0,10/0,30	12,5	A			NQHG2506MOR-SM	0,10/0,30	12,5	B		
NQHG3007MOR-FM	0,10/0,30	15	A			NQHG3007MOR-SM	0,10/0,30	15	B		
NQHG3207MOR-FM	0,10/0,30	16	A			NQHG3207MOR-SM	0,10/0,30	16	B		
Toric insert						Chamfer type insert					
GQHG0802R03	0,10/0,20	0,3	C			NQHB0802R20	0,05/0,12	1,0	D		
GQHG0802R05	0,10/0,20	0,5	C			NQHB1003R25	0,05/0,12	1,2	D		
GQHG0802R10	0,10/0,20	1	C			NQHB1203R30	0,08/0,15	1,5	D		
GQHG1003R05	0,10/0,25	0,5	C			NQHB1604R40	0,08/0,15	2,0	D		
GQHG1003R10	0,10/0,25	1	C			NQHB2005R50	0,08/0,15	2,5	D		
GQHG1003R15	0,10/0,25	1,5	C			NQHB2506R63	0,08/0,15	3,0	D		
GQHG1203R05	0,10/0,30	0,5	C			NQHB3007R75	0,08/0,20	3,5	D		
GQHG1203R10	0,10/0,30	1	C			Lens-barrel type insert					
GQHG1203R15	0,10/0,30	1,5	C			NQHL1203R24	0,08/0,15	0,7	E		
GQHG1203R20	0,10/0,30	2	C			NQHL1604R32	0,08/0,15	0,8	E		
						NQHL2005R40	0,08/0,15	1,0	E		
						NQHL2506R50	0,08/0,15	1,3	E		
						NQHL3007R60	0,08/0,20	1,5	E		

● = P ● = M ● = K ● = N ● = S ○ = H

WITH SCREW-IN TYPE ADAPTION



Designation	D	d1	LT	L	a	M	Z	Zeff	IK	kg
12U9S010020X4R00	10	9,7	34,5	20	1	M6	1	2	✓	0,010
12U9T012023X4R00	12	11,5	37,5	23	1	M6	1	2	✓	0,015
12U9T012023X5R00	12	13	40,8	23	1	M8	1	2	✓	0,020
12U9U016030X5R00	16	13	47,8	30	1	M8	1	2	✓	0,030
12U9V020030X6R00	20	19	49,8	30	1	M10	1	2	✓	0,050
12U9W025035X7R00	25	24	57	35	1	M12	1	2	✓	0,090

SPARE PARTS

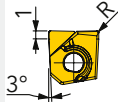
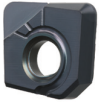


Diameter range

10	SM30-083-B1 (2,0Nm)	TX10x90-B
12	SM40-106-B1 (4,0Nm)	DS-TP15S (TX-Plus)
16	SM50-139-B1 (5,0Nm)	TX20x90-B
20	SM60-167-B1 (6,0Nm)	TX25x90-B
25	SM70-210-B1 (6,0Nm)	TX25x90-B

① = Insert screw ② = Torx bit

A Toric insert



Designation	fz(min/max)	R	Grade	IN2006		
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Toric insert						
GQHG0802R03	0,10/0,20	0,3	A			
GQHG0802R05	0,10/0,20	0,5	A			
GQHG0802R10	0,10/0,20	1	A			
GQHG1003R05	0,10/0,25	0,5	A			
GQHG1003R10	0,10/0,25	1	A			
GQHG1003R15	0,10/0,25	1,5	A			
GQHG1003R20	0,10/0,25	2	A			
GQHG1203R05	0,10/0,30	0,5	A			
GQHG1203R10	0,10/0,30	1	A			
GQHG1203R15	0,10/0,30	1,5	A			
GQHG1203R20	0,10/0,30	2	A			
GQHG1604R05	0,10/0,35	0,5	A			
GQHG1604R10	0,10/0,35	1	A			

