

Burrs of HSS

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Product line marking

The product lines are illustrated by star symbols at the top of the table; please refer to page **14** and **15**.



Technical Information



Quality

LUKAS HSS burrs are manufactured from high quality and well proven HSS. Our automatic flute grinding machines and our own heat treatment plant guarantee a top quality product.

Application

Provided the correct type and speed are used, LUKAS HSS burrs will economically machine a wide variety of materials. Regarding cutting speeds, please refer to the table on page 68 or according to the table illustrating the various cuts on page 69.

A rule of thumb: Coarse cuts for soft materials – fine cuts for hard materials.

Power tool

LUKAS HSS burrs can be used on any air or electric powered machines. To achieve the optimal performance, the machines must be run at the correct speed, the collets must run true, and the bearings should be in good condition.

Shanks

Standard shank length is 40 mm. To reach inaccessible working areas, extra long shanks are available on request.

Packaging

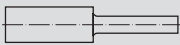












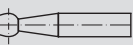

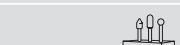
Depending on burr dimension and quantity ordered, we choose the most appropriate packing method from our environmentally-friendly unit packs (5 or 10 pieces).

Special tools

We can manufacture HSS burrs to your design and drawing and guarantee the usual high quality LUKAS standard.

A summary of available shapes



Shape	Type	Shape	Page
	Cylindrical	A	70
	Cylindrical round nose	C	71
	Spherical	D	72
	Oval	E	73
	Arch pointed nose	G	74
	Flame	H	74
	Club	K	75
	Conical round nose	L	75
	Conical pointed nose	M	76
	Inverted cone	N	76
	Edge trimming burr	W	77
	Miniature Burrs, Shank 3 mm	-	78
	Miniature Burrs, Shank 6 mm	-	80
	Burrs with internal thread	-	81
	Tools sets	-	82
	Power Tools	-	369

Three steps to your optimum burr:



- 1 Select the **material** and **machining mode** (coarse to fine) from the table and
- 2 Read off the recommended **cut** and **cutting speed**.
- 3 Determine the appropriate **speed** for your power tool in the second table.

Recommendations for using burrs of HSS

1			2		
Material	LUKAS material group (see also fold-out tab)	Strength [N/mm ²]	Machining	Cut	Recommended cutting speed v_c [m/min]
Steel, cast steel	1 Steel and cast steel	< 800	coarse	Z2	50–100
			medium	Z3	100–200
			fine	Z5	50–200
	2 Alloyed / hardened & tempered steels	800 to 1200	coarse	Z2	50–100
			medium	Z3	100–200
			fine	Z5	50–200
Non-ferrous metal 1	6 Aluminium, magnesium and copper alloys	to 450	coarse	Z1	200–300
			medium	Z2	150–300
Plastics and wood	8 Plastic / wood / rubber	20 to 400	coarse	Z1	200–300
			fine	Z2	150–300

Rotational speeds for milling tools

based on the tool diameter and cutting speed

3							
Recommended cutting speed v_c [m/min]							
		50	100	150	200	250	300
Rotational speed [min-1]							
Tool diameter [mm]	2	8.000	16.000	24.000	32.000	40.000	48.000
	3	5.000	11.000	16.000	21.000	27.000	32.000
	4	4.000	8.000	12.000	16.000	20.000	24.000
	6	3.000	5.000	8.000	11.000	13.000	16.000
	8	2.000	4.000	6.000	8.000	10.000	12.000
	10	2.000	3.000	5.000	6.000	8.000	10.000
	12	1.000	3.000	4.000	5.000	7.000	8.000
	16	1.000	2.000	3.000	4.000	5.000	6.000
	20	1.000	2.000	2.000	3.000	4.000	5.000
	22	1.000	1.000	2.000	3.000	4.000	4.000
	25	1.000	1.000	2.000	3.000	3.000	4.000
	30	1.000	1.000	2.000	2.000	3.000	3.000
	35	–	1.000	1.000	2.000	2.000	3.000

Please see page 369 to 381 for appropriate power tools.

Tip: Page 67 contains a complete overview of the shapes for your chosen milling tool.

