

Catalogo Metallo Duro

Serie

ALU2005

**FRESE IN METALLO DURO
MICROGRANA
PER LAVORAZIONI DI
ALLUMINIO,
LEGHE LEGGERE, RAME,
E MATERIE PLASTICHE**



**MICROGRAIN CARBIDE
END MILLS FOR
ALUMINIUM, LIGHT
ALLOYS, COPPER AND
PLASTIC MATERIAL**

Rime
UTENSILERIA


INDEX SERIE ALU2005


FRESE IN METALLO DURO MICROGRANA PER LAVORAZIONI DI ALLUMINIO, LEGHE LEGGERE, RAME, E MATERIE PLASTICHE
 MICROGRAIN CARBIDE END MILLS FOR ALUMINIUM, LIGHT ALLOYS, COPPER AND PLASTIC MATERIAL

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RIVESTIMENTI/COATING

 **SILVER** per lavorazione alluminio, leghe leggere con Si<4%, rame, bronzo, ottone
NEW **SILVER** only for machining aluminium, light alloys Si<4%, Copper, Bronze, Brass

 **ALU PRODIGES** per lavorazione alluminio, leghe leggere con Si>6%
ALU PRODIGES for machining aluminium, light alloys Si>6%

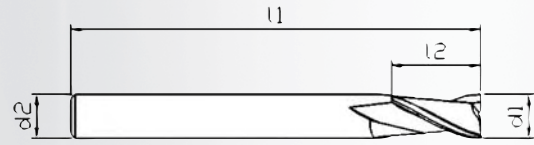
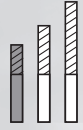
FRESE A DUE DENTI • **SERIE NORMALE**

HM9

 Per alluminio, leghe leggere - Metallo duro integrale micrograna - Codolo cilindrico
 TWO FLUTES END MILLS - For aluminium, light alloys - Solid carbide - Straight shank
 FRAISES À DEUX DENTS - Pour aluminium, alliages légers - Carbure monobloc - Queue cylindrique
 SCHAFTFRÄSER, ZWEI SCHNEIDEN - Für Aluminium, Leichtlegierungen - Vollhartmetall - Zylinderschaft
 FRESAS HELICOIDALES DOS LABIOS - Para aluminio y ligas ligeras - Metal duro - Mango cilíndrico
 FRESAS HELICOIDAIS DE DUAS NAVALHAS - Para alumínio y ligas ligeras - Metal duro - Encabadouro cilíndrico

ALU2005

NORM.



Z2



CODE	d1 mm h10	l2 mm	l1 mm	d2 mm h6	Z	K €	ALU PRODIGE €	SILVER €
HM9/01	2	10	38	2	2	13,82	21,96	23,80
HM9/02	3	12	38	3	2	15,00	23,03	25,00
HM9/03	4	12	40	4	2	18,43	26,46	30,50
HM9/04	5	12	50	5	2	21,86	29,99	36,85
HM9/05	6	18	57	6	2	27,32	38,03	42,30
HM9/06	7	18	60	7	2	32,25	44,45	51,30
HM9/07	8	18	63	8	2	36,85	51,21	55,85
HM9/08	9	22	63	9	2	52,39	69,63	74,90
HM9/09	10	22	73	10	2	60,42	77,66	82,90
HM9/10	12	25	83	12	2	74,78	94,06	101,00
HM9/11	14	25	83	14	2	103,59	129,08	138,50
HM9/12	16	32	92	16	2	134,65	163,36	173,50
HM9/13	18	32	92	18	2	179,54	214,24	222,00
HM9/14	20	36	100	20	2	204,28	247,45	274,00

Tolleranza effettiva sul diametro: +0 -0,03 - *Real tolerance on diameter: +0 -0,03*
 Parametri a pagg. 111-112 - *Cutting data pag. 111-112*

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 Ricoperte ALU PRODIGE e SILVER a richiesta
ALU PRODIGE and SILVER coating only upon requirements

FRESE A DUE DENTI • SERIE NORMALE

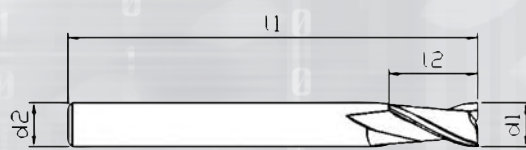
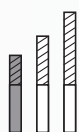
ALU2005

HM9SP


 Per alluminio - Metallo duro integrale micrograna - Codolo cilindrico
 TWO FLUTES END MILLS - For aluminium - Solid carbide - Straight shank
 FRAISES A DEUX DENTS - Pour aluminium - Carbure monobloc - Queue cylindrique
 SCHAFTFRÄSER, ZWEI SCHNEIDEN - Für aluminium - Vollhartmetall - Zylinderschaft
 FRESAS HELICOIDALES DOS LABIOS - Para aluminio - Metal duro - Mango cilíndrico
 FRESAS HELICOIDAIS DE DUAS NAVALHAS - Para alumínio - Metal duro - Encabadouro cilíndrico



Z2



NORM.



INDEX

CODE	d1 mm h10	l2 mm	l1 mm	d2 mm h6	Z	K €	ALU PRODIGE €	SILVER €
HM9SP/03	3	10	58	6	2	24,22	34,93	39,20
HM9SP/04	4	12	58	6	2	24,22	34,93	39,20
HM9SP/05	5	15	58	6	2	24,22	34,93	39,20
HM9SP/06	6	18	58	6	2	28,18	38,89	43,20
HM9SP/07	7	22	60	7	2	37,00	51,50	56,00
HM9SP/08	8	24	64	8	2	40,28	54,63	59,30
HM9SP/09	9	26	63	9	2	58,00	75,50	80,50
HM9SP/10	10	28	72	10	2	66,21	83,35	88,70
HM9SP/11	11	30	72	11	2	77,00	97,00	103,00
HM9SP/12	12	35	83	12	2	86,34	105,63	112,40
HM9SP/14	14	35	83	14	2	117,95	143,54	153,00
HM9SP/16	16	42	93	16	2	152,44	181,03	191,50
HM9SP/18	18	48	100	18	2	198,50	233,20	241,00
HM9SP/20	20	48	104	20	2	227,31	270,48	297,50

Tolleranza effettiva sul diametro: +0 -0,03 - Real tolerance on diameter: +0 -0,03
 Parametri a pagg. 111-112 - Cutting data pag. 111-112




esecuzione speciale per asportazioni gravose - fit to heavy roughing


 Ricoperte ALU PRODIGE e SILVER a richiesta
 ALU PRODIGE and SILVER coating only upon requirements

FRESE A DUE DENTI • SERIE LUNGA

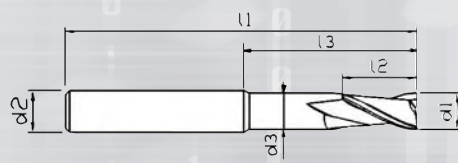
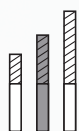
ALU2005

HM9SPL


 Per alluminio - Metallo duro integrale micrograna - Codolo cilindrico
 TWO FLUTES END MILLS - For aluminium - Solid carbide - Straight shank
 FRAISES A DEUX DENTS - Pour aluminium - Carbure monobloc - Queue cylindrique
 SCHAFTFRÄSER, ZWEI SCHNEIDEN - Für aluminium - Vollhartmetall - Zylinderschaft
 FRESAS HELICOIDALES DOS LABIOS - Para aluminio - Metal duro - Mango cilíndrico
 FRESAS HELICOIDAIS DE DUAS NAVALHAS - Para alumínio - Metal duro - Encabadouro cilíndrico



Z2



NORM.



INDEX

CODE	d1 mm h10	l2 mm	l1 mm	l3 mm	d3 mm	d2 mm h6	Z	K €	ALU PRODIGE €	SILVER €
HM9SPL/03	3	5	65	25	2,9	6	2	34,00	46,50	49,00
HM9SPL/04	4	6	65	25	3,9	6	2	34,00	46,50	49,00
HM9SPL/05	5	7	65	30	4,8	6	2	34,00	46,50	49,00
HM9SPL/06	6	8	78	35	5,8	6	2	36,00	49,00	51,00
HM9SPL/08	8	11	78	40	7,8	8	2	49,50	64,50	68,50
HM9SPL/10	10	13	100	45	9,6	10	2	75,00	95,00	99,00
HM9SPL/12	12	15	100	50	11,5	12	2	98,00	125,00	128,00
HM9SPL/14	14	17	115	55	13	14	2	133,00	162,00	168,00
HM9SPL/16	16	20	125	60	15	16	2	166,00	205,00	210,00
HM9SPL/18	18	22	125	65	17	18	2	216,00	256,00	263,00
HM9SPL/20	20	25	125	65	19	20	2	245,00	292,00	315,00

Tolleranza effettiva sul diametro: +0 -0,03 - Real tolerance on diameter: +0 -0,03
 Parametri a pagg. 111-112 - Cutting data pag. 111-112



esecuzione speciale per asportazioni gravose - fit to heavy roughing


 Ricoperte ALU PRODIGE e SILVER a richiesta
 ALU PRODIGE and SILVER coating only upon requirements

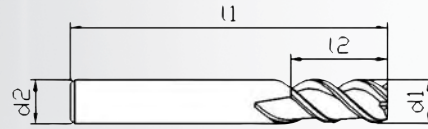
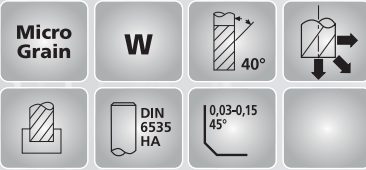
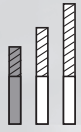
FRESE A TRE DENTI • **SERIE NORMALE**

HM90

Per alluminio, leghe leggere - Divisione irregolare - Metallo duro integrale micrograna - Codolo cilindrico
 THREE FLUTES END MILLS - For aluminium, light alloys - Irregular division - Solid carbide - Straight shank
 FRAISES À TROIS DENTS - Pour aluminium, alliages légers - Division irrégulière - Carbure monobloc - Queue cylindrique
 SCHAFTFRÄSER, DREI SCHNEIDEN - Für aluminium, leichtlegierungen - Unregelmäßige Teilung - Vollhartmetall - Zylinderschaft
 FRESAS TRES LABIOS HELICOIDALES - Para aluminio y ligas ligeras - Division irregular - Metal duro - Mango cilíndrico
 FRESAS DE TRES NAVALHAS HELICOIDAIS - Para alumínio y ligas ligeras - Divisão irregular - Metal duro - Encabadouro cilíndrico

ALU2005

NORM.



Z3



CODE	d1 mm h10	l2 mm	l1 mm	d2 mm h6	Z	K €	ALU PRODIGE €	SILVER €
HM90/03	3	10	58	6	3	24,50	35,20	39,50
HM90/04	4	12	58	6	3	24,50	35,20	39,50
HM90/05	5	15	58	6	3	24,50	35,20	39,50
HM90/06	6	18	58	6	3	28,50	39,20	43,50
HM90/08	8	24	64	8	3	41,00	55,30	60,00
HM90/10	10	28	72	10	3	67,00	84,10	89,50
HM90/12	12	32	83	12	3	87,00	106,30	113,00
HM90/14	14	34	83	14	3	119,00	144,50	154,00
HM90/16	16	38	93	16	3	153,00	181,50	192,00
HM90/18	18	42	100	18	3	199,00	233,50	241,00
HM90/20	20	45	104	20	3	228,00	272,00	298,00

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Parametri a pagg. 111-112 - *Cutting data pag. 111-112*




Ricoperte ALU PRODIGE e SILVER a richiesta
 ALU PRODIGE and SILVER coating only upon requirements

FRESE TORICHE PER LEGHE LEGGERE • SERIE NORMALE

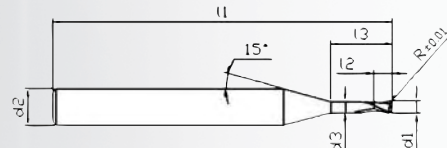
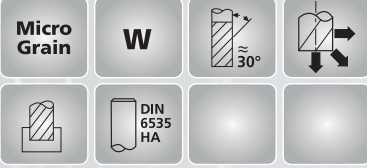
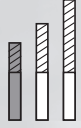
ALU2005

HM91


 Per alluminio, rame, materie plastiche - Metallo duro integrale micrograna - Codolo cilindrico
 TORIC END MILLS - For aluminium, copper and plastic material - Solid carbide - Straight shank
 FRAISES TORIQUES - Pour aluminium, cuivre, matériaux plastique - Carbure monobloc - Queue cylindrique
 TORUSFRÄSER - Für Aluminium, Kupfer und plastikmaterial - Vollhartmetall - Zylinderschaft
 FRESAS TORICAS PARA LIGAS LIGERAS - Aluminio, cobre, materias plásticas - Metal duro - Mango cilíndrico
 FRESAS TORICAS PARA LIGAS LIGERAS - Aluminio, cobre, materias plásticas - Metal duro - Encabadouro cilíndrico



Z2



NORM.



