

# HPC glodanje

## Seriya HPC glodala s novorazvijenom PVD presvlakom



**New** HPC glodala su dostupna u novoj kvaliteti KMG406

### Gdje korištenje ovih glodala ima smisla?

- Za obradu čelika, sivog lijeva i inoxa u malim serijama
- Upoznavanje korisnika sa prednostima HPC obrade
- Za korisnike koji žele trajno promijeniti načine obrade

### Nova presvlaka KMG406

- Novorazvijena PVD presvlaka kao entry level u HPC glodanje

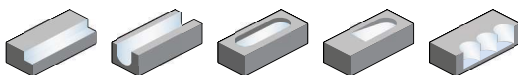


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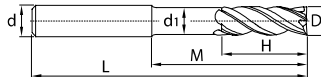


## VHM glodalo sa oslobođenim vratom HPC glodanje

5502R38414GM



- Drška: DIN6535HA
- Kut oštrice: 38°/41°



Oznaka	*	Dimenzija (mm)						Oštrice	Kvaliteta	
		D	d (h6)	d <sub>1</sub>	H	M	L		KMG405	KMG406 <b>NEW!</b>
5502R38414GM-0400		4	6	3,7	11	19	57	4	●	●
5502R38414GM-0500		5	6	4,7	13	21	57	4	●	●
5502R38414GM-0600		6	6	5,7	13	21	57	4	●	●
5502R38414GM-0800		8	8	7,7	19	27	63	4	●	●
5502R38414GM-1000		10	10	9,5	22	32	72	4	●	●
5502R38414GM-1200		12	12	11,5	26	38	83	4	●	●
5502R38414GM-1400		14	14	13,5	26	38	83	4	●	●
5502R38414GM-1600		16	16	15,5	32	44	92	4	●	●
5502R38414GM-1800		18	18	17,5	32	44	92	4	●	●
5502R38414GM-2000		20	20	19,5	38	54	104	4	●	●

- Na lageru ○ Na zahtjev
- \* Sa unutarnjim hlađenjem

Prikladno za uporabu na:

P	M	K	N	S	H
✓	✓	✓			✓

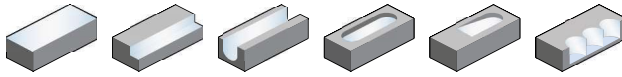
- ✓ Vrlo prikladno
- ✓ Prikladno

Distributor:

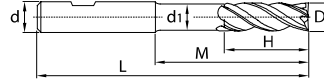


## VHM glodalo sa oslobođenim vratom HPC glodanje

## 5602R38414GM



- Drška: DIN6535HA
- Kut oštrica: 38°/41°



Oznaka	*	Dimenzija (mm)						Oštrice	Kvaliteta	
		D	d (h6)	d <sub>1</sub>	H	M	L		KMG405	KMG406 <b>NEW!</b>
5602R38414GM-0300L		3	6	2,7	6,5	15	58	4	○	
5602R38414GM-0400		4	6	3,7	11	19	57	4	●	●
5602R38414GM-0400L		4	6	3,7	8,5	20	62	4	○	
5602R38414GM-0500L		5	6	4,7	10,5	25	70	4	○	
5602R38414GM-0500		5	6	4,7	13	21	57	4	●	●
5602R38414GM-0600		6	6	5,7	13	21	57	4	●	●
5602R38414GM-0600L		6	6	5,7	13	30	70	4	○	
5602R38414GM-0800		8	8	7,7	19	27	63	4	●	●
5602R38414GM-0800L		8	8	7,7	17	40	80	4	○	
5602R38414GM-1000L		10	10	9,5	21	50	94	4	○	
5602R38414GM-1000		10	10	9,5	22	32	72	4	●	●
5602R38414GM-1200		12	12	11,5	26	38	83	4	●	●
5602R38414GM-1200L		12	12	11,5	25	60	109	4	○	
5602R38414GM-1400		14	14	13,5	26	38	83	4	●	●
5602R38414GM-1600L		16	16	15,5	33	80	132	4	○	
5602R38414GM-1600		16	16	15,5	32	44	92	4	●	●
5602R38414GM-1800		18	18	17,5	32	44	92	4	●	●
5602R38414GM-2000		20	20	19,5	38	54	104	4	●	●

● Na lageru ○ Na zahtjev

\* Sa unutarnjim hlađenjem

Prikladno za uporabu na:

P	M	K	N	S	H
✓	✓	✓			✓

✓ Vrlo prikladno

✓ Prikladno

Distributor:





End mill – UM/HPC/VSM series

Material group	Composition / structure / heat treatment		Brinell hardness HB	Machining group	Starting values for cutting speed $v_c$ [m/min]								
					5501R38414GM (-R) 5502R38414GM (-R) 5602R38414GM (-R)				5501R38414GM 5502R38414GM 5602R38414GM				
					Slot milling		Shoulder milling		Slot milling		Shoulder milling		
					$\varnothing$ [mm]	$a_{p,max}$	$\varnothing$ [mm]	$a_{e,max}$	$\varnothing$ [mm]	$a_{p,max}$	$\varnothing$ [mm]	$a_{e,max}$	
					$0 < x < 3$	$0,3 \times D$	$0 < x < 3$	$0,15 \times D$	$0 < x < 3$	$0,3 \times D$	$0 < x < 3$	$0,15 \times D$	
$3 \leq x < 12$	$0,7 \times D$	$3 \leq x < 20$	$0,3 \times D$	$3 \leq x < 12$	$0,7 \times D$	$3 \leq x < 20$	$0,3 \times D$						
$12 \leq x \leq 20$	$1,5 \times D$			$12 \leq x \leq 20$	$1,5 \times D$								
KMG405				KMG406									
$a_e / D$				$a_e / D$									
1/1	1/2	1/10	f-group	1/1	1/2	1/10	f-group						
P	Unalloyed steel	approx. 0,15 % C	annealed	125	1	250	300	380	9	230	280	350	9
		approx. 0,45 % C	annealed	190	2	240	285	365	9	220	270	340	9
		approx. 0,45 % C	tempered	250	3	175	210	270	9	160	190	250	9
		approx. 0,75 % C	annealed	270	4	150	180	230	9	140	160	210	9
		approx. 0,75 % C	tempered	300	5	140	165	210	9	130	150	200	9
	Low-alloyed steel		annealed	180	6	190	225	285	9	180	215	270	9
			tempered	275	7	150	180	230	9	130	170	220	9
			tempered	300	8	140	165	210	9	125	150	190	9
			tempered	350	9	130	160	200	9	120	150	190	9
	High-alloyed steel and high-alloyed tool steel		annealed	200	10	175	210	270	9	160	190	250	9
		hardened and tempered	325	11	135	160	205	9	115	140	190	9	
M	Stainless steel	ferritic/martensitic	annealed	200	12	80	100	125	9	70	90	110	9
		martensitic	tempered	240	13	70	85	110	9	60	80	100	9
		austenitic	quench hardened	180	14	85	105	130	9	75	90	120	9
		austenitic-ferritic		230	15	70	85	110	9	65	80	100	9
K	Grey cast iron	perlitic/ferritic		180	16	185	220	280	9	160	200	260	9
		perlitic (martensitic)		260	17	150	180	230	9	140	170	220	9
	Cast iron with spheroidal graphite	ferritic		160	18	225	270	345	9	215	250	330	9
		perlitic		250	19	175	210	270	9	160	200	250	9
	Malleable cast iron	ferritic		130	20	250	300	380	9	230	280	360	9
		perlitic		230	21	200	240	305	9	180	230	290	9
N	Aluminium wrought alloys	cannot be hardened		60	22								
		hardenable	hardened	100	23								
	Cast aluminium alloys	$\leq 12\%$ Si, cannot be hardened		75	24								
		$\leq 12\%$ Si, hardenable	hardened	90	25								
		$> 12\%$ Si, cannot be hardened		130	26								
	Copper and copper alloys (bronze/brass)	machining steel, PB> 1%			110	27							
		CuZn, CuSnZn			90	28							
CuSn, Pb-free copper, electrolytic copper			100	29									
S	Heat-resistant alloys	Fe-based alloys	annealed	200	30								
			hardened	280	31								
		Ni or Co bass	annealed	250	32								
			hardened	350	33								
	Titanium alloys	cast	320	34									
		pure titanium		$R_m$ , 400	35								
$\alpha$ and $\beta$ alloys	hardened	$R_m$ , 1050	36										
H	Hardened steel		hardened and tempered	55 HRC	37	115	140	175	9	100	120	150	9
			hardened and tempered	60 HRC	38								
	Hard cast iron		cast	400	39	135	165	205	9	110	150	180	9
	Hardened cast iron		hardened and tempered	55 HRC	40								
X	Non-metallic materials	Thermoplasts			41								
		Thermosetting plastics			42								
		Plastic, glass-fibre reinforced GFRP			43								
		Plastic, carbon fibre reinforced CFRP			44								
		Graphite			45								
		Wood			46								

Note: The given cutting values are guide values, which were determined under ideal conditions.  
The values have to be adapted in individual cases.  
Feed rate recommendations on page B460.  
For examples of material for cutting tool groups view page D22.

## Recommended feed rate

### Solid carbide milling group 9 – Square shoulder mills UM series/HPC series HSC/HPC

	$a_e / D$	Feed rate per cutting edge ( $f_z$ ) [mm]																	
		Ø 4	Ø 5	Ø 6	Ø 8	Ø 10	Ø 12	Ø 14	Ø 16	Ø 18	Ø 20								
<b>P</b>	1/1	0,06	0,06	0,06	0,07	0,07	0,07	0,07	0,08	0,08	0,08								
	1/2	0,08	0,08	0,08	0,09	0,09	0,09	0,09	0,10	0,10	0,10								
	1/10	0,14	0,14	0,16	0,18	0,22	0,25	0,27	0,3	0,32	0,36								
<b>M</b>	1/1	0,05	0,05	0,05	0,05	0,05	0,05	0,05	0,06	0,06	0,06								
	1/2	0,06	0,06	0,06	0,07	0,07	0,07	0,07	0,08	0,08	0,08								
	1/10	0,10	0,10	0,10	0,12	0,12	0,14	0,16	0,16	0,18	0,18								
<b>K</b>	1/1	0,06	0,06	0,06	0,07	0,07	0,07	0,07	0,08	0,08	0,08								
	1/2	0,08	0,08	0,08	0,09	0,09	0,09	0,09	0,10	0,10	0,10								
	1/10	0,14	0,14	0,16	0,18	0,22	0,25	0,27	0,3	0,32	0,36								
<b>H</b>	1/1	0,045	0,045	0,045	0,053	0,053	0,053	0,053	0,06	0,06	0,06								
	1/2	0,06	0,06	0,06	0,07	0,07	0,07	0,07	0,08	0,08	0,08								
	1/10	0,10	0,10	0,10	0,12	0,12	0,14	0,16	0,16	0,18	0,18								

Note: The given cutting values are guide values, which were determined under ideal conditions.  
The values have to be adapted in individual cases.

Distributor:

