



OSAWA

SORMA CUTTING SOLUTIONS



SMART PRICELIST

06 2024



Smart Pricelist 06/2024



Smart Price List Osawa presents in one single document more than 90% of the product range included in the catalogue, together with the list price of each item and the main information required for an easy and fast selection of the tools. All the items listed in this document are ranked as Stock Standard.



Smart Price List Osawa raccoglie in un unico documento oltre il 90% della gamma presente a catalogo, includendo i prezzi di listino e le principali informazioni necessarie per una selezione degli utensili semplice e immediata. Tutti gli articoli inseriti in questo documento sono Stock Standard.



Smart Pricelist Osawa sammelt in einem einzigen Dokument mehr als 90% des Katalogs einschließlich der Preisliste und der wichtigsten Informationen, die für eine einfache und unkomplizierte Werkzeugauswahl erforderlich sind. Alle in diesem Dokument enthaltenen Artikel sind ab Lager verfügbar.



Smart Price List Osawa regroupe dans un unique document plus du 90% de la gamme présente dans le catalogue, il inclut le prix tarif et les principales informations nécessaires pour une sélection simple et rapide des outils. Tous les articles inclus dans cette brochure sont stock standard.



Smart Price List de Osawa agrupa en un único documento más del 90% de la gama presente en el catálogo, incluyendo los precios de lista y las principales informaciones necesarias para una elección de las herramientas simple e inmediata. Todos los artículos en este documento son Stock Standard.



Smart Price List Osawa это 90% всей гаммы продукции представленной каталоге, включая цены и простое описание инструмента, для его быстрого и лёгкого выбора. Все артикулы включенные в этот документ являются стандартными складскими позициями.

INDEX

2 Materials classification

3 Alphanumeric index

5. TYPHOON - CARBIDE DRILLS

6 TYPHOON 3xD

10 TYPHOON 5xD

14 TYPHOON 8xD

16 TYPHOON 12xD and 15xD

17 TYPHOON 20xD, 25xD and 30xD

18 TYPHOON MINI 5xD, 8xD and 12xD

18 TYPHOON MINI 20xD, 25xD and 30xD

19 TYPHOON - 90° Phase step drill

21. C-SD-TA

22 NC Starting drills

23. HSS DRILLS

24 HSS/Co - HSSE High performance drills

27 HSS and HSS/Co drills - DIN338

30 HSS and HSS/Co drills - DIN340

32 HSS and HSS/Co drills - DIN345

35. CARBIDE END MILLS

35 G2 general purpose

45 HF VH/UP universal and multi-purpose

53 MEF stainless steel and super alloys

55 ALU non ferrous materials

61 MEX (30÷55 HRC) and MH (30÷70 HRC)

73 UH (<70HRC) and MH (30÷70 HRC)

89. HSS END MILLS

95. CARBIDE BURRS

MATERIALS		HARDNESS/Rm
P1	Free cutting steel and structural steel	< 500 N/mm ²
P2	Carbon steel and low alloy steel	500 ÷ 700 N/mm ²
P3	Medium alloy steel and heat treated steel	600 ÷ 800 N/mm ²
P4	High alloy steel	800 ÷ 1000 N/mm ²
P5	Tool steel	900 ÷ 1200 N/mm ²
P6	High tensile strength steel	1200 ÷ 1480 N/mm ² 38 ÷ 45 HRC
P7	Ferritic-Martensitic stainless steel	
P8	PH stainless steel	
M1	Austenitic stainless steel (good machinability)	
M2	Austenitic stainless steel (medium machinability) and Duplex	
M3	Super austenitic stainless steel and super Duplex	
K1	Grey cast iron	150 ÷ 250 HB
K2	Nodular cast iron	150 ÷ 350 HB
K3	Austenitic cast iron	120 ÷ 260 HB
K4	ADI cast iron	250 ÷ 500 HB
N1	Aluminium alloys ≤ 12% Si	
N2	Aluminium alloy > 12% Si and Aluminium-Magnesium	
N3	Copper alloy	
N4	Brass alloy and Bronze alloy	
N5	Plastic material	
N6	Carbon fiber and composite	
S1	Heat resistant super alloys (HRSA) Ni base (good machinability)	< 25 HRC
S2	Heat resistant super alloys (HRSA) Ni base (medium machinability)	25 ÷ 35 HRC
S3	Heat resistant super alloys (HRSA) Ni base (low machinability)	35 ÷ 45 HRC
S4	Low Titanium base alloy (good machinability)	
S5	High Titanium base alloy (medium machinability)	
H1	Hardened steel	50 ÷ 56 HRC
H2	Hardened bearing steel	54 ÷ 62 HRC
H3	Hardened tool steel	60 ÷ 65 HRC
H4	Hardened martensitic stainless steel	50 ÷ 56 HRC
H5	Hardened white cast iron	48 ÷ 55 HRC

ITEM No.	PAGE
118N	-
134NB (234NVA)	30
1385NTI (1386STI)	27
1386STI	27
1386STI SET	-
138HB	-
138N	27
138N SET	-
138NTI	-
138WB	-
145N	32
1692LS	-
1693LS	-
218LFTA	24
218NVA	-
234LS	30
234LSTH	30
234NVA	30
2385NTI (2386STI)	27
2386STI	27
2386STI SET	-
238LFTA	24
238NVA	27
238NVA SET	-
241LS	-
245N	33
2691LS	-
2691LSTH	-
2701LS	-
2702LS	-
3512HL	16
3512SUH MINI	18
3515HL	16
3520HL	17
3520SUH MINI	19
3525HL	17
3525SUH MINI	19
3530HL	18
3530SUH MINI	19
353ALH	7
353CV	6
353HPU	7
353HRC	7
353HVA	7
353PU	7
355ALH	10
355HPU	10
355HVA	10
355PU	10
355SUH MINI	18
3584HTA	14
358HGA	15
358SUH MINI	18
372HSD	19
373GA	7
373HGA	7
375GA	10
375HGA	10
980SUTA	24
990SUTA	24
A15FW	-
A16FW	-
BUR10	-
CSDTA 90°	22
CSDTA 120°	22
FFR	-
FM	-
G2210	40
G2211	40

ITEM No.	PAGE
G2212	40
G2250	44
G2251	44
G2310	40
G2311	40
G2312	40
G2410	40
G2411	40
G2412	40
G2413	40
G2CL4R	42
G2CS2	36
G2CS2R	42
G2CS4	38
G2CS4R	42
G2CSB2	43
G2CSB4	43
G2CSFR	41
G2CSH3	37
G2CSHM	41
G2WS2	39
G2WS4	39
G2WSFR	41
G2WSH3	39
GB205	36
GB255	43
GB305	37
GB405	38
GBL2	39
GBL4	39
HF342	47
HF440	46
HF441	46
HF442	47
HF443	47
HF444	46
HF445	46
HF450	50
HF451	50
HF452	51
HF471	50
HF542	48
HF535T	49
HF642	49
HF643	49
HF742	49
HF743	49
HF840	46
HF842	47
HF844	46
HF850	50
HF852	51
HF942	48
HF943	48
HFA3D	58
HFA53	59
HFAL3	58
HFAL4	56
MCA212R	-
MDA310	57
MDA311	57
MDA312	57
MDCAB2	60
MDCSA1	56
MDCSA2	56
MDCSA3	57
MDCSAM	58
MEF600	54
MEF901	54

ITEM No.	PAGE
MEF902	54
MEFCS2	54
MEFCS4	54
MEFCSH3	54
MEX253	70
MEX410R	67
MEX400	64
MEX610R	68
MEX611R	68
MEXCL2	62
MEXCL4	64
MEXCLHM	65
MEXCLSB2	70
MEXCS2	62
MEXCS4R	67
MEXCSB2	69
MEXCSHM	65
MEXLN2	63
MEXLN2R	66
MEXLS2R	68
MEXLS4R	68
MEXM2	62
MEXM2SC	62
MHCRB2	70/86
MHLNB2	71/87
MHMB204	69/84
MHMB206	69/84
SA	96
SB	96
SC	97
SD	97
SE	97
SF	98
SG	98
SH	98
SJ	98
SK	99
SL	99
SM	99
SN	99
TAFFR	-
TAFM	-
TAWL2	-
TAWL3	-
TAWL4(6)	94
TAWLB2	-
TAWLFR	94
TAWS2	90
TAWS3	91
TAWS4(6)	92
TAWSB2	-
TAWSFR	93
TAWSH3	91
TAWSR	93
UH211	76
UH212	77
UH250	85
UH253	85
UH410	80
UH411	81
UH412	81
UH413	82
UH600	75
UH610R	83
UH611R	83
UH612	75
UHCS2	80
UHCS4	80
UHCSB2	84

ITEM No.	PAGE
UHF4LN	79
UHF-RT	82
UHLN2	74
UHM204	75
UHM206	76
UMWS2	-
UMWS4	-
UMWSFR	-
WCR	-
WDC 45°	-
WDC 60°	-
WDD 45°	-
WDD 60°	-
WL2	-
WL3	-
WL4(6)	94
WLB2	-
WLFR	94
WS2	90
WS3	91
WS4(6)	92
WSA2	-
WSB2	-
WSFR	93
WTM	-
WWK	-



TYPHOON

HIGH PERFORMANCE CARBIDE DRILLS

✦ Osawa Typhoon series consist of a high-quality carbide substrate and a cutting-edge coating technology combined with specific geometries for different machining applications and materials:

- CV: for general purpose
- PU and HPU: for universal applications ISO P, M, K, N, S
- GA and HGA: for general purpose, Weldon shank
- HVA: for stainless steel
- ALH: for aluminium
- 4HTA 8xD and HL 12xD-15xD-20xD-25xD-30xD: 4-margin lands for deep holes
- HRC: for 45÷62 HRC
- SUH MINI: Ø 1÷3 mm, for deep holes 5xD÷30xD