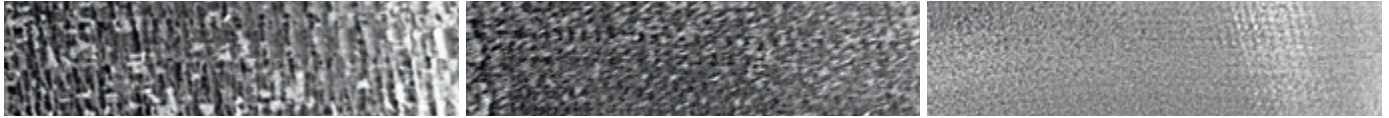
Machining







coarse

medium

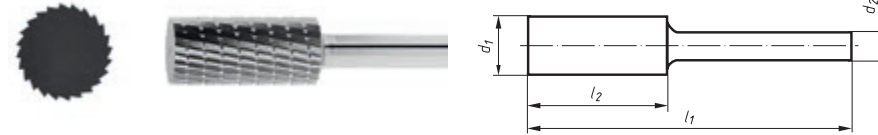
fine



Cuts

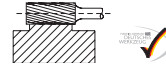
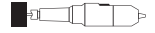
	Z 1	Coarse cut for soft materials		Z 3	Medium single cut
	Z 2	Robust single cut for high stock removal		Z 5	Very fine single cut for high-quality surfaces

Shape A, Cylindrical



Ordering example: A12000304605

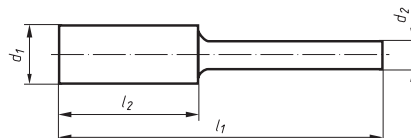
Further dimensions, cuts and shank lengths on request



PG 1

Product number	Description	Cut	d ₁ mm	l ₂ mm	l ₁ mm	d ₂ mm	recommended for Information on page 438										PG 1				
A12000304605	MFA 0304.06	Z5	3	4,5	60	6	①	②							⑥					■	10
A12000607605	MFA 0607.06	Z5	6	7	60	6	①	②							⑥					■	10
A12000616601	MFA 0616.06	Z1	6	16	56	6									⑥		⑧			■	10
A12000616602	MFA 0616.06	Z2	6	16	56	6									⑥		⑧			■	10
A12000616603	MFA 0616.06	Z3	6	16	56	6	①	②												■	10
A12000820603	MFA 0820.06	Z3	8	20	60	6	①	②												■	10
A12001013602	MFA 1013.06	Z2	10	13	53	6									⑥		⑧			■	10
A12001013603	MFA 1013.06	Z3	10	13	53	6	①	②												■	10
A12001020603	MFA 1020.06	Z3	10	20	60	6	①	②												■	10
A12001225601	MFA 1225.06	Z1	12	25	65	6									⑥		⑧			■	5
A12001225602	MFA 1225.06	Z2	12	25	65	6									⑥		⑧			■	5
A12001225603	MFA 1225.06	Z3	12	25	65	6	①	②												■	5
A12001225605	MFA 1225.06	Z5	12	25	65	6	①	②							⑥					■	5
A12001625601	MFA 1625.06	Z1	16	25	65	6									⑥		⑧			■	5
A12001625602	MFA 1625.06	Z2	16	25	65	6									⑥		⑧			■	5
A12001625603	MFA 1625.06	Z3	16	25	65	6	①	②												■	5

Shape A, Cylinder with end-cut



Ordering example: A120006166010001

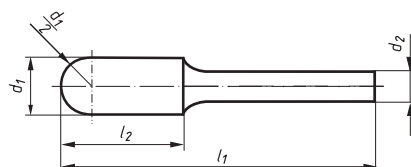
Further dimensions, cuts and shank lengths on request



PG 1

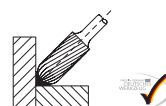
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A120006166030001	MFAS 0616.06	Z3	6	16	56	6	1	2			■	10
A120006166050001	MFAS 0616.06	Z5	6	16	56	6	1	2	6		■	10
A120008206030001	MFAS 0820.06	Z3	8	20	60	6	1	2			■	10
A120010136020001	MFAS 1013.06	Z2	10	13	53	6			6	8	■	10
A120010136030001	MFAS 1013.06	Z3	10	13	53	6	1	2			■	10
A120012256010001	MFAS 1225.06	Z1	12	25	65	6			6	8	■	5
A120012256020001	MFAS 1225.06	Z2	12	25	65	6			6	8	■	5
A120012256030001	MFAS 1225.06	Z3	12	25	65	6	1	2			■	5
A120016256010001	MFAS 1625.06	Z1	16	25	65	6			6	8	■	5
A120016256020001	MFAS 1625.06	Z2	16	25	65	6			6	8	■	5
A120016256030001	MFAS 1625.06	Z3	16	25	65	6	1	2			■	5

Shape C, Cylindrical round nose



Ordering example: A12010304605

Further dimensions, cuts and shank lengths on request



PG 1

Product number	Description	Cut	d ₁ mm	l ₂ mm	l ₁ mm	d ₂ mm	recommended for Information on page 438					
A12010304605	MFC 0304.06	Z5	3	4,5	60	6	1	2	6		■	10
A12010620601	MFC 0620.06	Z1	6	20	60	6			6	8	■	10
A12010620602	MFC 0620.06	Z2	6	20	60	6			6	8	■	10
A12010620603	MFC 0620.06	Z3	6	20	60	6	1	2			■	10
A12010620605	MFC 0620.06	Z5	6	20	60	6	1	2	6		■	10
A12010820603	MFC 0820.06	Z3	8	20	60	6	1	2			■	10
A12010850601	MFC 0850.06	Z1	8	50	90	6			6	8	■	10

Inox/Steel

Steel

Aluminium

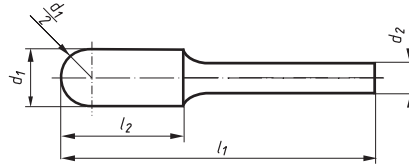
Stone

Cast material

Plastic

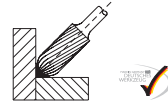
Titanium

Shape C, Round nose



Ordering example: A12010304605

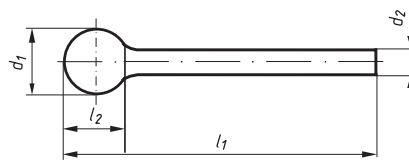
Further dimensions, cuts and shank lengths on request



PG 1

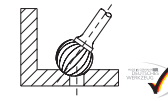
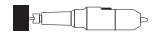
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A12010850602	MFC 0850.06	Z2	8	50	90	6				⑥	⑧	■	10
A12011020603	MFC 1020.06	Z3	10	20	60	6	①	②				■	10
A12011225601	MFC 1225.06	Z1	12	25	65	6				⑥	⑧	■	5
A12011225602	MFC 1225.06	Z2	12	25	65	6				⑥	⑧	■	5
A12011225603	MFC 1225.06	Z3	12	25	65	6	①	②				■	5
A12011225605	MFC 1225.06	Z5	12	25	65	6	①	②		⑥		■	5

Shape D, Spherical



Ordering example: A12050303603

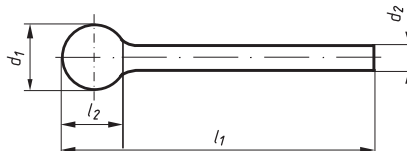
Further dimensions, cuts and shank lengths on request



PG 1

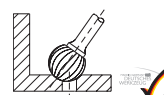
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A120503036030001	MFD 0303.06	Z3	3,5	3	6	60	①	②				■	10
A12050404603	MFD 0403.06	Z3	4	3	6	60	①	②				■	10
A120504046020001	MFD 0404.06	Z2	4,5	4	6	60				⑥	⑧	■	10
A120504046030001	MFD 0404.06	Z3	4,5	4	6	60	①	②				■	10
A12050505603	MFD 0504.06	Z3	5	4	6	60	①	②				■	10
A12050606602	MFD 0605.06	Z2	6	5	6	60				⑥	⑧	■	10
A12050606603	MFD 0605.06	Z3	6	5	6	60	①	②				■	10
A12050808601	MFD 0807.06	Z1	8	7	6	60				⑥	⑧	■	10
A12050808602	MFD 0807.06	Z2	8	7	6	60				⑥	⑧	■	10
A12050808603	MFD 0807.06	Z3	8	7	6	60	①	②				■	10
A12050808605	MFD 0807.06	Z5	8	7	6	60	①	②		⑥		■	10
A12051010602	MFD 1009.06	Z2	10	9	6	60				⑥	⑧	■	10
A12051010603	MFD 1009.06	Z3	10	9	6	60	①	②				■	10