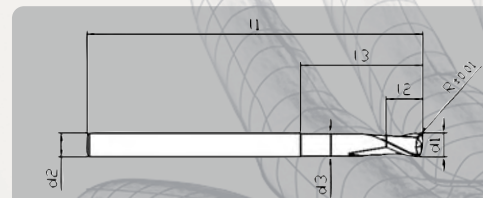
INDEX

CODE	d1 mm h7	R mm	d2 mm h6	d3 mm	l1 mm	l2 mm	l3 mm	Z	K €	ALU PRODIGE €	SILVER €
HM91/01	2	0,1	6	1,9	55	3	10	2	39,10	49,81	54,00
HM91/02	2	0,5	6	1,9	55	3	10	2	39,10	49,81	54,00
HM91/03	3	0,1	6	2,9	55	4	15	2	39,63	50,35	54,60
HM91/04	3	0,5	6	2,9	55	4	15	2	39,63	50,35	54,60
HM91/05	4	0,1	6	3,9	55	5	15	2	39,63	50,35	54,60
HM91/06	4	0,5	6	3,9	55	5	15	2	39,63	50,35	54,60
HM91/07	5	0,1	6	4,8	55	7	20	2	39,10	49,81	54,10
HM91/08	5	0,5	6	4,8	55	7	20	2	39,10	49,81	54,10
HM91/09	6	0,1	6	5,8	55	8	22	2	36,96	47,67	51,95
HM91/10	6	0,5	6	5,8	55	8	22	2	36,96	47,67	51,95
HM91/11	6	1	6	5,8	55	8	22	2	36,96	47,67	51,95
HM91/12	8	0,1	8	7,8	64	10	25	2	50,35	65,34	69,35
HM91/13	8	0,5	8	7,8	64	10	25	2	50,35	65,34	69,35
HM91/14	8	1	8	7,8	64	10	25	2	50,35	65,34	69,35
HM91/15	10	0,1	10	9,6	72	12	30	2	69,09	86,77	91,60
HM91/16	10	0,5	10	9,6	72	12	30	2	69,09	86,77	91,60
HM91/17	10	1	10	9,6	72	12	30	2	69,09	86,77	91,60
HM91/18	12	0,15	12	11,5	84	14	35	2	102,84	122,12	128,90
HM91/19	12	1	12	11,5	84	14	35	2	102,84	122,12	128,90
HM91/20	12	2	12	11,5	84	14	35	2	102,84	122,12	128,90
HM91/21	16	0,15	16	15	93	18	40	2	166,04	198,17	206,00
HM91/22	16	1,5	16	15	93	18	40	2	166,04	198,17	206,00
HM91/23	16	2	16	15	93	18	40	2	166,04	198,17	206,00

Parametri a pagg. 111-112 - Cutting data pag. 111-112



Ricoperte SILVER a richiesta
 SILVER coating only upon requirements




da ø6 a ø16 - from ø6 to ø16

FRESE TORICHE PER LEGHE LEGGERE • **SERIE LUNGA**

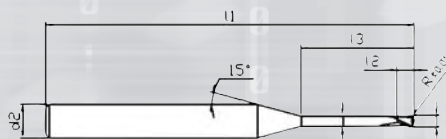
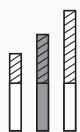
ALU2005

HM92


 Per alluminio, rame, materie plastiche - Metallo duro integrale micrograna - Codolo cilindrico
 TORIC END MILLS - For aluminium, copper and plastic material - Solid carbide - Straight shank
 FRAISES TORIQUES - Pour aluminium, cuivre, matériaux plastique - Carbure monobloc - Queue cylindrique
 TORUSFRÄSER - Für Aluminium, Kupfer und plastikmaterial - Vollhartmetall - Zylinderschaft
 FRESAS TORICAS PARA LIGAS LIGERAS - Aluminio, cobre, materias plásticas - Metal duro - Mango cilíndrico
 FRESAS TORICAS PARA LIGAS LIGERAS - Aluminio - Cobre, materias plásticas - Metal duro - Encabadoiro cilíndrico

ALU2005

NORM.



Z2




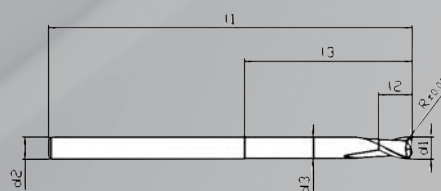
INDEX

CODE	d1 mm h7	R mm	d2 mm h6	d3 mm	l1 mm	l2 mm	l3 mm	Z	K €	ALU PRODIGE €	SILVER €
HM92/01	2	0,1	6	1,9	65	3	20	2	48,20	60,52	63,20
HM92/02	2	0,5	6	1,9	65	3	20	2	48,20	60,52	63,20
HM92/03	3	0,1	6	2,9	65	4	25	2	48,20	60,52	63,20
HM92/04	3	0,5	6	2,9	65	4	25	2	48,20	60,52	63,20
HM92/05	4	0,1	6	3,9	65	5	25	2	48,20	60,52	63,20
HM92/06	4	0,5	6	3,9	65	5	25	2	48,20	60,52	63,20
HM92/07	5	0,1	6	4,8	65	7	30	2	48,20	60,52	63,20
HM92/08	5	0,5	6	4,8	65	7	30	2	48,20	60,52	63,20
HM92/09	6	0,1	6	5,8	78	8	35	2	46,60	59,45	61,60
HM92/10	6	0,5	6	5,8	78	8	35	2	46,60	59,45	61,60
HM92/11	6	1	6	5,8	78	8	35	2	46,60	59,45	61,60
HM92/12	8	0,1	8	7,8	78	10	35	2	57,84	72,84	76,80
HM92/13	8	0,5	8	7,8	78	10	35	2	57,84	72,84	76,80
HM92/14	8	1	8	7,8	78	10	35	2	57,84	72,84	76,80
HM92/15	10	0,1	10	9,6	100	12	45	2	85,70	105,51	109,70
HM92/16	10	0,5	10	9,6	100	12	45	2	85,70	105,51	109,70
HM92/17	10	1	10	9,6	100	12	45	2	85,70	105,51	109,70
HM92/18	12	0,15	12	11,5	120	14	55	2	126,40	153,18	156,50
HM92/19	12	1	12	11,5	120	14	55	2	126,40	153,18	156,50
HM92/20	12	2	12	11,5	120	14	55	2	126,40	153,18	156,50
HM92/21	16	0,15	16	15	125	18	60	2	187,46	226,02	232,00
HM92/22	16	1,5	16	15	125	18	60	2	187,46	226,02	232,00
HM92/23	16	2	16	15	125	18	60	2	187,46	226,02	232,00