🇮🇹 Le punte Typhoon sono composte da un substrato di metallo duro di alta qualità e una tecnologia di rivestimento all'avanguardia combinati con geometrie specifiche:

- CV: per uso generico
- PU e HPU: per applicazione universale ISO P, M, K, N, S
- GA e HGA: per uso generico, attacco Weldon
- HVA: per acciaio inossidabile
- ALH: per alluminio
- 4HTA 8xD e HL 12xD-15xD-20xD-25xD-30xD: geometria a 4 margini per fori profondi
- HRC: per 45÷62 HRC
- SUH MINI: Ø 1÷3 mm, per fori profondi 5xD÷30xD

🇩🇪 Die Osawa Typhoon Bohrer bestehen aus einem hochwertigen Hartmetallsubstrat, und haben eine neue Beschichtung. Spezielle gewidmete Geometrien, je nach Bearbeitung und Materialien, kommen dann auch noch hinzu:

- CV: für allgemeine Anwendung
- PU und HPU: universell einsetzbar auf ISO P, M, K, N, S
- GA und HGA: für allgemeine Anwendung, Weldon schaft
- HVA: für Edelstahl
- ALH: für Aluminium
- 4HTA 8xD und HL 12xD-15xD-20xD-25xD-30xD: Geometrie mit 4 Führungsphasen für tiefe Bohrungen
- HRC: für 45÷62 HRC
- SUH MINI: Ø 1÷3 mm, für tiefe Löcher 5xD÷30xD

🇫🇷 Les forets Typhoon sont constitués d'un substrat de carbure de haute qualité et d'une technologie de revêtement de pointe associée à des géométries spécifiques:

- CV : pour une utilisation générique
- PU et HPU : pour application universelle ISO P, M, K, N, S
- GA et HGA : pour une utilisation générique, Weldon queue
- HVA : pour l'acier inoxydable
- ALH : pour l'aluminium
- 4HTA 8xD e HL 12xD-15xD-20xD-25xD-30xD : Géométrie à 4 arêtes pour les trous profonds
- HRC : pour 45÷62 HRC
- SUH MINI : Ø 1 ÷ 3 mm, pour trous profonds 5xD÷30xD

🇪🇸 Las brocas de la serie Osawa Typhoon están formadas por un sustrato de metal duro de alta calidad y por una tecnología de revestimiento a la vanguardia que se combinan con geometrías específicas para diferentes mecanizados y materiales:

- CV: para uso general
- PU y HPU: para aplicaciones universales ISO P, M, K, N, S
- GA y HGA: para uso general, mango Weldon
- HVA: para acero inoxidable
- ALH: para aluminio
- 4HTA 8xD y HL 12xD-15xD-20xD-25xD-30xD: geometría de cuatro labios para agujeros profundos
- HRC: para 45÷62 HRC
- SUH MINI: Ø 1-3 mm, para agujeros profundos 5xD-30xD

🇷🇺 Свёрла Typhoon изготавливаются из твёрдого сплава наивысшего качества в сочетании с передовыми технологиями покрытия и специальной геометрией:

- CV: общего назначения
- PU и HPU: для универсального применения ISO P, M, K, N, S
- GA и HGA: общего назначения, с хвостовиком Weldon
- HVA: для нержавеющей сталей
- ALH: для цветных металлов
- 4HTA 8xD и HL 12xD-15xD-20xD-25xD-30xD: геометрия с 4-мя направляющими для глубоких отверстий
- HRC: для 45÷62 HRC
- SUH MINI: Ø 1÷3 мм, для глубоких отверстий 5xD÷30xD

353CV - catalogue page 93



3XD

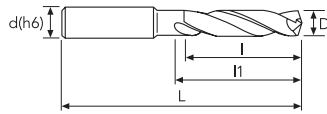
**DIN
6537**

CV

**MG
PV200**

140°

30°



353CV

P	★
M	☆
K	☆
N	☆
S	
H	

D(h7)	d(h6)	I	I1	L	EDP No.	€
1.00	3	5	7	45	353CV0100	18,88
1.10	3	5	7	45	353CV0110	18,88
1.20	3	5	7	45	353CV0120	18,88
1.30	3	5	7	45	353CV0130	18,88
1.40	3	5	7	45	353CV0140	18,88
1.50	3	10	13	50	353CV0150	18,88
1.60	3	10	13	50	353CV0160	18,88
1.70	3	10	13	50	353CV0170	18,88
1.80	3	10	13	50	353CV0180	18,88
1.90	3	10	13	50	353CV0190	18,88
2.00	4	12	17	55	353CV0200	18,88
2.10	4	12	17	55	353CV0210	18,88
2.20	4	12	17	55	353CV0220	19,67
2.30	4	12	17	55	353CV0230	19,67
2.40	4	12	17	55	353CV0240	19,67
2.50	4	12	17	55	353CV0250	19,67
2.60	4	12	17	55	353CV0260	19,67
2.70	4	12	17	55	353CV0270	21,17
2.80	4	12	17	55	353CV0280	21,89
2.90	4	12	17	55	353CV0290	21,89
3.00	6	14	20	62	353CV0300	22,61
3.10	6	14	20	62	353CV0310	22,94
3.20	6	14	20	62	353CV0320	22,94
3.30	6	14	20	62	353CV0330	24,38
3.40	6	14	20	62	353CV0340	24,38
3.50	6	14	20	62	353CV0350	24,38
3.60	6	14	20	62	353CV0360	25,30
3.70	6	14	20	62	353CV0370	25,30
3.80	6	17	24	66	353CV0380	26,55
3.90	6	17	24	66	353CV0390	26,55
4.00	6	17	24	66	353CV0400	26,55
4.10	6	17	24	66	353CV0410	27,40
4.20	6	17	24	66	353CV0420	27,40
4.30	6	17	24	66	353CV0430	28,71
4.40	6	17	24	66	353CV0440	28,71
4.50	6	17	24	66	353CV0450	28,71
4.60	6	17	24	66	353CV0460	28,71
4.70	6	17	24	66	353CV0470	30,09
4.80	6	20	28	66	353CV0480	30,55
4.90	6	20	28	66	353CV0490	30,55
5.00	6	20	28	66	353CV0500	30,55
5.10	6	20	28	66	353CV0510	30,55
5.20	6	20	28	66	353CV0520	36,12
5.30	6	20	28	66	353CV0530	36,12
5.40	6	20	28	66	353CV0540	36,12
5.50	6	20	28	66	353CV0550	36,12
5.60	6	20	28	66	353CV0560	37,76
5.70	6	20	28	66	353CV0570	37,76
5.80	6	20	28	66	353CV0580	37,76
5.90	6	20	28	66	353CV0590	37,76
6.00	6	20	28	66	353CV0600	37,76