Shape D, Spherical



Ordering example: A12050303603

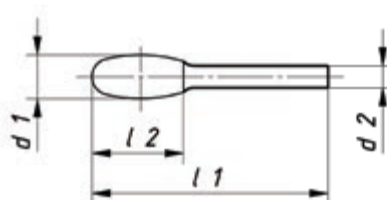
Further dimensions, cuts and shank lengths on request



PG 1

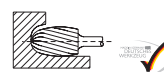
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A12051212601	MFD 1210.06	Z1	12	10	6	60			⑥ ⑧	■	5
A12051212603	MFD 1210.06	Z3	12	10	6	60	① ②			■	5
A12051614601	MFD 1614.06	Z1	16	14	6	60			⑥ ⑧	■	5
A12051614602	MFD 1614.06	Z2	16	14	6	60			⑥ ⑧	■	5
A12051614603	MFD 1614.06	Z3	16	14	6	60	① ②		⑥	■	5

Shape E, Oval



Ordering example: A12080607605

Further dimensions, cuts and shank lengths on request



PG 1

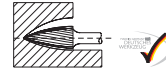
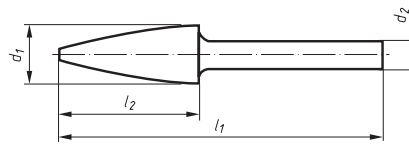
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A12081220603	MFE 1220.06	Z3	12	20	6	60	① ②			■	5
A12081625601	MFE 1625.06	Z1	16	25	6	60			⑥ ⑧	■	5
A12081625602	MFE 1625.06	Z2	16	25	6	60			⑥ ⑧	■	5
A12081625603	MFE 1625.06	Z3	16	25	6	60	① ②		⑥	■	5

Shape G, Arch pointed nose



Ordering example: A12060618601

Further dimensions, cuts and shank lengths on request



PG 1

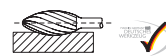
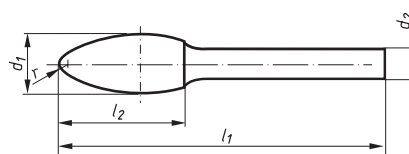
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A12060618602	MFG 0618.06	Z2	6	18	6	58			6	8	■	10
A12060618603	MFG 0618.06	Z3	6	18	6	58	1	2			■	10
A12061220601	MFG 1220.06	Z1	12	20	6	60			6	8	■	5
A12061220602	MFG 1220.06	Z2	12	20	6	60			6	8	■	5
A12061220603	MFG 1220.06	Z3	12	20	6	60	1	2			■	5
A12061225603	MFG 1225.06	Z3	12	25	6	65	1	2			■	5
A12061230601	MFG 1230.06	Z1	12	30	6	70			6	8	■	5
A12061230602	MFG 1230.06	Z2	12	30	6	70			6	8	■	5
A12061230603	MFG 1230.06	Z3	12	30	6	70	1	2			■	5
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A12061630601	MFG 1630.06	Z1	16	30	6	70			6	8	■	5
A12061630602	MFG 1630.06	Z2	16	30	6	70			6	8	■	5
A12061630603	MFG 1630.06	Z3	16	30	6	70	1	2			■	5
A12061630605	MFG 1630.06	Z5	16	30	6	70	1	2	6		■	5

Shape H, Flame



Ordering example: A12070305605

Further dimensions, cuts and shank lengths on request



PG 1

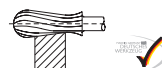
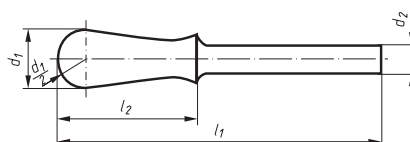
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A12070820603	MFH 0820.06	Z3	8	20	6	60	1	2			■	10
A12071230603	MFH 1230.06	Z3	12	30	6	70	1	2			■	5
A12071635603	MFH 1635.06	Z3	16	35	6	75	1	2			■	5

Shape K, Club



Ordering example: A12090620602

Further dimensions, cuts and shank lengths on request



PG 1

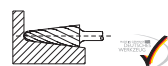
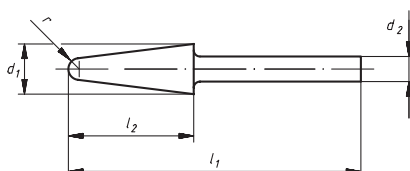
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A12090620603	MFK 0620.06	Z3	6	20	6	60	①	②				■	10
A12091230602	MFK 1230.06	Z2	12	30	6	70				⑥	⑧	■	5
A12091230603	MFK 1230.06	Z3	12	30	6	70	①	②				■	5