Parametri a pagg. 111-112 - *Cutting data pag. 111-112*




 Ricoperte SILVER a richiesta
 SILVER coating only upon requirements



da ø6 a ø16 - from ø6 to ø16

FRESE A TESTA SEMISFERICA PER LEGHE LEGGERE • SERIE NORMALE

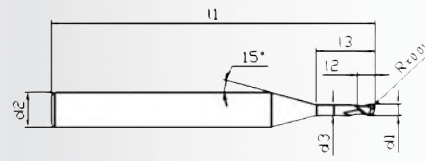
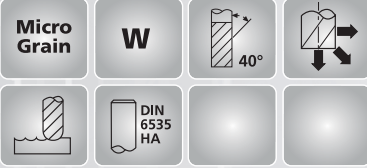
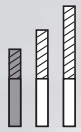
ALU2005

HM94

Per alluminio, rame, materie plastiche - Metallo duro integrale micrograna - Codolo cilindrico
 BALL NOSED END MILLS - For aluminium, copper and plastic material - Solid carbide - Straight shank
 FRAISES À BOUT HÉMISPHERIQUE - Pour aluminium, cuivre, matériaux plastique - Carbure monobloc - Queue cylindrique
 RADIUSKOPIERFRÄSER - Für Aluminium, Kupfer und plastikmaterial - Vollhartmetall - Zylinderschaft
 FRESAS CABEZA SEMIESFÉRICA - Para ligas ligeras - Para aluminio, cobre, materias plásticas - Metal duro - Mango cilíndrico
 FRESAS BOLEADAS PARA LIGAS LIGERAS - Para aluminio, cobre, materias plásticas - Metal duro - Enca badouro cilíndrico



Z2



NORM.



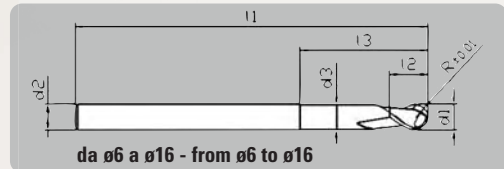
INDEX

CODE	d1 mm h7	R mm	d2 mm h6	d3 mm	l1 mm	l2 mm	l3 mm	Z	K €	ALU PRODIGE €	SILVER €
HM94/02	2	1	6	1,9	55	3	10	2	39,63	50,35	54,60
HM94/03	3	1,5	6	2,9	55	4	15	2	39,63	50,35	54,60
HM94/04	4	2	6	3,9	55	5	15	2	39,63	50,35	54,60
HM94/05	5	2,5	6	4,8	55	7	20	2	39,10	49,81	54,10
HM94/06	6	3	6	5,8	55	8	30	2	36,96	47,67	51,95
HM94/08	8	4	8	7,8	64	10	25	2	50,35	65,34	69,35
HM94/10	10	5	10	9,6	72	12	30	2	69,09	86,77	91,60
HM94/12	12	6	12	11,5	84	14	35	2	102,84	122,12	128,85

Parametri a pagg. 111-112 - Cutting data pag. 111-112



Ricoperte SILVER a richiesta
 SILVER coating only upon requirements



FRESE A TESTA SEMISFERICA PER LEGHE LEGGERE • SERIE LUNGA

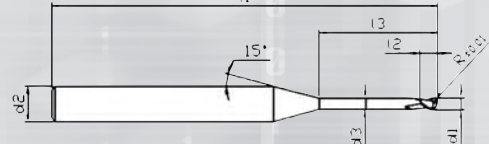
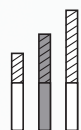
ALU2005

HM95

Per alluminio, rame, materie plastiche - Metallo duro integrale micrograna - Codolo cilindrico
 BALL NOSED END MILLS - For aluminium, copper and plastic material - Solid carbide - Straight shank
 FRAISES À BOUT HÉMISPHERIQUE - Pour aluminium, cuivre, matériaux plastique - Carbure monobloc - Queue cylindrique
 RADIUSKOPIERFRÄSER - Für Aluminium, Kupfer und plastikmaterial - Vollhartmetall - Zylinderschaft
 FRESAS CABEZA SEMIESFÉRICA - Para ligas ligeras - Para aluminio, cobre, materias plásticas - Metal duro - Mango cilíndrico
 FRESAS BOLEADA PARA LIGAS LIGERAS - Para aluminio, cobre, materias plásticas - Metal duro - Encabadoiro cilíndrico



Z2



NORM.



