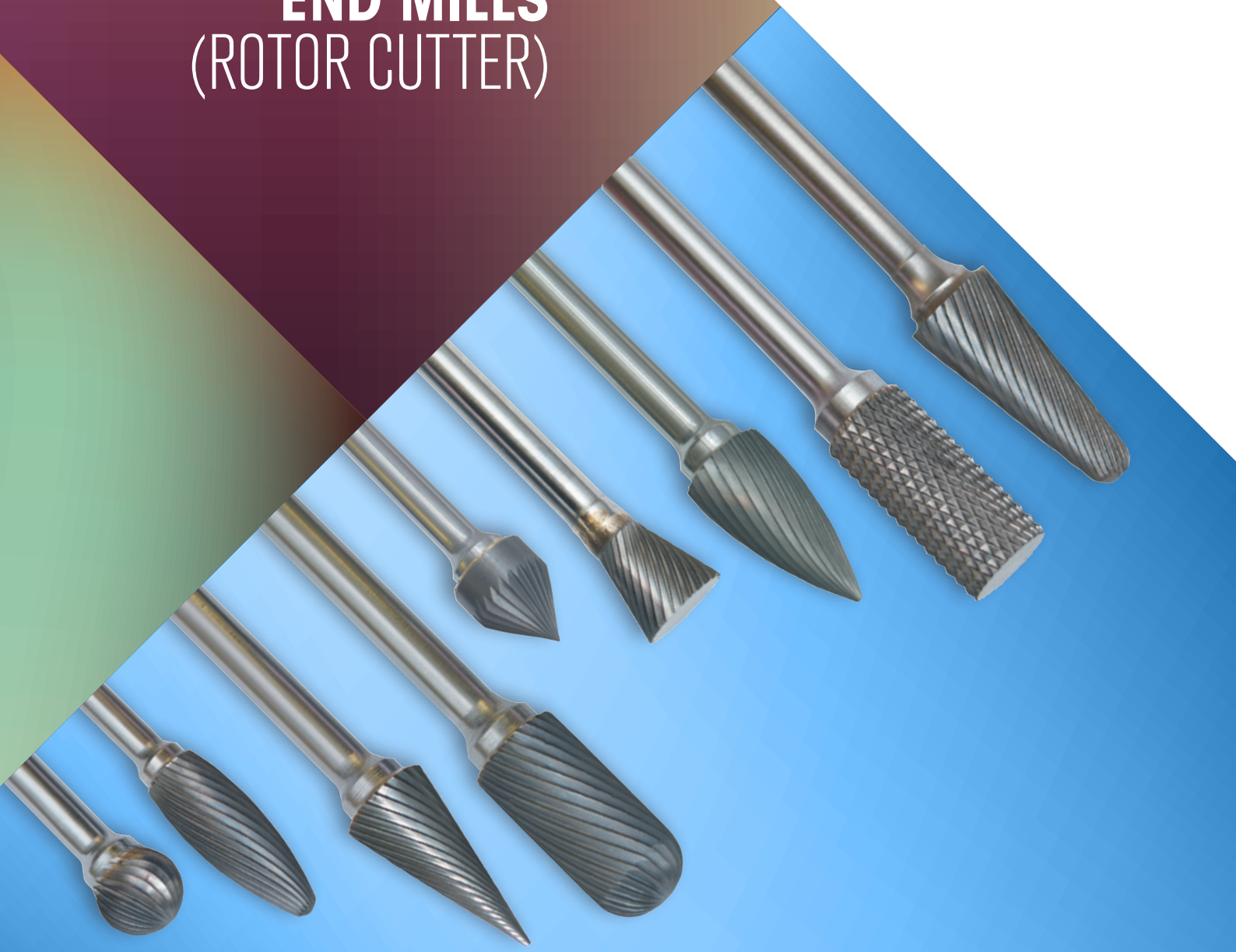
ADD engineering

SOLID CARBIDE END MILLS (ROTOR CUTTER)



Germany | India | Russia

Germany | India | Russia

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Z Alu

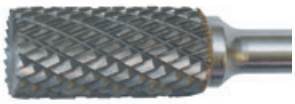
- Magnesium, unalloyed and non-metal materials, also hard plastic, rubber, wood, etc..
- Used for aluminium, magnesium, soft steel and non-ferrous materials

