

Jongen Werkzeugtechnik GmbH & Co. KG



VHM 209



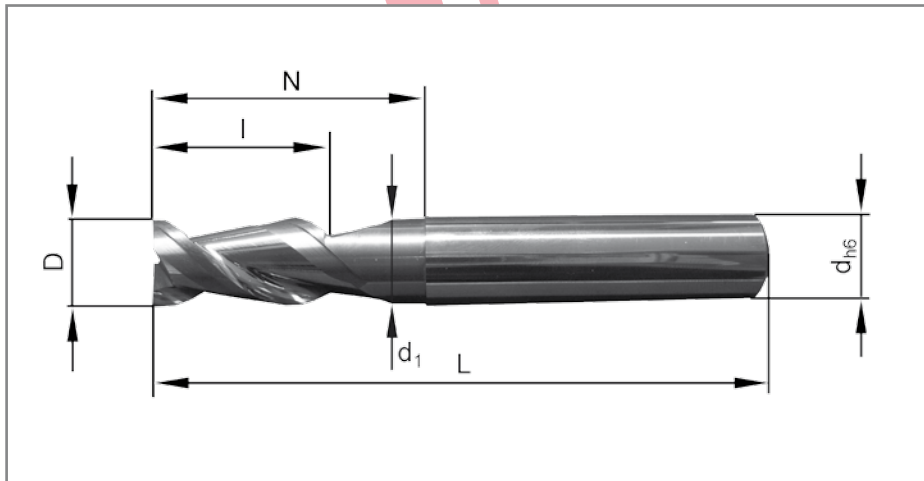
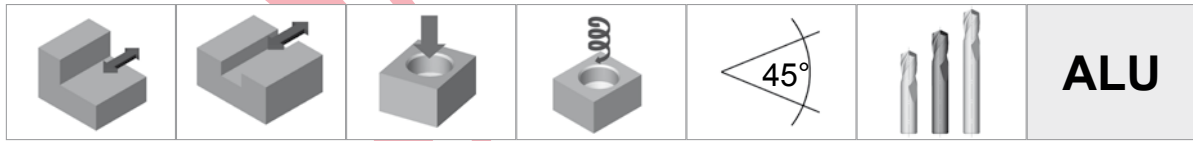
VHM 209

This solid carbide cutter – Type 209 – has been especially designed for machining aluminium, non-ferrous metals and plastics.

This tool that is universally applicable is distinguished by optimal cutting characteristics by highest productivity.

PRODUCT CHARACTERISTICS	ADVANTAGES
Flat-faced Weldon cutter	Universally applicable <ul style="list-style-type: none"> - for boring and pre-boring - for 90° step milling - for full slot milling - for roughing and finishing
Coupling made to DIN 6535-HA	<ul style="list-style-type: none"> - Suitable for collet chuck and hydraulic chuck - As well applicable for shrinking - Supplementary application of Weldon-surface up to \varnothing 6 mm is possible
Improved chip space	<ul style="list-style-type: none"> - Stable tool core - Generously carried out chip space
Polished chip geometry	<ul style="list-style-type: none"> - Improved chip flow - Prevention of build-up material on cutting edge
Optimized macro geometry	<ul style="list-style-type: none"> - High cutting volume
Optimized micro geometry	<ul style="list-style-type: none"> - Long tool life
Reduced shank for more axial speed	<ul style="list-style-type: none"> - Increment of utility length to DIN-clamping length
The type MK10	<ul style="list-style-type: none"> - Hard metal, finest grain carbide according to ISO K05-K10 for higher wearing quality

VHM 209



Tolerance \varnothing :
 $\varnothing 3,0 - 20,0 = -0,02$
 $-0,04$

Order-No.	D	I	N	d ₁	d _{h6}	L	Z
VHM 209-03 MK10	3	6,0	21,0	2,7	3	38,5	2
VHM 209-04 MK10	4	8,0	25,0	3,7	4	50,0	2
VHM 209-05 MK10	5	10,0	25,0	4,6	5	50,0	2
VHM 209-06 MK10	6	12,0	27,0	5,5	6	58,0	2
VHM 209-08 MK10	8	16,0	28,0	7,5	8	64,0	2
VHM 209-10 MK10	10	21,0	32,0	9,4	10	73,5	2
VHM 209-12 MK10	12	24,0	37,0	11,4	12	84,0	2
VHM 209-16 MK10	16	33,0	44,0	15,0	16	93,0	2
VHM 209-20 MK10	20	41,0	54,0	19,0	20	104,0	2

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CUTTING DATA

		Alu long-chip milling	Alu short-chip milling	Alu cast iron > 10 % Si	CuZn alloys
Cutting speed V_C (in m/min)		450 (400 - 500)	430 (380 - 480)	250 (200 - 300)	250 (200 - 300)
Feed rates per tooth f_z (in mm)					
Diameter of a tool (in mm)	3	0,035 (0,02 - 0,05)	0,035 (0,02 - 0,05)	0,030 (0,015 - 0,045)	0,020 (0,005 - 0,035)
	4	0,035 (0,02 - 0,05)	0,035 (0,02 - 0,05)	0,030 (0,015 - 0,045)	0,020 (0,005 - 0,035)
	5	0,060 (0,045 - 0,075)	0,060 (0,045 - 0,075)	0,050 (0,035 - 0,065)	0,040 (0,025 - 0,055)
	6	0,060 (0,045 - 0,075)	0,060 (0,045 - 0,075)	0,050 (0,035 - 0,065)	0,040 (0,025 - 0,055)
	8	0,060 (0,045 - 0,075)	0,060 (0,045 - 0,075)	0,050 (0,035 - 0,065)	0,040 (0,025 - 0,055)
	10	0,070 (0,055 - 0,085)	0,070 (0,055 - 0,085)	0,070 (0,055 - 0,085)	0,060 (0,045 - 0,075)
	12	0,070 (0,055 - 0,085)	0,070 (0,055 - 0,085)	0,070 (0,055 - 0,085)	0,060 (0,045 - 0,075)
	16	0,090 (0,075 - 0,105)	0,090 (0,075 - 0,105)	0,120 (0,105 - 0,135)	0,080 (0,065 - 0,095)
	20	0,120 (0,105 - 0,135)	0,120 (0,105 - 0,135)	0,170 (0,155 - 0,185)	0,120 (0,105 - 0,135)

* Feed rate per tooth are made to apply full slot milling with radial infeed 1 x diam.

* Mean chip thickness has to be considered by side milling operations!

* The indicated figures are starting parameters.

The adjustments top-down as well as bottom-up are possible depending on processing, type of machine and material grade.

Jongen Werkzeugtechnik GmbH & Co. KG

Siemensring 11 · 47877 Willich · Germany
 Phone: +49 2154 / 9285-0 · Fax: +49 2154 / 911976
 Free international Fax: 00 800 / 56 64 36 33
 www.jongen.de · email: info@jongen.de

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