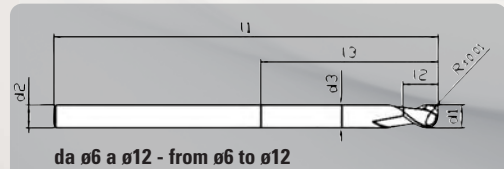
INDEX

CODE	d1 mm h7	R mm	d2 mm h6	d3 mm	l1 mm	l2 mm	l3 mm	Z	K €	ALU PRODIGE €	SILVER €
HM95/02	2	1	6	1,9	65	3	20	2	48,20	60,52	63,20
HM95/03	3	1,5	6	2,9	65	4	25	2	48,20	60,52	63,20
HM95/04	4	2	6	3,9	65	5	25	2	48,20	60,52	63,20
HM95/05	5	2,5	6	4,8	65	7	30	2	48,20	60,52	63,20
HM95/06	6	3	6	5,8	78	8	35	2	46,60	59,45	62,00
HM95/08	8	4	8	7,8	78	10	35	2	57,84	72,84	76,85
HM95/10	10	5	10	9,6	100	12	45	2	85,70	105,51	109,70
HM95/12	12	6	12	11,5	120	14	55	2	126,40	153,18	156,50

Parametri a pagg. 111-112 - Cutting data pag. 111-112



Ricoperte SILVER a richiesta
 SILVER coating only upon requirements



FRESE A SGROSSARE PER LEGHE LEGGERE • **SERIE LUNGA**

HM96

Metallo duro integrale micrograna - Codolo cilindrico
 ROUGHING END MILLS - For aluminium - Solid carbide - Straight shank
 FRAISES ÉBAUCHE - Pour aluminium - Carbure monobloc - Queue cylindrique
 SCHRUPPFÄSER - Für aluminium - Vollhartmetall - Zylinderschaft
 FRESAS PARA DESBASTE - Para ligas ligeras - Metal duro - Mango cilíndrico
 FRESAS PARA DESBASTE - Para ligas ligeras - Metal duro - Encabadouro cilíndrico

ALU2005

NORM.

Micro Grain W 40°

DIN 6535 HA NRAL

Z3

CODE	d1 mm h7	R mm	d2 mm h6	d3 mm	l1 mm	l2 mm	l3 mm	Z	K €	ALU PRODIGE €	SILVER €
HM96/06	6	0,5	6	5,8	65	9	20	3	59,99	72,31	75,00
HM96/08	8	0,5	8	7,8	78	11	25	3	85,16	100,16	103,20
HM96/10	10	1	10	9,6	78	13	30	3	109,26	129,08	133,25
HM96/12	12	1	12	11,5	100	15	35	3	136,04	157,47	165,00
HM96/16	16	1,5	16	15	100	20	38	3	206,74	238,88	245,00
HM96/20	20	1,5	20	19	104	25	45	3	297,79	340,64	368,00

Parametri a pagg. 111-112 - *Cutting data pag. 111-112*

* Raggio completo prima del rompitrucciolo
Totally radius before the chipbreakers begin



FRESE TORICHE PER LEGHE LEGGERE • **SERIE LUNGA**

HM97

Per alluminio, rame, materie plastiche - Metallo duro integrale micrograna - Codolo cilindrico ridotto
 TORIC END MILLS - For aluminium, copper and plastic - Solid carbide - Reduced straight shank
 FRAISES TORIQUES - Pour aluminium, cuivre, matériaux plastique - Carbure monobloc - Queue cylindrique réduit
 TORUSFRÄSER - Für Aluminium, Kupfer und plastikmaterial - Vollhartmetall - Reduzion von Zylinderschaft
 FRESAS TORICAS - Para ligas ligeras, aluminio, cobre, materias plásticas - Metal duro - Mango reducido
 FRESAS TORICAS - Para ligas ligeras, aluminio, cobre - Materias plasticos - Metal duro - Encabadouro reducido

ALU2005

NORM.

Micro Grain W 40°

DIN 6535 HA

Z3

CODE	d1 mm h7	R mm	d2 = d3 mm h6	l1 mm	l2 mm	Z	K €	ALU PRODIGE €	SILVER €
HM97/06	6	0,1	5,5	78	9	3	64,27	77,13	79,30
HM97/08	8	0,1	7,5	78	11	3	76,06	91,05	95,10
HM97/10	10	0,1	9	100	13	3	103,91	123,72	127,95
HM97/12	12	0,15	11	100	15	3	141,40	168,18	171,40
HM97/16	16	0,15	15	120	20	3	219,60	258,16	263,60
HM97/20	20	0,15	18	120	25	3	332,07	384,56	402,00