Z 1

- Normal pitch, for general application, for cast steel, high strength steels, deburring, beveling, chamfering, clean surface
- General purpose, used for deburring of steel, cast iron and ferrous and non-ferrous materials

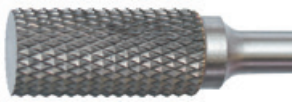
Z 41

- Fine pitch apllication, same application technology as normal pitch, better surface quality
- Same uses as standard, but provides finer finish on metals



Z 3

- The normal pitch application is characterized by its high material removal rate
- Normal pitch application has best performance by cutting of hard materials as for mold an die machining generates smooth, and flat surfaces
- Used for soft and hard metals. Gives better finish



Z 5

- Diamond teeth for fine deburring and finshing work on high-strength and tough materials
- Gives a better surface quality
- Used for hard and tough materials, stainless steel and sythetic materials such as fiberglass and reinforced plastics

ADD-MEGA-COATING

ADD MEGA coated milling cutter will increase tool life in 2,5 - 3 times

What is ADD MEGA?
ADD MEGA is a PVD hard coating based on titanium aluminum nitride (TiAlN)

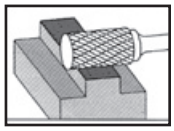
Where will be ADD MEGA used?
ADD MEGA is mainly used in the extreme conditions of the hard-machining. The high hardness, as well as the considerable thermal and chemical stability, are the outstanding features.
With this features ADD MEGA coting will protect the cutting tools for premature wear.

What benefits does the ADD MEGA?
ADD MEGA coated tools offer even under extreme conditions high tool life. Take advantage of the benefits this high performance coating in the manufacture of mold and die tools.

- reduce manufacturing costs
- significant time savings compared to EDM process
- improve the surface quality
- use on robots

The re-coating of tools after grinding with ADD MEGA is possible. We offer each milling cutter with ADD MEGA coating! Please pay attention to the note behind each type!
As an introduction, we offer competitive prices.

CYLINDRICAL, WITHOUT SERRATED, TYPE ZYA - CYLINDER SHAPE



Part No.	Shank Ø	Cutting Ø	Cutting Length	Total Length	Z 1	Z 3	Z 41
H6000	6	4	16	51	+	+	+
H6001	6	6	16	51	+	+	+
H6003	6	8	20	64	+	+	+
H6005	6	10	20	64	+	+	+
H6006	6	10	25	70	+	+	+
H6007	6	12	25	70	+	+	+
H6008	6	16	25	70	+	+	+
H6009	6	20	25	70	+	+	+
H6010	6	25	25	70	+	+	+

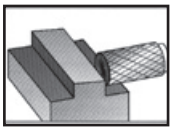
CYLINDRICAL, WITHOUT SERRATED, TYPE ZYA - CYLINDER SHAPE

Part No.	Shank Ø	Cutting Ø	Cutting Length	Total Length	Z 1	Z 3	Z 41
H501	3	1,5	6	38	+	+	+
H502	3	2,4	13	38	+	+	+
H503	3	3	13	38	+	+	+
H504	3	4	12	38	+	+	+
H505	3	5	12	38	+	+	+
H506	3	6	13	51	+	+	+
H507	3	6	7	38	+	+	

CYLINDRICAL, WITHOUT SPUR GEARING, TYPE ZYA, TOTAL LENGTH 75 MM - CYLINDERICAL SHAPE SHANK LENGTH 75 MMV

Part No.	Shank Ø	Cutting Ø	Cutting Length	Total Length	Z 1	Z 3
H503 L	3	3	14	75	+	+

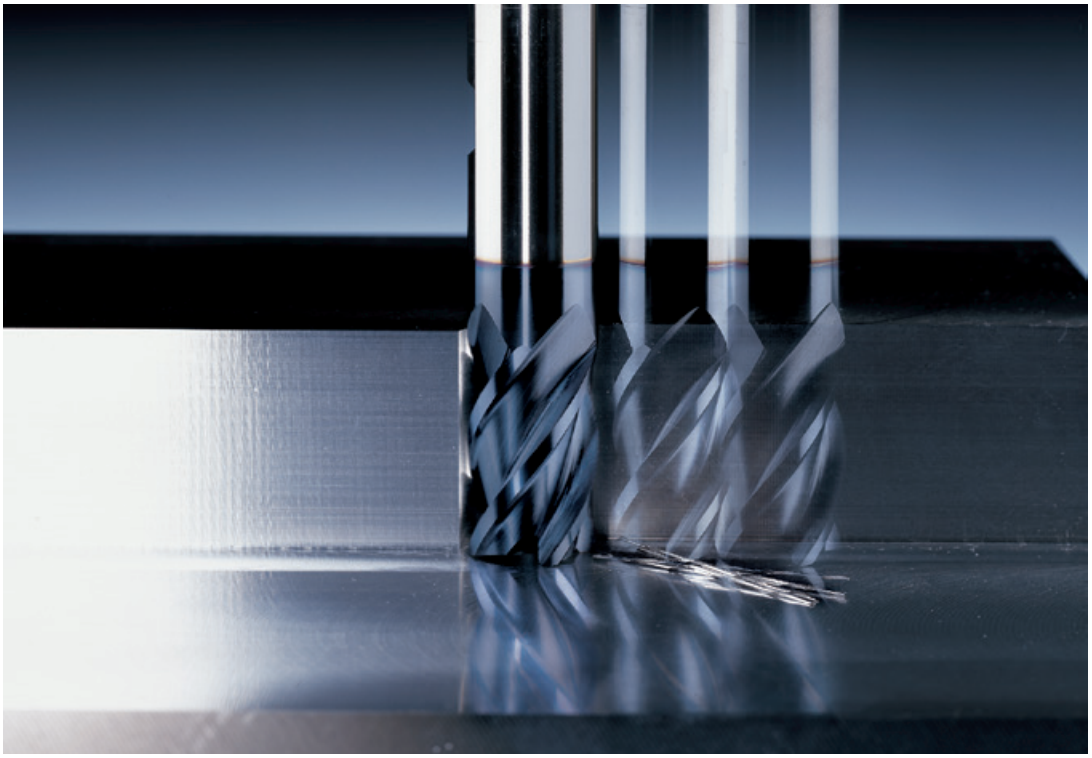
CYLINDRICAL, WITH SPUR GEARING, TYPE ZYA-S - CYLINDER SHAPE WITH END CUT



Part No.	Shank Ø	Cutting Ø	Cutting Length	Total Length	Z 1	Z 3	Z 41
H600	6	4	16	51	+	+	+
H601	6	6	16	51	+	+	+
H603	6	8	20	64	+	+	+
H605	6	10	20	64	+	+	+
H606	6	10	25	70	+	+	+
H607	6	12	25	70	+	+	+
H608	6	16	25	70	+	+	+
H609	6	20	25	70	+	+	+
H610	6	25	25	70	+	+	+

CYLINDRICAL, WITH SPUR GEARING, TYPE ZYA-S - CYLINDER SHAPE WITH END CUT

Part No.	Shank Ø	Cutting Ø	Cutting Length	Total Length	Z 1	Z 3	Z 41
H5011	3	1,5	5	38	+	+	
H5021	3	2,5	11	38	+	+	
H5031	3	3	14	38	+	+	+
H5041	3	4	12	38	+	+	
H5051	3	5	12	38	+	+	
H5061	3	6	13	51	+	+	+
H5071	3	6	7	51	+	+	



CYLINDRICAL, WITH BALL NOSE HEAD, TYPE WRC - CYLINDER SHAPE, RADIUS END CYLINDRICAL SHAPE WITH RADIUS

Part No.	Shank Ø	Cutting Ø	Cutting Length	Total Length	Z 1	Z 3	Z 41
H6110	6	4	16	51	+	+	+
H611	6	6	16	51	+	+	+
H613	6	8	20	64	+	+	+
H615	6	10	20	64	+	+	+
H6150	6	10	25	70	+	+	+
H616	6	10	38	83	+	+	+
H617	6	12	25	70	+	+	+
H618	6	16	25	70	+	+	+
H619	6	20	25	70	+	+	+
H6190	6	25	25	70	+	+	+

CYLINDER SHAPE, RADIUS END, SHANK LENGTH 200 MM

Part No.	Shank Ø	Cutting Ø	Cutting Length	Shank Length	Z 1	Z 3
H611 L	6	6	16	200	+	+
H613 L	6	8	20	200	+	+
H615 L	6	10	20	200	+	+
H617 L	6	12	25	200	+	+
H618 L	6	16	25	200	+	+