353PU - catalogue page 45



3XD	DIN 6537K	PU	MG PV250	140°+C45°	30°
-----	-----------	----	----------	-----------	-----

353HPU - catalogue page 45



3XD	DIN 6537K	HPU	MG PV250	140°+C45°	30°
-----	-----------	-----	----------	-----------	-----

373GA - catalogue page 75



3XD	DIN 6537K	GA	MG PV400	140°	30°
-----	-----------	----	----------	------	-----

373HGA - catalogue page 75



3XD	DIN 6537K	HGA	MG PV400	140°	30°
-----	-----------	-----	----------	------	-----

353HVA - catalogue page 99



3XD	DIN 6537K	HVA	MG PV350	140°	30°
-----	-----------	-----	----------	------	-----

353ALH - catalogue page 111

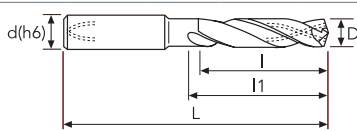


3XD	DIN 6537K	ALH	MG POLISHED	130°	30°
-----	-----------	-----	-------------	------	-----

353HRC - catalogue page 121



3XD	DIN 6537K	HRC	MG PV1000	45+62 HRC	150°+C45°	15°
-----	-----------	-----	-----------	-----------	-----------	-----



						353PU	353HPU	373GA	373HGA	353HVA	353ALH	353HRC	
P							★	★	★	★	☆		
M							★	★	★	★			
K							★	★	★	★			
N							☆	☆			★		
S								★					
H											☆	★	
D(m7)	d(h6)	I	l1	L	EDP No.	€	€	€	€	€	€	€	
3.00	6	14	20	62	.....0300	47,09	66,95	47,35	57,67	73,22	72,63	55,14
3.10	6	14	20	62	.....0310	47,09	66,95	47,35	57,67	73,22	72,63	
3.20	6	14	20	62	.....0320	47,09	66,95	47,35	57,67	73,22	72,63	
3.30	6	14	20	62	.....0330	47,09	66,95	47,35	57,67	73,22	72,63	55,14
3.40	6	14	20	62	.....0340	47,09	66,95	47,35	57,67	73,22	72,63	55,14
3.50	6	14	20	62	.....0350	47,09	66,95	47,35	57,67	73,22	72,63	55,14
3.60	6	14	20	62	.....0360	47,09	66,95	47,35	57,67	73,22	72,63	
3.70	6	14	20	62	.....0370	47,09	66,95	47,35	57,67	73,22	72,63	55,14
3.80	6	17	24	66	.....0380	47,09	66,95	47,35	57,67	73,22	72,63	55,14
3.90	6	17	24	66	.....0390	47,09	66,95	47,35	57,67	73,22	72,63	
4.00	6	17	24	66	.....0400	47,09	66,95	47,35	57,67	73,22	72,63	55,14
4.10	6	17	24	66	.....0410	47,09	66,95	47,35	57,67	73,22	72,63	55,14
4.20	6	17	24	66	.....0420	47,09	66,95	47,35	57,67	73,22	72,63	55,14
4.30	6	17	24	66	.....0430	47,09	66,95	47,35	57,67	73,22	72,63	55,14
4.40	6	17	24	66	.....0440	47,09	66,95	47,35	57,67	73,22		
4.50	6	17	24	66	.....0450	47,09	66,95	47,35	57,67	73,22	72,63	55,14
4.60	6	17	24	66	.....0460	47,09	66,95	47,35	57,67	73,22	72,63	55,14
4.70	6	17	24	66	.....0470	47,09	66,95	47,35	57,67	73,22	72,63	
4.80	6	20	28	66	.....0480	47,09	66,95	49,08	59,77	73,22	72,63	55,14
4.90	6	20	28	66	.....0490	47,09	66,95	49,08	59,77	73,22		
5.00	6	20	28	66	.....0500	47,09	66,95	49,08	59,77	73,22	72,63	55,14
5.10	6	20	28	66	.....0510	47,09	66,95	49,08	59,77	73,22	72,63	55,14
5.20	6	20	28	66	.....0520	47,09	66,95	49,08	59,77	73,22	72,63	55,14
5.30	6	20	28	66	.....0530	47,09	66,95	49,08	59,77	73,22	72,63	55,14
5.40	6	20	28	66	.....0540	47,09	66,95	49,08	59,77	73,22		
5.50	6	20	28	66	.....0550	47,09	66,95	49,08	59,77	73,22	72,63	55,14
5.60	6	20	28	66	.....0560	47,09	66,95	49,08	59,77	73,22	72,63	55,14
5.70	6	20	28	66	.....0570	47,09	66,95	49,08	59,77	73,22	72,63	
5.80	6	20	28	66	.....0580	47,09	66,95	49,08	59,77	73,22	72,63	55,14
5.90	6	20	28	66	.....0590	47,09	66,95	49,08	59,77	73,22		
6.00	6	20	28	66	.....0600	47,09	66,95	49,08	59,77	73,22	72,63	55,14
6.10	8	24	34	79	.....0610	57,12	90,94	50,86	80,40	99,42	98,56	77,19

EDP N° = item code + ø (example: 353PU mm 3.5 = 353PU0350)



						353PU	353HPU	373GA	373HGA	353HVA	353ALH	353HRC
P	M	K	N	S	H							
D(m7)	d(h6)	l	l1	L	EDP No.	€	€	€	€	€	€	€
6.20	8	24	34	79	.....0620	57,12	90,94	50,86	80,40	99,42	98,56	77,19
6.30	8	24	34	79	.....0630	57,12	90,94	50,86	80,40	99,42	98,56	
6.40	8	24	34	79	.....0640	57,12	90,94	50,86	80,40	99,42		
6.50	8	24	34	79	.....0650	57,12	90,94	50,86	80,40	99,42	98,56	77,19
6.60	8	24	34	79	.....0660	57,12	90,94	50,86	80,40	99,42		
6.70	8	24	34	79	.....0670	57,12	90,94	50,86	80,40	99,42	98,56	
6.80	8	24	34	79	.....0680	57,12	90,94	50,86	80,40	99,42	98,56	77,19
6.90	8	24	34	79	.....0690	57,12	90,94	50,86	80,40	99,42		77,19
7.00	8	24	34	79	.....0700	57,12	90,94	50,86	80,40	99,42	98,56	77,19
7.10	8	29	41	79	.....0710	57,12	90,94	51,39	80,40	99,42		
7.20	8	29	41	79	.....0720	57,12	90,94	51,39	80,40	99,42	98,56	
7.30	8	29	41	79	.....0730	57,12	90,94	51,39	80,40	99,42		
7.40	8	29	41	79	.....0740	57,12	90,94	51,39	80,40	99,42		77,19
7.50	8	29	41	79	.....0750	57,12	90,94	51,39	80,40	99,42	98,56	77,19
7.60	8	29	41	79	.....0760	57,12	90,94	51,39	80,40	99,42		
7.70	8	29	41	79	.....0770	57,12	90,94	51,39	80,40	99,42		
7.80	8	29	41	79	.....0780	57,12	90,94	51,39	80,40	99,42	98,56	77,19
7.90	8	29	41	79	.....0790	57,12	90,94	51,39	80,40	99,42		
8.00	8	29	41	79	.....0800	57,12	90,94	51,39	80,40	99,42	98,56	77,19
8.10	10	35	47	89	.....0810	71,75	101,99	57,36	96,22	111,45		102,38
8.20	10	35	47	89	.....0820	71,75	101,99	57,36	96,22	111,45	110,53	102,38
8.30	10	35	47	89	.....0830	71,75	101,99	57,36	96,22	111,45	110,53	
8.40	10	35	47	89	.....0840	71,75	101,99	57,36	96,22	111,45		
8.50	10	35	47	89	.....0850	71,75	101,99	57,36	96,22	111,45	110,53	102,38
8.60	10	35	47	89	.....0860	71,75	101,99	57,36	96,22	111,45	110,53	102,38
8.70	10	35	47	89	.....0870	71,75	101,99	57,36	96,22	111,45		102,38
8.80	10	35	47	89	.....0880	71,75	101,99	57,36	96,22	111,45	110,53	102,38
8.90	10	35	47	89	.....0890	71,75	101,99	57,36	96,22	111,45		
9.00	10	35	47	89	.....0900	71,75	101,99	57,36	96,22	111,45	110,53	102,38
9.10	10	35	47	89	.....0910	71,75	101,99	57,36	96,22	111,45		
9.20	10	35	47	89	.....0920	71,75	101,99	57,36	96,22	111,45		
9.30	10	35	47	89	.....0930	71,75	101,99	57,36	96,22	111,45		102,38
9.40	10	35	47	89	.....0940	71,75	101,99	57,36	96,22	111,45		
9.50	10	35	47	89	.....0950	71,75	101,99	57,36	96,22	111,45	110,53	102,38
9.60	10	35	47	89	.....0960	71,75	101,99	57,36	96,22	111,45		
9.70	10	35	47	89	.....0970	71,75	101,99	57,36	96,22	111,45		
9.80	10	35	47	89	.....0980	71,75	101,99	57,36	96,22	111,45		102,38
9.90	10	35	47	89	.....0990	71,75	101,99	57,36	96,22	111,45		
10.00	10	35	47	89	.....1000	71,75	101,99	57,36	96,22	111,45	110,53	102,38
10.10	12	40	55	102	.....1010	94,70	149,14	77,89	131,95	159,51		
10.20	12	40	55	102	.....1020	94,70	144,59	77,89	131,95	159,51	158,19	152,58
10.30	12	40	55	102	.....1030	94,70	144,59	77,89	131,95	159,51	158,20	152,58
10.40	12	40	55	102	.....1040	98,05	144,59	77,89	131,95	159,51		152,58
10.50	12	40	55	102	.....1050	94,70	144,59	77,89	131,95	159,51	158,19	152,58
10.60	12	40	55	102	.....1060	92,17	149,14	77,89	131,95	159,51		
10.70	12	40	55	102	.....1070	98,05	149,14	77,89	131,95	159,51		
10.80	12	40	55	102	.....1080	94,70	144,59	77,89	131,95	159,51		152,58
10.90	12	40	55	102	.....1090	95,97	149,14	77,89	131,95	159,51		
11.00	12	40	55	102	.....1100	94,70	144,59	77,89	131,95	159,51	158,19	152,58
11.10	12	40	55	102	.....1110	95,97	149,14	77,89	131,95	159,51		
11.20	12	40	55	102	.....1120	94,70	144,59	77,89	131,95	159,51		152,58
11.30	12	40	55	102	.....1130	92,17	144,59	77,89	131,95	159,51		
11.40	12	40	55	102	.....1140	95,97	149,14	77,89	131,95	159,51		
11.50	12	40	55	102	.....1150	94,70	144,59	77,89	131,95	159,51	158,19	152,58
11.60	12	40	55	102	.....1160	95,97	149,14	77,89	131,95	159,51		
11.70	12	40	55	102	.....1170	95,97	149,14	77,89	131,95	159,51		
11.80	12	40	55	102	.....1180	94,70	144,59	77,89	131,95	159,51		152,58
11.90	12	40	55	102	.....1190	95,97	149,14	77,89	131,95	159,51		
12.00	12	40	55	102	.....1200	94,70	144,59	77,89	131,95	159,51	158,19	152,58
12.10	14	43	60	107	.....1210	148,19	208,43	112,78	187,42	222,89		
12.20	14	43	60	107	.....1220	134,73	201,99	112,78	187,42	222,89		186,75
12.30	14	43	60	107	.....1230	148,19	208,43	112,78				

EDP N° = item code + ø (example: 353PU mm 3.5 = 353PU0350)