Parametri a pagg. 111-112 - *Cutting data pag. 111-112*

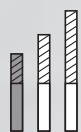


FRESE ELICOIDALI MONOTAGLIANTE • SERIE NORMALE

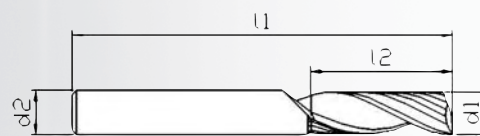
ALU2005

HM99

 Per alluminio, leghe leggere, materie plastiche - Metallo duro integrale micrograna - Codolo cilindrico
 ONE FLUTE END MILLS - For aluminium, light alloys, plastic material - Solid carbide - Straight shank
 FRAISES À UN DENT - Pour aluminium, alliages légers, matériaux plastique - Carbure monobloc - Queue cylindrique
 SCHAFTFRÄSER, EINSCHNEIDE - Für aluminium, leichtlegierungen und plastikmaterial - Vollhartmetall - Zylinderschaft
 FRESAS HELICOIDALES MONO LABIO - Para ligas ligeras, aluminio, cobre, materias plásticas - Metal duro - Mango cilíndrico
 FRESAS HELICOIDAIS MONO LAMINA - Para ligas ligeras, alumínio, cobre, matérias plásticas - Metal duro - Encabadouro cilíndrico



W



NORM.



INDEX

CODE	d1 mm h10	l2 mm	l1 mm	d2 mm h6	Z	K €	ALU PRODIGE €
HM99/02	2	10	38	2	1	14,14	21,96
HM99/03	3	12	39	3	1	15,00	23,03
HM99/04	4	15	40	4	1	18,21	26,24
HM99/05	5	16	50	5	1	21,96	29,99
HM99/06	6	20	57	6	1	26,24	36,96
HM99/08	8	22	63	8	1	37,49	51,95
HM99/10	10	25	73	10	1	61,06	78,20
HM99/12	12	30	83	12	1	77,13	96,41
HM99/16	16	35	92	16	1	139,26	168,18

Parametri a pagg. 111-112 - Cutting data pag. 111-112









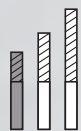
 Ricoperte ALU PRODIGE a richiesta
 ALU PRODIGE coating only upon requirements

FRESE MONOTAGLIANTE ELICA SX • SERIE NORMALE

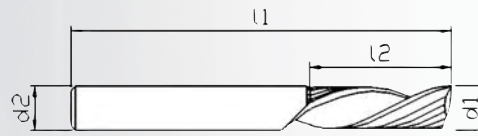
ALU2005

HM99SX

 Per alluminio, leghe leggere, materie plastiche - Metallo duro integrale micrograna - Codolo cilindrico
 ONE FLUTE END MILLS LEFT HELIX - For aluminium, light alloys, plastic material - Solid carbide - Straight shank
 FRAISES À UN DENT HELICE A GAUCHE - Pour aluminium, alliages légers, matériaux plastique - Carbure monobloc - Queue cylindrique
 SCHAFTFRÄSER, EINSCHNEIDE LINKSDRALL - Für aluminium, leichtlegierungen und plastikmaterial - Vollhartmetall - Zylinderschaft
 FRESAS HELICOIDALES MONO LABIO - Para ligas ligeras, aluminio, cobre, materias plásticas - Metal duro - Mango cilíndrico
 FRESAS HELICOIDAIS MONO LAMINA - Para ligas ligeras, alumínio, cobre, matérias plásticas - Metal duro - Encabadouro cilíndrico



W



NORM.



INDEX

CODE	d1 mm h10	l2 mm	l1 mm	d2 mm h6	Z	K €	ALU PRODIGE €
HM99SX/02	2	10	38	2	1	15,50	23,30
HM99SX/03	3	12	39	3	1	16,50	24,50
HM99SX/04	4	15	40	4	1	20,00	28,00
HM99SX/05	5	16	50	5	1	24,20	32,20
HM99SX/06	6	20	57	6	1	28,90	39,60
HM99SX/08	8	22	63	8	1	41,50	56,00
HM99SX/10	10	25	73	10	1	67,50	84,60
HM99SX/12	12	30	83	12	1	85,00	104,50
HM99SX/16	16	35	92	16	1	158,00	187,00

Parametri a pagg. 111-112 - Cutting data pag. 111-112



 Ricoperte ALU PRODIGE a richiesta
 ALU PRODIGE coating only upon requirements

SERIE ALU 2005 • PARAMETRI DI LAVORAZIONE

- **cutting data**
- **conditions de coupe**
- **schnittdaten**

I dati di taglio RIME sono stati studiati in base all'esperienza trentennale della RIME nella produzione di frese.

I valori espressi sulle tabelle alle pagine seguenti devono essere considerati come indicativi e usati come aiuto per ottenere i migliori risultati nell'impiego delle frese RIME.

Dalle tabelle si può rilevare la combinazione più adatta per ricavare velocità di taglio, numero dei giri e di avanzamento con corrispondente profondità e larghezza di taglio relativamente al diametro delle frese da impiegare ed al tipo di materiale da lavorare.