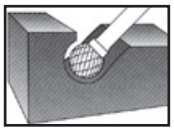
CYLINDER SHAPE, RADIUS END TYPE WRC

Part No.	Shank Ø	Cutting Ø	Cutting Length	Total Length	Z 1	Z 3	Z 41
H511	3	2,4	13	38	+	+	+
H512	3	3	13	38	+	+	+
H513	3	4	12	38	+	+	
H514	3	5	12	38	+	+	
H515	3	6	13	51	+	+	+

CYLINDER SHAPE, RADIUS END, TYPE WRC, TOTAL LENGTH 75 MM

Part No.	Shank Ø	Cutting Ø	Cutting Length	Total Length	Z 1	Z 3
H512 L	3	3	14	75	+	+

BALL SHAPE TYPE KUD



Part No.	Shank Ø	Cutting Ø	Cutting Length	Total Length	Z 1	Z 3	Z 41
H670	6	3	3	51	+	+	+
H671	6	6	6	51	+	+	+
H673	6	8	8	52	+	+	+
H675	6	10	10	52	+	+	+
H677	6	12	11	56	+	+	+
H679	6	16	14	59	+	+	+
H680	6	20	18	62	+	+	+
H6801	6	25	24	68	+	+	+

KUD, EXTRA LONG VERSION, SHANK LENGTH 200 MM

Part No.	Shank Ø	Cutting Ø	Cutting Length	Shank Length	Z 1	Z 3
H671 L	6	6	6	200	+	+
H673 L	6	8	8	200	+	+
H675 L	6	10	10	200	+	+
H677 L	6	12	11	200	+	+
H679 L	6	16	16	200	+	+

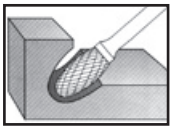
BALL SHAPE TYPE KUD

Part No.	Shank Ø	Cutting Ø	Cutting Length	Total Length	Z 1	Z 3	Z 41
H572	3	1,0	1,0	38	+	+	
H573	3	1,5	1,5	38	+	+	
H574	3	2,0	2,0	38	+	+	
H575	3	2,4	2,4	38	+	+	+
H576	3	3,2	3,2	38	+	+	+
H577	3	4,8	4,8	43	+	+	+
H578	3	6,4	6,4	44	+	+	+

TYPE KUD, TOTAL LENGTH 75 MM - BALL SHAPE, LOA 75 MM SPHERICAL SHAPE

Part No.	Shank Ø	Cutting Ø	Cutting Length	Total Length	Z 1	Z 3
H576 L	3	3,2		75	+	+

TYPE TRE - OVAL SHAPE



Part No.	Shank Ø	Cutting Ø	Cutting Length	Total Length	Z 1	Z 3	Z 41
H641	6	6	10	51	+	+	+
H642	6	8	16	60	+	+	+
H643	6	10	16	60	+	+	+
H645	6	12	22	67	+	+	+
H647	6	16	25	70	+	+	+
H649	6	20	25	70	+	+	+

OVAL SHAPE, SHANK LENGTH 200 MM TYPE TRE

Part No.	Shank Ø	Cutting Ø	Total Length	Shank Length	Z 1	Z 3
H641 L	6	6	10	200	+	+
H642 L	6	8	16	200	+	+
H643 L	6	10	16	200	+	+
H645 L	6	12	22	200	+	+

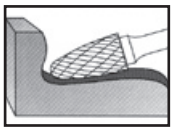
TYPE TRE - OVAL SHAPE

Part No.	Shank Ø	Cutting Ø	Cutting Length	Total-Length	Z 1	Z 3	Z 41
H545	3	3	6	38	+	+	+
H546	3	4,8	7	38	+	+	+
H547	3	6	10	48	+	+	+

TYPE TRE, TOTAL LENGTH 75 MM - OVAL SHAPE

Part No.	Shank Ø	Cutting Ø	Cutting Length	Total Length	Z 1	Z 3
H545 L	3	3	5	75	+	+

TYPE RBF - TREE SHAPE/RADIUS END



Part No.	Shank Ø	Cutting Ø	Cutting Length	Total Length	Z 1	Z 3	Z 41
H631	6	6	16	51	+	+	+
H633	6	8	20	64	+	+	+
H635	6	10	20	64	+	+	+
H636	6	12	20	64	+	+	+
H637	6	12	25	70	+	+	+
H638	6	16	25	70	+	+	+
H639	6	20	25	70	+	+	+