Shape L, Conical round nose



Ordering example: A12031020602

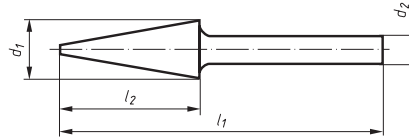
Further dimensions, cuts and shank lengths on request



PG 1

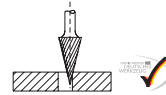
Product number	Description	Cut	d ₁ mm	l ₂ mm	d ₂ mm	l ₁ mm	recommended for Information on page 438						
A12031020602	MFL 1020.06	Z2	10	20	6	60				⑥	⑧	■	10
A12031020603	MFL 1020.06	Z3	10	20	6	60	①	②				■	10
A12031230603	MFL 1230.06	Z3	12	30	6	70	①	②				■	5
A12031630601	MFL 1630.06	Z1	16	30	6	70				⑥	⑧	■	5
A12031630602	MFL 1630.06	Z2	16	30	6	70				⑥	⑧	■	5
A12031630603	MFL 1630.06	Z3	16	30	6	70	①	②				■	5
A12031630605	MFL 1630.06	Z5	16	30	6	70	①	②		⑥		■	5

Shape M, Conical pointed nose



Ordering example: A12020304605

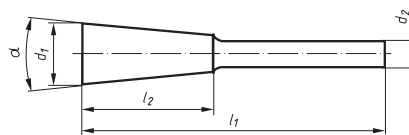
Further dimensions, cuts and shank lengths on request



PG 1

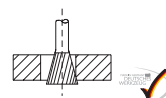
Product number	Description	Cut	d ₁ mm	l ₂ mm	d ₂ mm	l ₁ mm	recommended for Information on page 438				
A12020304605	MFM 0304.06	Z5	3	4,5	6	60	① ②		⑥	■	10
A12020607605	MFM 0607.06	Z5	6	7	6	60	① ②		⑥	■	10
A12020618601	MFM 0618.06	Z1	6	18	6	58			⑥ ⑧	■	10
A12020618602	MFM 0618.06	Z2	6	18	6	58			⑥ ⑧	■	10
A12020618603	MFM 0618.06	Z3	6	18	6	58	① ②			■	10
A12020820603	MFM 0820.06	Z3	8	20	6	60	① ②			■	10
A12021020602	MFM 1020.06	Z2	10	20	6	60			⑥ ⑧	■	10
A12021020603	MFM 1020.06	Z3	10	20	6	60	① ②			■	10
A12021225601	MFM 1225.06	Z1	12	25	6	65			⑥ ⑧	■	5
A12021225603	MFM 1225.06	Z3	12	25	6	65	① ②			■	5
A12021230601	MFM 1230.06	Z1	12	30	6	70			⑥ ⑧	■	5
A12021230602	MFM 1230.06	Z2	12	30	6	70			⑥ ⑧	■	5
A12021230603	MFM 1230.06	Z3	12	30	6	70	① ②			■	5
A12021230605	MFM 1230.06	Z5	12	30	6	70	① ②		⑥	■	5

Shape N, Inverted cone



Ordering example: A12040303605

Further dimensions, cuts and shank lengths on request



PG 1

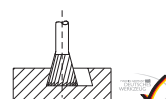
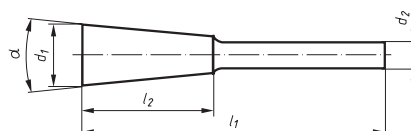
Product number	Description	Cut	d ₁ mm	l ₂ mm	d ₂ mm	l ₁ mm	recommended for Information on page 438				
A12041230603	MFN 1230.06	Z3	12	30	6	70	① ②		⑥	■	5
A12040303605	MFM 0303.06	Z5	3	3	6	60	① ②		⑥	■	10
A12040606605	MFM 0606.06	Z5	6	6	6	60	① ②		⑥	■	10
A12041213601	MFM 1213.06	Z1	12	13	6	53			⑥ ⑧	■	5
A12041213603	MFM 1213.06	Z3	12	13	6	53	① ②			■	5