						353PU	353HPU	373GA	373HGA	353HVA	353ALH	353HRC
P	M	K	N	S	H							
D(m7)	d(h6)	I	I1	L	EDP No.	€	€	€	€	€	€	€
12.40	14	43	60	107	.....1240	148,19	208,43	112,78				
12.50	14	43	60	107	.....1250	134,74	201,99	112,78	187,42	222,89		186,75
12.60	14	43	60	107	.....1260	148,19	208,43	112,78				
12.70	14	43	60	107	.....1270	148,19	198,42	112,78	187,42			
12.80	14	43	60	107	.....1280	148,19	201,99	112,78	187,42	222,89		186,75
12.90	14	43	60	107	.....1290	148,19	208,43	112,78				
13.00	14	43	60	107	.....1300	134,74	201,99	112,78	187,42	222,89		186,75
13.10	14	43	60	107	.....1310	148,19	208,43					
13.20	14	43	60	107	.....1320	148,19	208,43					
13.30	14	43	60	107	.....1330	148,19	201,99			222,89		
13.40	14	43	60	107	.....1340	148,19	208,43					
13.50	14	43	60	107	.....1350	134,74	201,99	112,78	187,42	222,89		
13.60	14	43	60	107	.....1360	148,19	208,43					
13.70	14	43	60	107	.....1370	148,19	198,42	112,78	187,42			
13.80	14	43	60	107	.....1380	148,19	201,99	112,78	187,42	222,89		
13.90	14	43	60	107	.....1390	148,19	208,43					
14.00	14	43	60	107	.....1400	134,74	201,99	112,78	187,42	256,83		
14.10	16	45	65	115	.....1410	186,99	240,24			256,83		
14.20	16	45	65	115	.....1420	186,99	240,24	152,59	241,84	256,83		310,75
14.30	16	45	65	115	.....1430	186,99	240,24					
14.50	16	45	65	115	.....1450	169,98	232,73	152,59	241,84	256,83		
14.60	16	45	65	115	.....1460	186,99	240,24					
14.70	16	45	65	115	.....1470	186,99		152,59				
14.80	16	45	65	115	.....1480	186,99	240,24	152,59	241,84			
15.00	16	49	65	115	.....1500	169,98	232,73	152,59	241,84	256,83		
15.10	16	49	65	115	.....1510	186,99	240,24					
15.20	16	49	65	115	.....1520	186,99	240,24	152,59	241,84			
15.30	16	49	65	115	.....1530	186,99	232,73	152,59	241,84	256,83		
15.50	16	49	65	115	.....1550	169,98	232,73	152,59	241,84	256,83		
15.60	16	49	65	115	.....1560	186,99	240,24					
15.70	16	49	65	115	.....1570	186,99	240,24	152,59				
15.80	16	49	65	115	.....1580	186,99	232,73	152,59	241,84	256,83		
16.00	16	49	65	115	.....1600	169,98	232,73	152,59	241,84	256,83		
16.10	18	52	73	123	.....1610		409,61					
16.20	18	52	73	123	.....1620		409,61					
16.30	18	52	73	123	.....1630		409,61					
16.50	18	52	73	123	.....1650	234,82	396,87	273,59	329,90	437,98		
16.70	18	52	73	123	.....1670		409,61					
16.80	18	52	73	123	.....1680		409,61					
17.00	18	52	73	123	.....1700	234,82	396,87	273,59	329,90	437,98		
17.10	18	52	73	123	.....1710		409,61					
17.20	18	52	73	123	.....1720		409,61					
17.50	18	52	73	123	.....1750	234,82	396,87	273,59	329,90	437,98		
17.60	18	52	73	123	.....1760		409,61					
17.70	18	52	73	123	.....1770		409,61					
17.80	18	52	73	123	.....1780		409,61					
18.00	18	52	73	123	.....1800	234,82	396,87	273,59	329,90	437,98		
18.10	20	55	79	131	.....1810		448,22					
18.20	20	55	79	131	.....1820		448,22					
18.30	20	55	79	131	.....1830		448,22					
18.50	20	55	79	131	.....1850	297,21	434,32	282,12	411,35	479,30		
18.60	20	55	79	131	.....1860		448,22					
18.70	20	55	79	131	.....1870		448,22					
18.80	20	55	79	131	.....1880		448,22					
19.00	20	55	79	131	.....1900	297,21	434,32	282,12	411,35	479,30		
19.20	20	55	79	131	.....1920		448,22					
19.30	20	55	79	131	.....1930		448,22					
19.50	20	55	79	131	.....1950	297,21	434,32	282,12	411,35	479,30		
19.60	20	55	79	131	.....1960		448,22					
19.80	20	55	79	131	.....1980		448,22					
20.00	20	55	79	131	.....2000	297,21	434,32	282,12	411,35	479,30		

EDP N° = item code + ø (example: 353PU mm 3.5 = 353PU0350)



355PU - catalogue page 54



5XD	DIN 6537L	PU	MG PV250	140°+C45°	30°
-----	-----------	----	----------	-----------	-----

355HPU - catalogue page 54



5XD	DIN 6537L	HPU	MG PV250	140°+C45°	30°
-----	-----------	-----	----------	-----------	-----

375GA - catalogue page 81



5XD	DIN 6537L	GA	MG PV400	140°	30°
-----	-----------	----	----------	------	-----

375HGA - catalogue page 81



5XD	DIN 6537L	HGA	MG PV400	140°	30°
-----	-----------	-----	----------	------	-----

355HVA - catalogue page 104

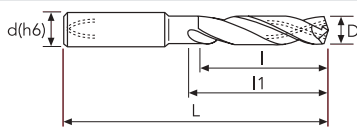


5XD	DIN 6537L	HVA	MG PV350	140°	30°
-----	-----------	-----	----------	------	-----

355ALH - catalogue page 115



5XD	DIN 6537L	ALH	MG POLISHED	130°	30°
-----	-----------	-----	-------------	------	-----



						355PU	355HPU	375GA	375HGA	355HVA	355ALH
P	★	★	★	★	★	★	★	★	★	★	★
M	★	★	★	★	★	★	★	★	★	★	★
K	★	★	★	★	★	★	★	★	★	★	★
N	★	★	★	★	★	★	★	★	★	★	★
S	★	★	★	★	★	★	★	★	★	★	★
H	★	★	★	★	★	★	★	★	★	★	★
D(m7)	d(h6)	l	l1	L	EDP No.	€	€	€	€	€	€
3.00	6	23	28	66	.....0300	52,66	84,73	53,06	72,08	93,95	93,12
3.10	6	23	28	66	.....0310	52,66	84,73	53,06	72,08	93,95	
3.20	6	23	28	66	.....0320	52,66	84,73	53,06	72,08	93,95	93,12
3.25	6	23	28	66	.....0325		87,56				
3.30	6	23	28	66	.....0330	52,66	84,73	53,06	72,08	93,95	93,12
3.40	6	23	28	66	.....0340	52,66	84,73	53,06	72,08	93,95	93,12
3.50	6	23	28	66	.....0350	52,66	84,73	53,06	72,08	93,95	93,12
3.60	6	23	28	66	.....0360	52,66	84,73	53,06	72,08	93,95	93,12
3.70	6	23	28	66	.....0370	52,66	84,73	53,06	72,08	93,95	93,12
3.80	6	29	36	74	.....0380	52,66	84,73	53,06	72,08	93,95	93,12
3.90	6	29	36	74	.....0390	52,66	84,73	53,06	72,08	93,95	
4.00	6	29	36	74	.....0400	52,66	84,73	53,06	72,08	93,95	93,12
4.10	6	29	36	74	.....0410	52,66	84,73	53,06	72,08	93,95	
4.20	6	29	36	74	.....0420	52,66	84,73	53,06	72,08	93,95	93,12
4.30	6	29	36	74	.....0430	52,66	84,73	53,06	72,08	93,95	93,12
4.40	6	29	36	74	.....0440	52,66	84,73	53,06	72,08	93,95	
4.50	6	29	36	74	.....0450	52,66	84,73	53,06	72,08	93,95	93,12
4.60	6	29	36	74	.....0460	52,66	84,73	53,06	72,08	93,95	
4.65	6	29	36	74	.....0465		87,56		72,08		
4.70	6	29	36	74	.....0470	52,66	84,73	53,06	72,08	93,95	
4.80	6	35	44	82	.....0480	52,66	84,73	54,95	74,75	93,95	93,12
4.90	6	35	44	82	.....0490	52,66	84,73	54,95	74,75	93,95	
5.00	6	35	44	82	.....0500	52,66	84,73	54,95	74,75	93,95	93,12
5.10	6	35	44	82	.....0510	52,66	84,73	54,95	74,75	93,95	93,12
5.20	6	35	44	82	.....0520	52,66	84,73	54,95	74,75	93,95	93,12
5.30	6	35	44	82	.....0530	52,66	84,73	54,95	74,75	93,95	
5.40	6	35	44	82	.....0540	52,66	84,73	54,95	74,75	93,95	
5.50	6	35	44	82	.....0550	52,66	84,73	54,95	74,75	93,95	93,12
5.55	6	35	44	82	.....0555		87,56		74,75		
5.60	6	35	44	82	.....0560	52,66	84,73	54,95	74,75	93,95	93,12
5.70	6	35	44	82	.....0570	52,66	84,73	54,95	74,75	93,95	
5.80	6	35	44	82	.....0580	52,66	84,73	54,95	74,75	93,95	93,12
5.90	6	35	44	82	.....0590	52,66	84,73	54,95	74,75	93,95	
6.00	6	35	44	82	.....0600	52,66	84,73	54,95	74,75	93,95	93,12
6.10	8	43	53	91	.....0610	63,19	93,56	58,51	88,47	103,72	
6.20	8	43	53	91	.....0620	63,19	93,56	58,51	88,47	103,72	102,83

EDP N° = item code + ø (example: 355PU mm 3.5 = 355PU0350)