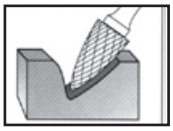
ARCHED TREE SHAPE, TYPE RBF, EXTRA LONG VERSION, SHANK LENGTH 200 MM

Part No.	Shank Ø	Cutting Ø	Cutting Length	Shank Length	Z 1	Z 3
H631 L	6	6	16	200	+	+
H633 L	6	8	20	200	+	+
H635 L	6	10	20	200	+	+
H637 L	6	12	25	200	+	+

TYPE RBF - CONE SHAPE

Part No.	Shank Ø	Cutting Ø	Cutting Length	Total Length	Z 1	Z 3	Z 41
H534	3	2	6	38	+	+	+
H535	3	3	6	38	+	+	+
H536	3	3	13	38	+	+	+
H537	3	4,8	12	38	+	+	
H538	3	6	13	51	+	+	+

TYPE SPG - TREE SHAPE/POINTED END



Part No.	Shank Ø	Cutting Ø	Cutting Length	Total Length	Z 1	Z 3	Z 41
H621	6	6	16	51	+	+	+
H622	6	8	20	64	+	+	+
H623	6	10	20	64	+	+	+
H626	6	12	20	64	+	+	+
H627	6	12	25	70	+	+	+
H628	6	16	25	70	+	+	+
H629	6	20	25	70	+	+	+

TYPE SPG - TREE SHAPE/POINTED END, EXTRA LONG, SHANK LENGTH 200 MM

Part No.	Shank Ø	Cutting Ø	Cutting Length	Shank Length	Z 1	Z 3
H621 L	6	6	16	200	+	+
H622 L	6	8	20	200	+	+
H623 L	6	10	20	200	+	+
H627 L	6	12	25	200	+	+

TYPE SPG - TREE SHAPE-POINTED END

Part No.	Shank Ø	Cutting Ø	Cutting Length	Total Length	Z 1	Z 3	Z 41
H524	3	2,4	6	38	+	+	+
H525	3	3	6	38	+	+	+
H526	3	3	8	38	+	+	+
H527	3	3	10	38	+	+	+
H5271	3	3	13	38	+	+	+
H528	3	4,8	12	38	+	+	
H529	3	6	13	51	+	+	+

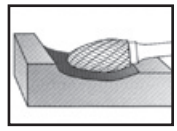
TREE SHAPE-POINTED END, TOTAL LENGTH 75 MM

Part No.	Shank Ø	Cutting Ø	Cutting Length	Total Length	Z 1	Z 3
H526 L	3	3	8	75	+	+

Part No.	Shank Ø	Cutting Ø	Cutting Length	Total Length	Z 1	Z 3
H527 L	3	3	10	75	+	+

Part No.	Shank Ø	Cutting Ø	Cutting Length	Total Length	Z 1	Z 3
H5271 L	3	3	13	75	+	+

TYPE HMB - FLAME SHAPE



Part No.	Shank Ø	Cutting Ø	Cutting Length	Total Length	Z 1	Z 3	Z 41
H681	6	6	16	51	+	+	+
H683	6	8	20	64	+	+	+
H685	6	10	25	64	+	+	
H687	6	12	32	76	+	+	+
H688	6	16	36	81	+	+	+
H689	6	20	42	86	+	+	+

FLAME SHAPE, SHANK LENGTH 200 MM

Part No.	Shank Ø	Cutting Ø	Cutting Length	Shank Length	Z 1	Z 3
H681 L	6	6	16	200	+	+
H683 L	6	8	20	200	+	+
H685 L	6	10	25	200	+	+
H687 L	6	12	31	200	+	+

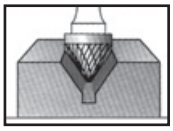
TYPE HMB - FLAME SHAPE

Part No.	Shank Ø	Cutting Ø	Cutting Length	Total Length	Z 1	Z 3	Z 41
H555	3	3	6	38	+	+	+
H556	3	4,8	10	38	+	+	
H557	3	6	13	43	+	+	+