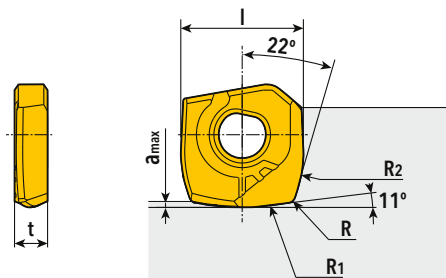
Designation	fz(min/max)	R	Grade	IN2006		
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GQHG1604R15	0,10/0,35	1,5	A			
GQHG1604R20	0,10/0,35	2	A			
GQHG1604R30	0,10/0,40	3	A			
GQHG2005R05	0,10/0,35	0,5	A			
GQHG2005R10	0,10/0,35	1	A			
GQHG2005R15	0,10/0,35	1,5	A			
GQHG2005R20	0,10/0,35	2	A			
GQHG2005R30	0,10/0,40	3	A			
GQHG2506R05	0,10/0,40	0,5	A			
GQHG2506R10	0,10/0,40	1	A			
GQHG2506R15	0,10/0,40	1,5	A			
GQHG2506R20	0,10/0,40	2	A			
GQHG2506R30	0,10/0,40	3	A			

● = P ● = M ● = K ● = N ● = S ○ = H

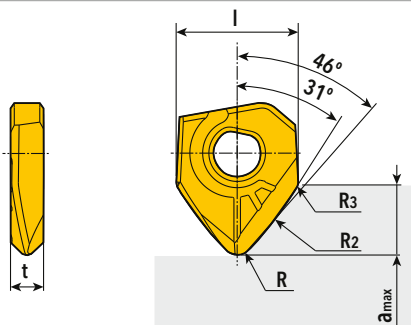
INSERT DIMENSIONS

NQHL



Size	Dimension (mm)					
	l	t	a _{max}	R	R1	R2
120	12	3,2	0,4	0,7	24	12
160	16	4,2	0,6	0,8	32	16
200	20	5,2	0,7	1	40	20
250	25	6,2	0,9	1,3	50	25
300	30	7,2	1,1	1,5	60	30

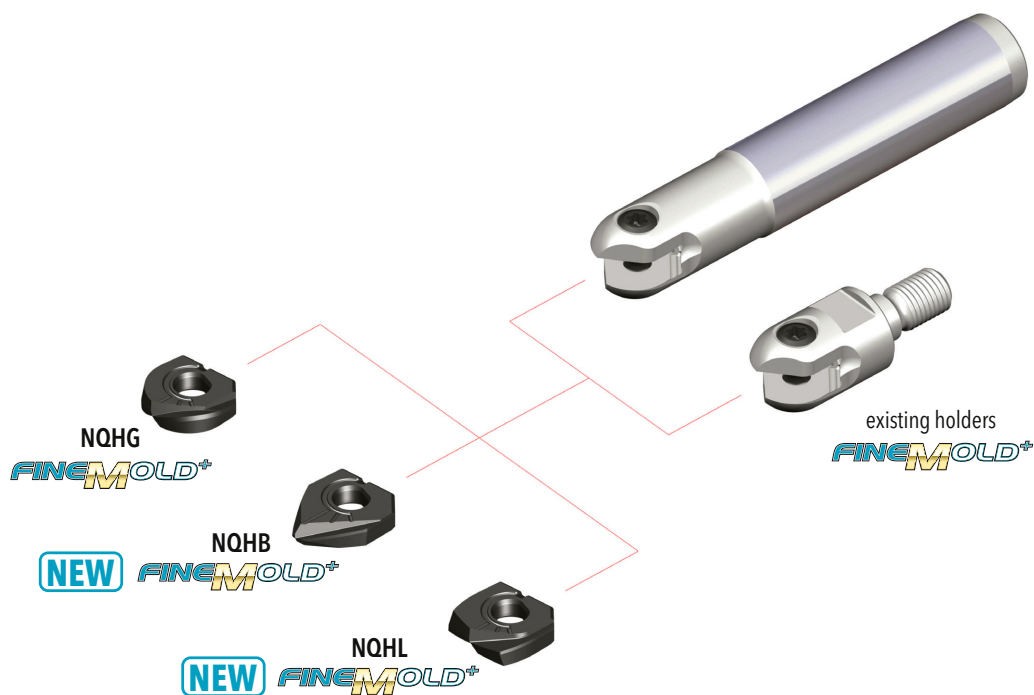
NQHB



Size	Dimension (mm)					
	l	t	a _{max}	R	R2	R3
80	8	2,2	4,3	1,0	20	0,6
100	10	2,7	5,4	1,2	25	0,8
120	12	3,2	6,4	1,5	30	1,0
160	16	4,2	8,5	2,0	40	1,3
200	20	5,2	10,7	2,5	50	1,6
250	25	6,2	13,5	3,0	62,5	2,0
300	30	7,2	16,3	3,5	75	2,4

TECHNICAL FEATURES OF INSERTS

- Compatible with the existing **FineMold⁺** holders
 - Stable clamping system
 - Excellent runout and repeatability



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