						355PU	355HPU	375GA	375HGA	355HVA	355ALH
P						★	★	★	★	☆	
M						★	★	☆	★	★	
K						★	★	★	★		
N						☆	☆				★
S							★			☆	
H											
D(m7)	d(h6)	I	I1	L	EDP No.	€	€	€	€	€	€
6.30	8	43	53	91	.....0630	63,19	93,56	58,51	88,47	103,72	
6.40	8	43	53	91	.....0640	63,19	93,56	58,51	88,47	103,72	
6.50	8	43	53	91	.....0650	63,19	93,56	58,51	88,47	103,72	102,83
6.60	8	43	53	91	.....0660	63,19	93,56	58,51	88,47	103,72	
6.70	8	43	53	91	.....0670	63,19	93,56	58,51	88,47	103,72	102,83
6.80	8	43	53	91	.....0680	63,19	93,56	58,51	88,47	103,72	102,83
6.90	8	43	53	91	.....0690	63,19	93,56	58,51	88,47	103,72	102,83
7.00	8	43	53	91	.....0700	63,19	93,56	58,51	88,47	103,72	102,83
7.10	8	43	53	91	.....0710	63,19	93,56	59,09	88,47	103,72	
7.20	8	43	53	91	.....0720	63,19	93,56	59,09	88,47	103,72	102,83
7.30	8	43	53	91	.....0730	63,19	93,56	59,09	88,47	103,72	
7.40	8	43	53	91	.....0740	63,19	93,56	59,09	88,47	103,72	
7.45	8	43	53	91	.....0745		96,69		88,47		
7.50	8	43	53	91	.....0750	63,19	93,56	59,09	88,47	103,72	102,83
7.60	8	43	53	91	.....0760	63,19	93,56	59,09	88,47	103,72	
7.70	8	43	53	91	.....0770	63,19	93,56	59,09	88,47	103,72	
7.80	8	43	53	91	.....0780	63,19	93,56	59,09	88,47	103,72	102,83
7.90	8	43	53	91	.....0790	63,19	93,56	59,09	88,47	103,72	
8.00	8	43	53	91	.....0800	63,19	93,56	59,09	88,47	103,72	102,83
8.10	10	49	61	103	.....0810	79,88	112,75	65,95	103,92	126,27	
8.20	10	49	61	103	.....0820	79,88	112,75	65,95	103,92	126,27	125,23
8.30	10	49	61	103	.....0830	79,88	112,75	65,95	103,92	126,27	
8.40	10	49	61	103	.....0840	79,88	112,75	65,95	103,92	126,27	
8.50	10	49	61	103	.....0850	79,88	112,75	65,95	103,92	126,27	125,23
8.60	10	49	61	103	.....0860	79,88	112,75	65,95	103,92	126,27	
8.70	10	49	61	103	.....0870	79,88	112,75	65,95	103,92	126,27	
8.80	10	49	61	103	.....0880	79,88	112,75	65,95	103,92	126,27	125,23
8.90	10	49	61	103	.....0890	79,88	112,75	65,95	103,92	126,27	
9.00	10	49	61	103	.....0900	79,88	112,75	65,95	103,92	126,27	125,23
9.10	10	49	61	103	.....0910	79,88	112,75	65,95	103,92	126,27	
9.20	10	49	61	103	.....0920	79,88	112,75	65,95	103,92	126,27	
9.25	10	49	61	103	.....0925		116,58				
9.30	10	49	61	103	.....0930	79,88	112,75	65,95	103,92	126,27	
9.35	10	49	61	103	.....0935		116,58		103,92		
9.40	10	49	61	103	.....0940	79,88	112,75	65,95	103,92	126,27	
9.45	10	49	61	103	.....0945		116,58				
9.50	10	61	61	103	.....0950	79,88	112,75	65,95	103,92	126,27	125,23
9.60	10	61	61	103	.....0960	79,88	112,75	65,95	103,92	126,27	
9.70	10	61	61	103	.....0970	79,88	112,75	65,95	103,92	126,27	
9.80	10	61	61	103	.....0980	79,88	112,75	65,95	103,92	126,27	
9.90	10	61	61	103	.....0990	79,88	112,75	65,95	103,92	126,27	
10.00	10	61	61	103	.....1000	79,88	112,75	65,95	103,92	126,27	125,23
10.10	12	71	71	118	.....1010	130,70	168,93	88,84	142,48	182,42	
10.20	12	71	71	118	.....1020	122,03	162,95	88,84	142,48	182,42	180,90
10.30	12	71	71	118	.....1030	122,03	168,93	88,84	142,48	182,42	
10.40	12	71	71	118	.....1040	130,70	170,03	88,84	142,48	182,42	
10.50	12	71	71	118	.....1050	122,03	162,95	88,84	142,48	182,42	180,90
10.60	12	71	71	118	.....1060	130,70	170,03	88,84	142,48	182,42	
10.70	12	71	71	118	.....1070	130,70	170,03	88,84	142,48	182,42	
10.80	12	71	71	118	.....1080	122,03	162,95	88,84	142,48	182,42	
10.90	12	71	71	118	.....1090	130,70	170,03	88,84	142,48	182,42	
11.00	12	71	71	118	.....1100	122,03	162,95	88,84	142,48	182,42	180,90
11.10	12	71	71	118	.....1110	130,70	170,03	88,84	142,48	182,42	
11.20	12	71	71	118	.....1120	122,03	162,95	88,84	142,48	182,42	
11.25	12	71	71	118	.....1125		170,04				
11.30	12	71	71	118	.....1130	122,03	162,95	88,84	142,48	182,42	
11.40	12	71	71	118	.....1140	130,70	170,03	88,84	142,48	182,42	
11.50	12	71	71	118	.....1150	122,03	162,95	88,84	142,48	182,42	180,90
11.60	12	71	71	118	.....1160	130,70	170,03	88,84	142,48	182,42	
11.70	12	71	71	118	.....1170	130,70	170,03	88,84	142,48	182,42	
11.80	12	71	71	118	.....1180	122,03	162,95	88,84	142,48	182,42	
11.90	12	71	71	118	.....1190	130,70	170,03	88,84	142,48	182,42	

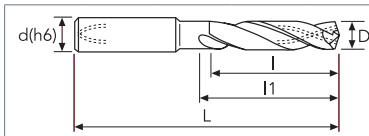
EDP N° = item code + ø (example: 355PU mm 3.5 = 355PU0350)



						355PU	355HPU	375GA	375HGA	355HVA	355ALH
P	★	★	★	★	☆						
M	★	★	☆	★	★						
K	★	★	★	★							
N	☆	☆				★					
S		★			☆						
H											
D(m7)	d(h6)	I	I1	L	EDP No.	€	€	€	€	€	€
12.00	12	71	71	118	.....1200	122,03	162,95	88,84	142,48	182,42	180,90
12.10	14	77	77	124	.....1210	168,27	224,89		200,51	241,31	
12.20	14	77	77	124	.....1220	161,27	215,60		200,51	241,31	
12.30	14	77	77	124	.....1230		224,89		200,51		
12.40	14	77	77	124	.....1240		224,89		200,51		
12.50	14	77	77	124	.....1250	161,27	215,60	128,54	200,51	241,31	
12.60	14	77	77	124	.....1260		224,89		200,51		
12.70	14	77	77	124	.....1270	161,27	215,59		200,51		
12.80	14	77	77	124	.....1280	161,27	215,60		200,51	241,31	
12.90	14	77	77	124	.....1290		224,89				
13.00	14	77	77	124	.....1300	161,27	215,60	128,54	200,51	241,31	
13.10	14	77	77	124	.....1310	168,27	224,89				
13.20	14	77	77	124	.....1320	168,27	224,89				
13.30	14	77	77	124	.....1330	161,27	215,60			241,31	
13.40	14	77	77	124	.....1340		224,89				
13.50	14	77	77	124	.....1350	161,27	215,60	128,54	200,51	241,31	
13.60	14	77	77	124	.....1360		224,89				
13.70	14	77	77	124	.....1370	161,27	215,59		200,51		
13.80	14	77	77	124	.....1380	161,27	215,60		200,51	241,31	
13.90	14	77	77	124	.....1390		224,89		200,51		
14.00	14	77	77	124	.....1400	161,27	215,60	128,54	200,51	241,31	
14.10	16	83	83	133	.....1410		287,90		258,76	308,97	
14.20	16	83	83	133	.....1420		271,72		258,76	308,97	
14.30	16	83	83	133	.....1430		287,90				
14.40	16	83	83	133	.....1440		287,90				
14.50	16	83	83	133	.....1450	193,78	276,00	173,90	258,76	308,97	
14.60	16	83	83	133	.....1460		287,90				
14.70	16	83	83	133	.....1470		287,90		258,76		
14.80	16	83	83	133	.....1480		287,90		258,76		
14.90	16	83	83	133	.....1490		287,90				
15.00	16	83	83	133	.....1500	193,78	276,00	173,90	258,76	308,97	
15.10	16	83	83	133	.....1510		287,90		258,76		
15.20	16	83	83	133	.....1520		287,90		258,76		
15.30	16	83	83	133	.....1530	200,42	276,00		258,76	308,99	
15.40	16	83	83	133	.....1540		287,90				
15.50	16	83	83	133	.....1550	193,78	276,00	173,90	258,76	308,97	
15.60	16	83	83	133	.....1560		287,90				
15.70	16	83	83	133	.....1570		287,90		258,76		
15.80	16	83	83	133	.....1580	200,42	276,00		258,76	308,97	
15.90	16	83	83	133	.....1590		287,90				
16.00	16	83	83	133	.....1600	193,78	276,00	173,90	258,76	308,97	
16.10	18	93	93	143	.....1610		444,20				
16.20	18	93	93	143	.....1620		444,20				
16.30	18	93	93	143	.....1630		444,20				
16.40	18	93	93	143	.....1640		444,20				
16.50	18	93	93	143	.....1650	281,42	425,76	289,98	376,10	476,63	
16.60	18	93	93	143	.....1660		444,20				
16.70	18	93	93	143	.....1670		444,20				
16.80	18	93	93	143	.....1680		444,20				
16.90	18	93	93	143	.....1690		444,20				
17.00	18	93	93	143	.....1700	281,42	425,76	289,98	376,10	476,63	
17.10	18	93	93	143	.....1710		444,20				
17.20	18	93	93	143	.....1720		444,20				
17.30	18	93	93	143	.....1730		444,20				
17.40	18	93	93	143	.....1740		444,20				
17.50	18	93	93	143	.....1750	281,42	425,76	289,98	376,10	476,63	
17.60	18	93	93	143	.....1760		444,20				
17.70	18	93	93	143	.....1770		444,20				
17.80	18	93	93	143	.....1780		444,20				
17.90	18	93	93	143	.....1790		444,20				
18.00	18	93	93	143	.....1800	281,42	425,76	289,98	376,10	476,63	
18.10	20	101	101	153	.....1810		517,52				