FLAME SHAPE, TOTAL LENGTH 75 MM

Part No.	Shank Ø	Cutting Ø	Cutting Length	Total Length	Z 1	Z 3
H555 L	3	3	6	75	+	+

TYPE KSV - CONE SHAPE 60°

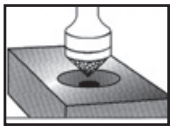


Part No.	Shank Ø	Cutting Ø	Cutting Length	Total Length	Z 1	Z 3	Z 41
H661	6	6	5	51	+	+	+
H6620	6	10	8	52	+	+	+
H6621	6	13	11	56	+	+	+
H665	6	16	14	59	+	+	+
H6650	6	19	18	62	+	+	+
H6651	6	25	24	68	+	+	+

TYPE KSV - CONE SHAPE 60°

Part No.	Shank Ø	Cutting Ø	Cutting Length	Total Length	Z 1	Z 3	Z 41
H590	3	3	2	38	+	+	+

TYPE KSR - CONE SHAPE 90°

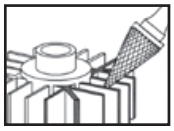


Part No.	Shank Ø	Cutting Ø	Cutting Length	Total Length	Z 1	Z 3	Z 41
H663	6	6	3	51	+	+	+
H6640	6	10	5	49	+	+	+
H6641	6	13	6	51	+	+	+
H667	6	16	8	52	+	+	+
H6670	6	19	10	54	+	+	+
H6671	6	25	13	57	+	+	+

TYPE KSR - CONE SHAPE 90°

Part No.	Shank Ø	Cutting Ø	Cutting Length	Total Length	Z 1	Z 3	Z 41
H591	3	3	2	38	+	+	+

TYPE SKM - CONE SHAPE



Part No.	Shank Ø	Cutting Ø	Cutting Length	Total Length	Z 1	Z 3	Z 41
H651	6	6	13	51	+	+	+
H6510	6	6	20	51	+	+	+
H652	6	6	25	51	+	+	+
H655	6	10	19	64	+	+	+
H657	6	12	25	70	+	+	+
H658	6	16	29	73	+	+	+

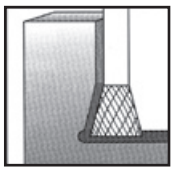
TYPE SKM - CONE SHAPE

Part No.	Shank Ø	Cutting Ø	Cutting Length	Total Length	Z 1	Z 3	Z 41
H594	3	2	8	38	+	+	+
H595	3	3	10	38	+	+	+
H596	3	3	13	38	+	+	+
H597	3	3	16	38	+	+	+
H598	3	4,8	12	38	+	+	
H599	3	6	13	51	+	+	+

TYPE SKM - CONE SHAPE TOTAL LENGTH 75MM CONICAL POINTED TIP

Part No.	Shank Ø	Cutting Ø	Cutting Length	Total Length	Z 1	Z 3
H596 L	3	3	9	75	+	+

TYPE WKN - INVERTED CONE SHAPE



Part No.	Shank Ø	Cutting Ø	Cutting Length	Total Length	Z 1	Z 3	Z 41
H6600	6	6	6	51	+	+	+
H6601	6	10	10	54	+	+	+
H6602	6	13	13	64	+	+	+
H6603	6	16	19	64	+	+	+

TYPE WKN - INVERTED CONE SHAPE

Part No.	Shank Ø	Cutting Ø	Cutting Length	Total Length	Z 1	Z 3	Z 41
H580	3	2	3	38	+	+	+
H581	3	3	3	38	+	+	+
H5811	3	3	7	38	+	+	
H582	3	4,8	4,8	38	+	+	
H583	3	6	6	44	+	+	+
H5831	3	6	8	44	+	+	

8 PIECES IN PLASTIC CASE

Consisting of 1 each rotor cutter with 6 mm shank

H 6005/3	Cylindrical, without spur gearing 10 x 20 mm
H 605/3	Cylindrical, with spur gearing 10 x 20 mm
H 615/3	Cylindrical, with rounded head, 10 x 20 mm
H 623/3	Tree shape- head, 10 x 20 mm
H 635/3	Arched - tree, 10 x 20 mm
H 6510/3	Pointed cone, 6 x 20 mm
H 675/3	Ball, 10 mm
H 695/3	Conical - Round Pin, 10 x 27 mm