Shape N, Inverted cone with end-cut



Ordering example: A120412136010001

Further dimensions, cuts and shank lengths on request



PG 1

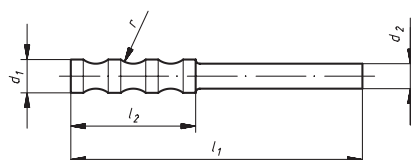
Product number	Description	Cut	d ₁ mm	l ₂ mm	d ₂ mm	l ₁ mm	recommended for				Information on page 438	PG 1			
A120412136010001	MFNS 1213.06	Z1	12	13	6	53					6	8		■	5
A120412136030001	MFNS 1213.06	Z3	12	13	6	53	1	2						■	5
A120412306030001	MFNS 1230.06	Z3	12	30	6	70	1	2						■	5

Shape W, Cylindrical multiple concave burrs



Ordering example: A12430340

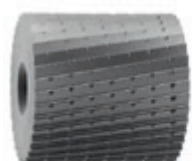
Further dimensions, cuts and shank lengths on request



PG 1

Product number	Description	Cut	d ₁ mm	l ₂ mm	d ₂ mm	l ₁ mm	recommended for				Information on page 438	PG 1			
A12430340	MFW 0620.06	16	6	20	6	60	1	2			6			■	10
A12433401	MFW 0830.06	18	8	30	6	70	1	2			6			■	10

Burrs with internal thread



Ordering example: A122022150803

Other dimensions and cuts available on request.



MFAS = with end cut

Suitable mounting arbors pages 419



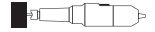
PG 1

Product number	Description	Shape	Cut	d ₁ mm	l ₂ mm	B mm	recommended for Information on page 438										
A122022150803	MFA 2215.08		Z3	22	15	M 8	①	②	③	④			⑦			■	2
A122030301002	MFA 3030.10		Z2	30	30	M 10	①	②	③	④			⑦			■	2
A1220221508030001	MFAS 2215.08		Z3	22	15	M 8	①	②	③	④			⑦			■	2
A1220303010020001	MFAS 3030.10		Z2	30	30	M 10	①	②	③	④			⑦			■	2
A122520180803	MFD 2018.08		Z3	20	18	M 8	①	②	③	④			⑦			■	2
A122525221001	MFD 2522.10		Z1	25	21	M 10							⑥		⑧	■	2
A122525221002	MFD 2522.10		Z2	25	21	M 10	①					⑤	⑥		⑧	■	2
A122530271203	MFD 3026.12		Z3	30	26	M 12	①	②	③	④			⑦			■	2
A122825351203	MFE 2535.12		Z3	25	35	M 12	①	②	③	④			⑦			■	2
A122635551201	MFG 3555.12		Z1	35	55	M 12							⑥		⑧	■	2
A122720551001	MFH 2055.10		Z1	20	55/65	M 10							⑥		⑧	■	2
A122720551002	MFH 2055.10		Z2	20	55/65	M 10							⑥		⑧	■	2
A122320551001	MFL 2055.10		Z1	20	55	M 10							⑥		⑧	■	2
A122225401003	MFM 2540.10		Z3	25	40	M10	①	②	③	④			⑦			■	2

Tool sets, cut 5, shank 3 mm



Ordering example: A1239000110



PG 1

Product number	Description	Image	Cut	Shank Ø mm	1 piece each	recommended for Information on page 438						PG 1			
A1239000110	F1		Z5	3	MF 807, MF 813, MF 841, MF 845, MF 850, MF 853, MF 864, MF 866, MF 872, MF 874	①	②			⑥				■	1
A12390003	F3		Z3	6	MFA 0616, MFA 1225, MFC 1225, MFD 0403, MFD 1210, MFE 1220, MFG 1230, MFH 1230, MFK 0620, MFM 0618	①	②			⑥				■	1
A12390004	F4		Z3/Z5	6	Z3 MFA 0616, MFA 1013, MFA 1225, MFC 1225, MFD 0807, MFD 1210, MFE 1220, MFE 1625, MFG 1220, MFG 1230, MFK 1230, MFL 1630, MFM 0618, MFM 1230, MFN 1213, MFN 1230 Z5 MFA 0304, MFA 0607, MFN 0303, MFN 0606	①	②			⑥				■	1