EDP N° = item code + ø (example: 355PU mm 3.5 = 355PU0350)



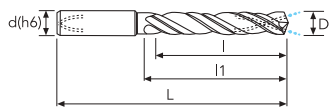


						355PU	355HPU	375GA	375HGA	355HVA	355ALH
P						★	★	★	★	☆	
M						★	★	☆	★	★	
K						★	★	★	★		
N						☆					★
S							★			☆	
H											
D(m7)	d(h6)	l	l1	L	EDP No.	€	€	€	€	€	€
18.20	20	101	101	153	.....1820		517,52				
18.30	20	101	101	153	.....1830		517,52				
18.40	20	101	101	153	.....1840		517,52				
18.50	20	101	101	153	.....1850	364,22	496,12	299,10	468,91	555,33	
18.60	20	101	101	153	.....1860		517,52				
18.70	20	101	101	153	.....1870		517,52				
18.80	20	101	101	153	.....1880		517,52				
18.90	20	101	101	153	.....1890		517,52				
19.00	20	101	101	153	.....1900	364,22	496,12	299,10	468,91	555,33	
19.10	20	101	101	153	.....1910		517,52				
19.20	20	101	101	153	.....1920		517,52				
19.30	20	101	101	153	.....1930		517,52				
19.40	20	101	101	153	.....1940		517,52				
19.50	20	101	101	153	.....1950	364,22	496,12	299,10	468,91	555,33	
19.60	20	101	101	153	.....1960		517,52				
19.70	20	101	101	153	.....1970		517,52				
19.80	20	101	101	153	.....1980		517,52				
19.90	20	101	101	153	.....1990		517,52				
20.00	20	101	101	153	.....2000	364,22	496,12	299,10	468,91	555,33	

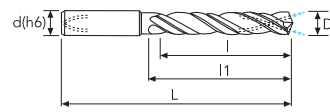
EDP N° = item code + ø (example: 355PU mm 3.5 = 355PU0350)



3584HTA - catalogue page 67



3584HTA



3584HTA

P	M	K	N	S	H	€	P	M	K	N	S	H	€
★	★	★	☆	☆			★	★	★	☆	☆		
D(m7)	d(h6)	l	l1	L	EDP No.	€	D(m7)	d(h6)	l	l1	L	EDP No.	€
3.00	6	32	40	85	358HTA0300	163,92	7.40	8	64	76	116	358HTA0740	200,51
3.10	6	32	40	85	358HTA0310	163,92	7.50	8	64	76	116	358HTA0750	200,51
3.20	6	32	40	85	358HTA0320	163,92	7.60	8	64	76	116	358HTA0760	200,51
3.30	6	32	40	85	358HTA0330	163,92	7.80	8	64	76	116	358HTA0780	200,51
3.40	6	32	40	85	358HTA0340	163,92	8.00	8	64	76	116	358HTA0800	200,51
3.50	6	32	40	85	358HTA0350	163,92	8.10	10	80	95	142	358HTA0810	275,13
3.60	6	36	40	85	358HTA0360	163,92	8.20	10	80	95	142	358HTA0820	275,13
3.70	6	36	40	85	358HTA0370	163,92	8.30	10	80	95	142	358HTA0830	275,13
3.80	6	36	40	85	358HTA0380	163,92	8.50	10	80	95	142	358HTA0850	275,13
4.00	6	38	46	85	358HTA0400	163,92	8.60	10	80	95	142	358HTA0860	275,13
4.10	6	38	46	85	358HTA0410	163,92	8.70	10	80	95	142	358HTA0870	275,13
4.20	6	38	46	85	358HTA0420	163,92	8.80	10	80	95	142	358HTA0880	275,13
4.30	6	40	46	97	358HTA0430	163,92	9.00	10	80	95	142	358HTA0900	275,13
4.50	6	44	46	97	358HTA0450	163,92	9.10	10	80	95	142	358HTA0910	275,13
4.60	6	44	46	97	358HTA0460	163,92	9.20	10	80	95	142	358HTA0920	275,13
4.70	6	44	46	97	358HTA0470	163,92	9.30	10	80	95	142	358HTA0930	275,13
4.80	6	44	46	97	358HTA0480	163,92	9.50	10	80	95	142	358HTA0950	275,13
5.00	6	48	57	97	358HTA0500	163,92	9.80	10	80	95	142	358HTA0980	275,13
5.10	6	48	57	97	358HTA0510	163,92	10.00	10	80	95	142	358HTA1000	275,13
5.20	6	48	57	97	358HTA0520	163,92	10.20	12	96	114	163	358HTA1020	399,24
5.30	6	48	57	97	358HTA0530	163,92	10.50	12	96	114	163	358HTA1050	399,24
5.50	6	48	57	97	358HTA0550	163,92	10.80	12	96	114	163	358HTA1080	399,24
5.60	6	48	57	97	358HTA0560	163,92	11.00	12	96	114	163	358HTA1100	399,24
5.80	6	48	57	97	358HTA0580	163,92	11.20	12	96	114	163	358HTA1120	399,24
5.90	6	48	57	97	358HTA0590	163,92	11.50	12	96	114	163	358HTA1150	399,24
6.00	6	48	57	97	358HTA0600	163,92	11.80	12	96	114	163	358HTA1180	399,24
6.10	8	64	76	116	358HTA0610	200,51	12.00	12	96	114	163	358HTA1200	399,24
6.20	8	64	76	116	358HTA0620	200,51	12.20	14	112	133	182	358HTA1220	559,51
6.30	8	64	76	116	358HTA0630	200,51	12.50	14	112	133	182	358HTA1250	559,51
6.50	8	64	76	116	358HTA0650	200,51	12.80	14	112	133	182	358HTA1280	559,51
6.70	8	64	76	116	358HTA0670	200,51	13.00	14	112	133	182	358HTA1300	559,51
6.80	8	64	76	116	358HTA0680	200,51	13.50	14	112	133	182	358HTA1350	559,51
6.90	8	64	76	116	358HTA0690	200,51	14.00	14	112	133	182	358HTA1400	559,51
7.00	8	64	76	116	358HTA0700	200,51	14.50	16	128	152	204	358HTA1450	705,63
7.10	8	64	76	116	358HTA0710	200,51	15.00	16	128	152	204	358HTA1500	705,63
7.20	8	64	76	116	358HTA0720	200,51	15.50	16	128	152	204	358HTA1550	705,63
7.30	8	64	76	116	358HTA0730	200,51	16.00	16	128	152	204	358HTA1600	705,63