Order No: H605695

Order No: H605695 MEGA

10 PIECES IN PLASTIC CASE

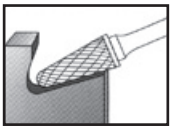
Consisting of 1 each carbide milling cutter with 3 mm shank

H 503/3	Cylindrical, without serrated, 3 x 13 mm
H 512/3	Cylindrical, with rounded head, 3 x 13 mm
H 526/3	Pointed arch, 3 x 8 mm
H 536/3	Round arch, 3 x 13 mm
H 545/3	Drops, 3 x 6 mm
H 555/3	Flames, 3 x 6 mm
H 561/3	Circular cone, round, 3 x 13 mm
H 576/3	Ball, 3 mm
H 581/3	Interior angle 10 degrees, 3 mm
H 596/3	Pointed cone, 3 x 13 mm

Order No: H503596

Order No: H503596 MEGA

TYPE KEL - 14 ° TAPER SHAPE



Part No.	Shank Ø	Cutting Ø	Cutting Length	Total Length	Z 1	Z 3	Z 41
H691	6	6	16	51	+	+	+
H693	6	8	24	67	+	+	+
H695	6	10	27	71	+	+	+
H697	6	12	30	73	+	+	+
H699	6	16	33	78	+	+	+
H6990	6	20	38	83	+	+	+

14° TAPER SHAPE, SHANK LENGTH 200 MM CONICAL NOSE END, 14 °

Part No.	Shank Ø	Cutting Ø	Cutting Length	Shank Length	Z 1	Z 3
H691 L	6	6	16	200	+	+
H693 L	6	8	24	200	+	+
H695 L	6	10	30	200	+	+
H697 L	6	12	30	200	+	+

TYPE KEL - 14° TAPER SHAPE

Part No.	Shank Ø	Cutting Ø	Cutting Length	Total Length	Z 1	Z 3	Z 41
H560	3	3	10	38	+	+	+
H561	3	3	13	38	+	+	+
H562	3	4,8	13	38	+	+	

ROUND CONE TYPE KEL, TOTAL LENGTH 75 MM,

Part No.	Shank Ø	Cutting Ø	Cutting Length	Total Length	Z 1	Z 3
H561 L	3	3	12	75	+	+

RECOMMENDED RPM

HEAD DIAMETER	Dia	Soft Material Unhardened Steels And Cast Steel	Hard Material Hardened Steels Materials With High Strength	Brass, Cast Iron, Copper, Cast Steel	Unhardened Steel
		8,000 - 30,000	12,000 - 19,000	9,500 - 23,000	18,000 - 23,000
	16	8,000 - 33,000	13,000 - 20,000	10,000 - 25,000	18,500 - 25,000
	15	8,500 - 35,000	15,000 - 22,000	10,000 - 28,000	20,000 - 27,000
	14	8,500 - 40,000	16,000 - 24,000	11,000 - 30,000	21,000 - 30,000
	13	8,700 - 42,000	18,000 - 25,000	12,000 - 33,000	23,000 - 31,000
	12	9,000 - 45,000	19,000 - 27,000	13,000 - 36,000	25,000 - 35,000
	11	10,000 - 50,000	20,000 - 30,000	15,000 - 40,000	28,000 - 39,000
	10	11,000 - 54,000	21,000 - 33,000	16,000 - 43,000	30,000 - 43,000
	9	12,000 - 58,000	24,000 - 36,000	19,000 - 47,000	35,000 - 48,000
	8	15,000 - 62,000	26,000 - 40,000	20,000 - 53,000	39,000 - 52,000
	7	18,000 - 70,000	30,000 - 47,000	24,000 - 60,000	41,000 - 57,000
	6	21,000 - 75,000	38,000 - 55,000	29,000 - 69,000	47,000 - 65,000
	5	25,000 - 80,000	45,000 - 67,000	35,000 - 78,000	51,000 - 75,000
	4	30,000 - 90,000	58,000 - 90,000	45,000 - 90,000	59,000 - 90,000
	3				

Notes:
1. Speeds recommended may be adjusted for optimum results
2. Use slower speeds for hard materials
3. Apply light pressure with constant movement
4. Speed's below optimum can cause chipping
5. Do not bury the burr into the work. Use approx 1/3 of the length
6. Too high of a speed will wear the teeth