The data on RIME cuttings have been studied on the basis of RIME thirty-years-old experience in manufacturing end mills and cutters.

The data shown in the tables hereafter shall be only indicative and used as a support to get the best performances by RIME end mills.

Therefore, the tables can be helpful in finding the most suitable combination of cutting speed, number of revolutions per minute and feed progress with relevant cut depth and width with regard to diameter of the end mills to be used and the types of material to be machined.

Rime
UTENSILERIA

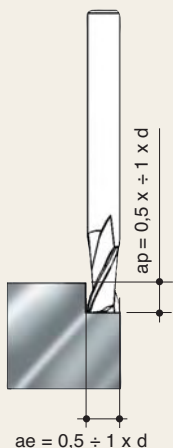
SERIE ALU2005 • parametri di lavorazione • cutting data • conditions de coupe • schnittdaten

DATI ORIENTATIVI VELOCITA' DI TAGLIO INDICATIVE DATA ON CUTTING SPEED

FRESATURA DI ALLUMINIO, LEGHE LEGGERE, RAME E MATERIE PLASTICHE ALUMINIUM, LIGHT ALLOYS, COPPER AND PLASTIC MATERIAL MILLING

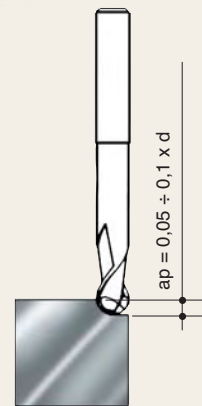
	NEUTRO	ALU PRODIGE SILVER	
CLASSIFICAZIONE MATERIALI	Vt mt/1'	Vt mt/1'	MATERIALS CLASSIFICATION
• Alluminio puro	250÷300	350÷500	• Unalloyed aluminium
• Leghe alluminio non bonificato • Alluminio malleabile <6% Si • Materiali termoplastici	300÷500	800÷1000	• Non-hardened aluminium alloys • Aluminium casting <6% Si • Thermoplastics
• Leghe d'alluminio bonificate • Getti d'alluminio >6% Si • Duroplastici	200÷250	300÷600	• Hardened aluminium alloys • Aluminium casting >6% Si • Duroplast
	NEUTRO	SILVER COATING	
• Rame non legato • CuZn (ottone)	300÷400	700÷1000	• Copper unalloyed • CuZn (brass)
• Rame malleabile • CuSn (bronzo)	150÷250	300÷400	• Copper wrought • CuSn (bronze)

AVANZAMENTO PER DENTE PER ARTICOLI HM9SP - HM9SPL - HM96 SUGGESTED FEED PER TOOTH FOR HM9SP - HM9SPL - HM96

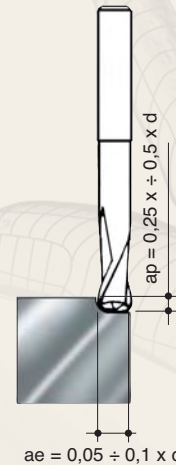


d	fz (mm x dente/tooth)
3	0,040 ÷ 0,055
4	0,050 ÷ 0,065
6	0,070 ÷ 0,090
8	0,080 ÷ 0,110
10	0,095 ÷ 0,150
12	0,100 ÷ 0,180
16	0,120 ÷ 0,200
20	0,130 ÷ 0,220

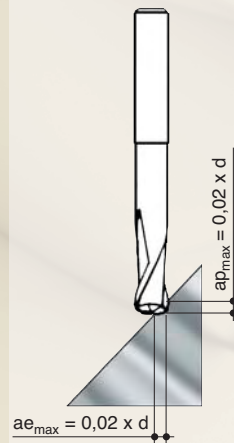
DATI ORIENTATIVI VELOCITÀ DI AVANZAMENTO INDICATIVE DATA ON FEED



d	fz (mm x dente/tooth)
2	0,03 ÷ 0,020
3	0,04 ÷ 0,055
4	0,05 ÷ 0,065
5	0,06 ÷ 0,075
6	0,07 ÷ 0,090
8	0,08 ÷ 0,110
10	0,09 ÷ 0,130
12	0,09 ÷ 0,150



d	fz (mm x dente/tooth)
2	0,015 ÷ 0,020
3	0,025 ÷ 0,040
4	0,040 ÷ 0,060
5	0,050 ÷ 0,070
6	0,060 ÷ 0,090
8	0,060 ÷ 0,110
10	0,070 ÷ 0,120
12	0,080 ÷ 0,150



d	fz (mm x dente/tooth)
2	0,015 ÷ 0,020
3	0,025 ÷ 0,040
4	0,040 ÷ 0,060
5	0,050 ÷ 0,070
6	0,060 ÷ 0,090
8	0,060 ÷ 0,110
10	0,070 ÷ 0,120
12	0,080 ÷ 0,150