358HGA - catalogue page 87



358HGA							358HGA						
P						★	P						★
M						★	M						★
K						★	K						★
N							N						
S							S						
H							H						
D(m7)	d(h6)	l	l1	L	EDP No.	€	D(m7)	d(h6)	l	l1	L	EDP No.	€
3.00	6	29	34	72	358HGA0300	145,72	9.50	10	80	95	142	358HGA0950	240,69
3.10	6	29	34	72	358HGA0310	145,72	9.80	10	80	95	142	358HGA0980	240,69
3.20	6	29	34	72	358HGA0320	145,72	10.00	10	80	95	142	358HGA1000	240,69
3.30	6	29	34	72	358HGA0330	145,72	10.20	12	96	114	162	358HGA1020	300,88
3.40	6	29	34	72	358HGA0340	145,72	10.50	12	96	114	162	358HGA1050	300,88
3.50	6	29	34	72	358HGA0350	145,72	10.80	12	96	114	162	358HGA1080	300,88
3.60	6	29	34	72	358HGA0360	145,72	11.00	12	96	114	162	358HGA1100	300,88
3.70	6	29	34	72	358HGA0370	145,72	11.20	12	96	114	162	358HGA1120	300,88
3.80	6	36	43	81	358HGA0380	150,28	11.50	12	96	114	162	358HGA1150	300,88
3.90	6	36	43	81	358HGA0390	150,28	11.80	12	96	114	162	358HGA1180	300,88
4.00	6	36	43	81	358HGA0400	150,28	12.00	12	96	114	162	358HGA1200	300,88
4.10	6	36	43	81	358HGA0410	150,28	12.20	14	112	133	182	358HGA1220	410,40
4.20	6	36	43	81	358HGA0420	150,28	12.50	14	112	133	182	358HGA1250	410,40
4.30	6	36	43	81	358HGA0430	150,28	12.80	14	112	133	182	358HGA1280	410,40
4.50	6	36	43	81	358HGA0450	150,28	13.00	14	112	133	182	358HGA1300	410,40
4.60	6	36	43	81	358HGA0460	150,28	13.20	14	112	133	182	358HGA1320	410,40
4.70	6	36	43	81	358HGA0470	150,28	13.50	14	112	133	182	358HGA1350	410,40
4.80	6	48	57	95	358HGA0480	154,21	14.00	14	112	133	182	358HGA1400	410,40
4.90	6	48	57	95	358HGA0490	154,21	14.20	16	128	152	203	358HGA1420	577,55
5.00	6	48	57	95	358HGA0500	154,21	14.50	16	128	152	203	358HGA1450	577,55
5.10	6	48	57	95	358HGA0510	154,21	15.00	16	128	152	203	358HGA1500	577,55
5.20	6	48	57	95	358HGA0520	154,21	15.50	16	128	152	203	358HGA1550	577,55
5.30	6	48	57	95	358HGA0530	154,21	16.00	16	128	152	203	358HGA1600	577,55
5.50	6	48	57	95	358HGA0550	154,21	16.50	18	144	171	222	358HGA1650	664,98
5.60	6	48	57	95	358HGA0560	154,21	17.00	18	144	171	222	358HGA1700	664,98
5.70	6	48	57	95	358HGA0570	154,21	17.50	18	144	171	222	358HGA1750	664,98
5.80	6	48	57	95	358HGA0580	154,21	18.00	18	144	171	222	358HGA1800	664,98
5.90	6	48	57	95	358HGA0590	154,21	18.50	20	160	190	243	358HGA1850	819,45
6.00	6	48	57	95	358HGA0600	154,21	19.00	20	160	190	243	358HGA1900	819,45
6.10	8	64	76	114	358HGA0610	186,69	19.50	20	160	190	243	358HGA1950	819,45
6.20	8	64	76	114	358HGA0620	186,69	20.00	20	160	190	243	358HGA2000	819,45
6.30	8	64	76	114	358HGA0630	186,69							
6.40	8	64	76	114	358HGA0640	186,69							
6.50	8	64	76	114	358HGA0650	186,69							
6.60	8	64	76	114	358HGA0660	186,69							
6.70	8	64	76	114	358HGA0670	186,69							
6.80	8	64	76	114	358HGA0680	186,69							
6.90	8	64	76	114	358HGA0690	186,69							
7.00	8	64	76	114	358HGA0700	186,69							
7.10	8	64	76	114	358HGA0710	186,69							
7.20	8	64	76	114	358HGA0720	186,69							
7.30	8	64	76	114	358HGA0730	186,69							
7.40	8	64	76	114	358HGA0740	186,69							
7.50	8	64	76	114	358HGA0750	186,69							
7.60	8	64	76	114	358HGA0760	186,69							
7.80	8	64	76	114	358HGA0780	186,69							
8.00	8	64	76	114	358HGA0800	186,69							
8.10	10	80	95	142	358HGA0810	240,69							
8.20	10	80	95	142	358HGA0820	240,69							
8.30	10	80	95	142	358HGA0830	240,69							
8.50	10	80	95	142	358HGA0850	240,69							
8.60	10	80	95	142	358HGA0860	240,69							
8.70	10	80	95	142	358HGA0870	240,69							
8.80	10	80	95	142	358HGA0880	240,69							
9.00	10	80	95	142	358HGA0900	240,69							
9.10	10	80	95	142	358HGA0910	240,69							
9.20	10	80	95	142	358HGA0920	240,69							
9.30	10	80	95	142	358HGA0930	240,69							



3512HL - catalogue page 165



12XD

OSAWA
NORM

HL

MG
PV250

135°

30°

3515HL - catalogue page 170



15XD

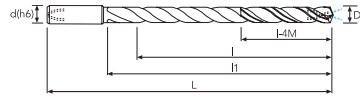
OSAWA
NORM

HL

MG
PV250

135°

30°



							3512HL								3515HL
P															★
M															★
K															★
N															☆
S															☆
H															☆
D(h7)	d(h6)	l	l1	L	l-4M	EDP No.	€	d(h6)	l	l1	L	l-4M	EDP No.	€	
3.10	4	45	50	85	15.5	3512HL0310N	242,18								
3.20	4	45	50	85	16	3512HL0320N	242,18								
3.30	4	45	50	85	16.5	3512HL0330N	242,18								
3.50	4	48	54	90	17.5	3512HL0350N	242,18	4	55	60	95	17.5	3515HL0350N	256,79	
3.70	4	48	54	90	18.5	3512HL0370N	242,18								
3.80	4	57	64	100	19	3512HL0380N	242,18								
4.00	4	57	64	100	20	3512HL0400N	242,18	4	62	68	105	20	3515HL0400N	256,79	
4.10	5	57	64	100	20.5	3512HL0410N	272,71								
4.20	5	57	64	100	21	3512HL0420N	272,71								
4.30	5	57	64	100	21.5	3512HL0430N	272,71								
4.50	5	57	64	100	22.5	3512HL0450N	272,71	5	67	73	110	21.5	3515HL0430N	275,37	
4.80	5	67	74	110	24	3512HL0480N	272,71	5	70	76	115	22.5	3515HL0450N	275,37	
5.00	5	72	81	120	25	3512HL0500N	272,71	5	77	85	120	25	3515HL0500N	275,37	
5.10	6	72	81	120	25.5	3512HL0510N	272,71								
5.20	6	72	81	120	26	3512HL0520N	272,71								
5.30	6	72	81	120	26.5	3512HL0530N	272,71								
5.50	6	72	81	120	27.5	3512HL0550N	272,71	6	85	93	130	27.5	3515HL0550N	287,61	
5.60	6	72	81	120	28	3512HL0560N	272,71								
5.80	6	72	81	120	29	3512HL0580N	272,71								
6.00	6	72	81	120	30	3512HL0600N	272,71	6	92	101	140	30	3515HL0600N	287,61	
6.10	8	88	97	135	30.5	3512HL0610N	321,19								
6.20	8	88	97	135	31	3512HL0620N	321,19								
6.30	8	88	97	135	31.5	3512HL0630N	321,19								
6.50	8	96	108	145	32.5	3512HL0650N	321,19	8	100	110	150	32.5	3515HL0650N	342,68	
6.80	8	96	108	145	34	3512HL0680N	321,19								
7.00	8	96	108	145	35	3512HL0700N	321,19	8	107	118	160	35	3515HL0700N	342,68	
7.50	8	96	108	145	37.5	3512HL0750N	321,19	8	115	126	165	37.5	3515HL0750N	342,68	
7.80	8	96	108	145	39	3512HL0780N	321,19								
8.00	8	96	108	145	40	3512HL0800N	321,19	10	125	137	180	40.5	3515HL0800N	342,68	
8.50	10	120	135	180	42.5	3512HL0850N	369,67	10	130	142	185	42.5	3515HL0850N	434,47	
8.60	10	120	135	180	43	3512HL0860N	369,67								
8.70	10	120	135	180	43.5	3512HL0870N	369,67								
8.80	10	120	135	180	44	3512HL0880N	369,67								
9.00	10	120	135	180	45	3512HL0900N	369,67	10	137	151	195	45	3515HL0900N	434,47	
9.50	10	120	135	180	47.5	3512HL0950N	369,67	10	145	159	200	47.5	3515HL0950N	434,47	
9.80	10	120	135	180	49	3512HL0980N	369,67								
10.00	10	120	135	180	50	3512HL1000N	369,67	10	152	167	210	50	3515HL1000N	434,47	

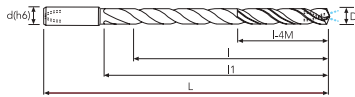
Check SUH MINI range for long drills below Ø3.1



3520HL - catalogue page 175



20XD OSAWA NORM HL MG PV250 135° 30°



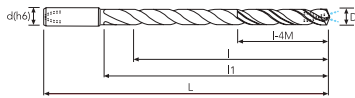
3520HL

P							★
M							★
K							★
N							☆
S							☆
H							
D(h7)	d(h6)	l	l1	L	l-4M	EDP No.	€
3.20	4	66	71	105	16	3520HL0320N	278,75
3.30	4	68	73	110	16.5	3520HL0330N	278,75
3.50	4	72	77	110	17.5	3520HL0350N	278,75
4.00	4	82	88	125	20	3520HL0400N	278,75
4.50	5	92	99	135	22.5	3520HL0450N	342,34
5.00	5	102	110	145	25	3520HL0500N	342,34
5.50	6	112	120	160	27.5	3520HL0550N	354,92
6.00	6	122	131	170	30	3520HL0600N	354,92
6.50	8	132	142	180	32.5	3520HL0650N	422,23
7.00	8	142	153	195	35	3520HL0700N	422,23
7.50	8	152	163	205	37.5	3520HL0750N	422,23
8.00	8	162	174	215	40	3520HL0800N	422,23
8.50	10	172	185	230	42.5	3520HL0850N	585,78
9.00	10	182	196	240	45	3520HL0900N	585,78
9.50	10	192	206	250	47.5	3520HL0950N	585,78
10.00	10	202	217	260	50	3520HL1000N	585,78

3525HL - catalogue page 180



25XD OSAWA NORM HL MG PV250 135° 30°



3525HL

P							★
M							★
K							★
N							☆
S							☆
H							
D(h7)	d(h6)	l	l1	L	l-4M	EDP No.	€
3.50	4	89	94	130	17.5	3525HL0350N	373,28
4.00	4	101	107	140	20	3525HL0400N	373,28
4.50	5	114	120	155	22.5	3525HL0450N	397,75
5.00	5	126	134	170	25	3525HL0500N	397,75
5.50	6	139	147	185	27.5	3525HL0550N	422,23
6.00	6	151	160	200	30	3525HL0600N	422,23
6.50	8	164	173	210	32.5	3525HL0650N	483,42
7.00	8	176	187	230	35	3525HL0700N	483,42
7.50	8	189	200	240	37.5	3525HL0750N	483,42
8.00	8	201	213	255	40	3525HL0800N	596,39
8.50	10	214	226	270	42.5	3525HL0850N	695,63
9.00	10	226	240	285	45	3525HL0900N	695,63

Check SUH MINI range for long drills below Ø3.1



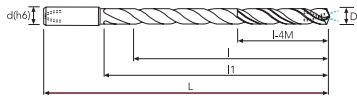
PARAMETERS

★ 1st choice ☆ suitable

3530HL - catalogue page 185



30XD OSAWA NORM HL MG PV250 135° 30°



3530HL

P							★
M							★
K							★
N							☆
S							☆
H							
D(h7)	d(h6)	I	I1	L	I-4M	EDP No.	€
3.50	4	106	111	145	17.5	3530HL0350N	434,47
4.00	4	121	127	160	20	3530HL0400N	434,47
4.50	5	136	143	180	22.5	3530HL0450N	446,71
5.00	5	151	159	195	25	3530HL0500N	446,71
5.50	6	166	174	215	27.5	3530HL0550N	477,30
6.00	6	181	190	230	30	3530HL0600N	477,30
6.50	8	196	206	245	32.5	3530HL0650N	550,73
7.00	8	211	222	265	35	3530HL0700N	550,73
7.50	8	226	237	280	37.5	3530HL0750N	550,73
8.00	8	241	253	295	40	3530HL0800N	706,24

Check SUH MINI range for long drills below Ø3.1

TYPHOON - MINI 5xD, 8xD and 12xD

355SUH MINI - catalogue page 132



5XD OSAWA NORM SUH MINI MG PV300 135° 30°

358SUH MINI - catalogue page 136

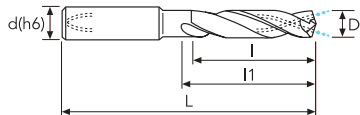


8XD OSAWA NORM SUH MINI MG PV300 135° 30°

3512SUH MINI - catalogue page 140



12XD OSAWA NORM SUH MINI MG PV300 135° 30°



355SUH

358SUH

3512SUH

P				★				★				★		
M				★				★				★		
K				★				★				★		
N				☆				☆				☆		
S				☆				☆				☆		
H														
D(h7)	d(h6)	EDP No.	I	I1	L	€	I	I1	L	€	I	I1	L	€
1.00	3	.....0100N	6.5	8	50	79,08	9.5	11	50	94,15	13.5	15	55	109,69
1.10	3	.....0110N	7.2	8.7	50	79,08	10.5	12	50	94,15	14.9	16.4	55	109,69
1.20	3	.....0120N	7.8	9.3	50	79,08	11.4	12.9	50	94,15	16.2	17.7	55	109,69
1.30	3	.....0130N	8.5	10	50	79,08	12.4	13.9	50	94,15	17.6	19.1	55	109,69
1.40	3	.....0140N	9.1	10.6	50	79,08	13.3	14.8	50	94,15	18.9	20.4	55	109,69
1.50	3	.....0150N	9.8	11.3	50	79,08	14.3	15.8	50	94,15	20.3	21.8	55	109,69
1.60	3	.....0160N	10.4	11.9	50	79,08	15.2	16.7	50	94,15	21.6	23.1	65	118,42
1.70	3	.....0170N	11.1	12.6	55	79,08	16.2	17.7	60	94,15	23	24.5	65	118,42
1.80	3	.....0180N	11.7	13.2	55	79,08	17.1	18.6	60	94,15	24.3	25.8	65	118,42
1.90	3	.....0190N	12.4	13.9	55	79,08	18.1	19.6	60	94,15	25.7	27.2	65	118,42
2.00	3	.....0200N	13	16	55	79,08	19	22	60	94,15	27	30	65	118,42
2.10	3	.....0210N	13.7	16.9	55	79,08	20	23.2	60	94,15	28.4	31.6	65	118,42
2.20	3	.....0220N	14.3	17.6	55	79,08	20.9	24.2	60	94,15	29.7	33	65	118,42
2.30	3	.....0230N	15	18.5	55	79,08	21.9	25.4	60	94,15	31.1	34.6	65	118,42
2.40	3	.....0240N	15.6	19.2	55	79,08	22.8	26.4	60	94,15	32.4	36	75	127,76
2.50	3	.....0250N	16.3	20.1	55	79,08	23.8	27.6	60	94,15	33.8	37.6	75	127,76
2.60	3	.....0260N	16.9	20.8	55	79,08	24.7	28.6	60	94,15	35.1	39	75	127,76
2.70	3	.....0270N	17.6	21.7	55	79,08	25.7	29.8	60	94,15	36.5	40.6	75	127,76
2.80	3	.....0280N	18.2	22.4	55	79,08	26.6	30.8	60	94,15	37.8	42	75	127,76
2.90	3	.....0290N	18.9	23.3	55	79,08	27.6	32	60	94,15	39.2	43.6	75	127,76
3.00	3	.....030003N	19.5	24	55	79,08	28.5	33	60	94,15	40.5	45	75	127,76

EDP No. = ART. BEZ. + Ø + N (Beispiel: 355SUH mm 1.5 = 355SUH0150N)



3520SUH MINI - catalogue page 144

3525SUH MINI - catalogue page 148

3530SUH MINI - catalogue page 152

20XD

OSAWA
NORM

SUH MINI

MG
PV300

135°

30°

25XD

OSAWA
NORM

SUH MINI

MG
PV300

135°

30°

30XD

OSAWA
NORM

SUH MINI

MG
PV300

135°

30°

	3520SUH			3525SUH			3530SUH		
P	★			★			★		
M	★			★			★		
K	★			★			★		
N	☆			☆			☆		
S	☆			☆			☆		
H									

D(h7)	d(h6)	EDP No.	l	l1	L	€	l	l1	L	€	l	l1	L	€
1,00	3	.....0100N	21.5	23	65	126,12	26.5	28	70	205,04	31.5	33	75	219,04
1,20	3	.....0120N	25.8	27.3	65	126,12								
1,30	3	.....0130N	28	29.5	65	126,12								
1,50	3	.....0150N	32.3	33.8	75	141,26	39.8	41.3	80	205,04	47.3	48.8	85	231,32
1,60	3	.....0160N	34.4	35.9	75	141,26								
1,70	3	.....0170N	36.6	38.1	75	141,26								
1,80	3	.....0180N	38.7	40.2	75	141,26								
2,00	3	.....0200N	43	46	82	141,26	53	56	90	212,59	63	66	100	228,07
2,20	3	.....0220N	47.3	50.6	82	141,26								
2,30	3	.....0230N	49.5	53	100	162,46								
2,50	3	.....0250N	53.8	57.6	100	162,46	66.3	70	110	212,59	78.8	82.5	120	232,99
2,80	3	.....0280N	60.2	64.4	100	162,46								
3,00	3	.....0300N	64.5	69	100	162,46	79.5	84	120	220,16	94.5	99	130	240,70

EDP N° = item code + ø (example: 3520SUH mm 1.5 = 3520SUH0150N)

TYPHOON - 90° Phase step drill

372HSD - catalogue page 193

3XD

OSAWA
NORM

HSD

MG
PV300

140°

30°

	372HSD							
P	★							★
M	★							★
K								
N								
S								★
H								

D(m7)	Type	D1(h10)	d(h6)	l	l1	L	EDP No.	€
2.50	M3 /C	4.00	4	9	25	62	372HSD0250	127,56
2.80	M3 /F	4.00	4	9	25	62	372HSD0280	127,56
3.30	M4 /C	5.00	6	11	28	66	372HSD0330	121,35
3.70	M4 /F	6.00	6	11	28	66	372HSD0370	121,35
4.20	M5 /C	6.00	6	14	28	66	372HSD0420	121,35
4.65	M5 /F	6.00	6	14	28	66	372HSD0465	121,35
5.00	M6 /C	8.00	8	17	41	79	372HSD0500	145,84
5.55	M6 /F	8.00	8	17	41	79	372HSD0555	145,84
6.80	M8 /C	10.00	10	21	47	89	372HSD0680	169,22
7.45	M8 /F	10.00	10	21	47	89	372HSD0745	169,22
8.50	M10 /C	12.00	12	26	55	102	372HSD0850	229,85
9.35	M10 /F	12.00	12	26	55	102	372HSD0935	229,85
10.30	M12 /C	14.00	14	30	60	107	372HSD1030	314,95
11.22	M12 /F	14.00	14	30	60	107	372HSD1122	314,95

Type: C=CUTTING TAP; F=FORMING TAP





C-SD-TA

NC SPOTTING

🇬🇧 90° - 120° starting drills for NC centering and chamfering on a wide range of materials.

🇮🇹 Punte da centri a 90° e 120° per NC. Centratura e svasatura su una vasta gamma di materiali.

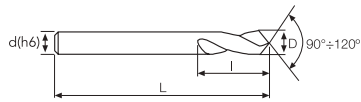
🇩🇪 Anbohrer mit Spitzenwinkel 90° und 120° für NC Maschinen. Zentrierung und Ansenkung auf einem sehr breiten Spektrum von Materialien.

🇫🇷 Forets à centrer et chanfreiner 90°-120°, pour une grande variété de matériaux.

🇪🇸 Brocas para puntear y escariar 90°-120° sobre una gran variedad de materiales.

🇷🇺 Центровочные свёрла с углами при вершине 90°-120° для сверления центровых отверстий и зенкования в широкой гамме материалов на станках с ЧПУ.

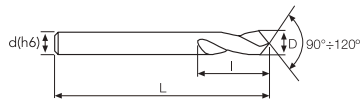
CSDTA90 - catalogue page 198



CSDTA90

P						★
M						★
K						★
N						★
S						☆
H						
D(h6)	d(h6)	l	L	EDP No.		€
6.00	6	16	50	CSDTA060A		36,42
8.00	8	20	64	CSDTA080A		50,02
10.00	10	25	70	CSDTA100A		79,02
12.00	12	25	75	CSDTA120A		97,00
16.00	16	26	90	CSDTA160A		183,31

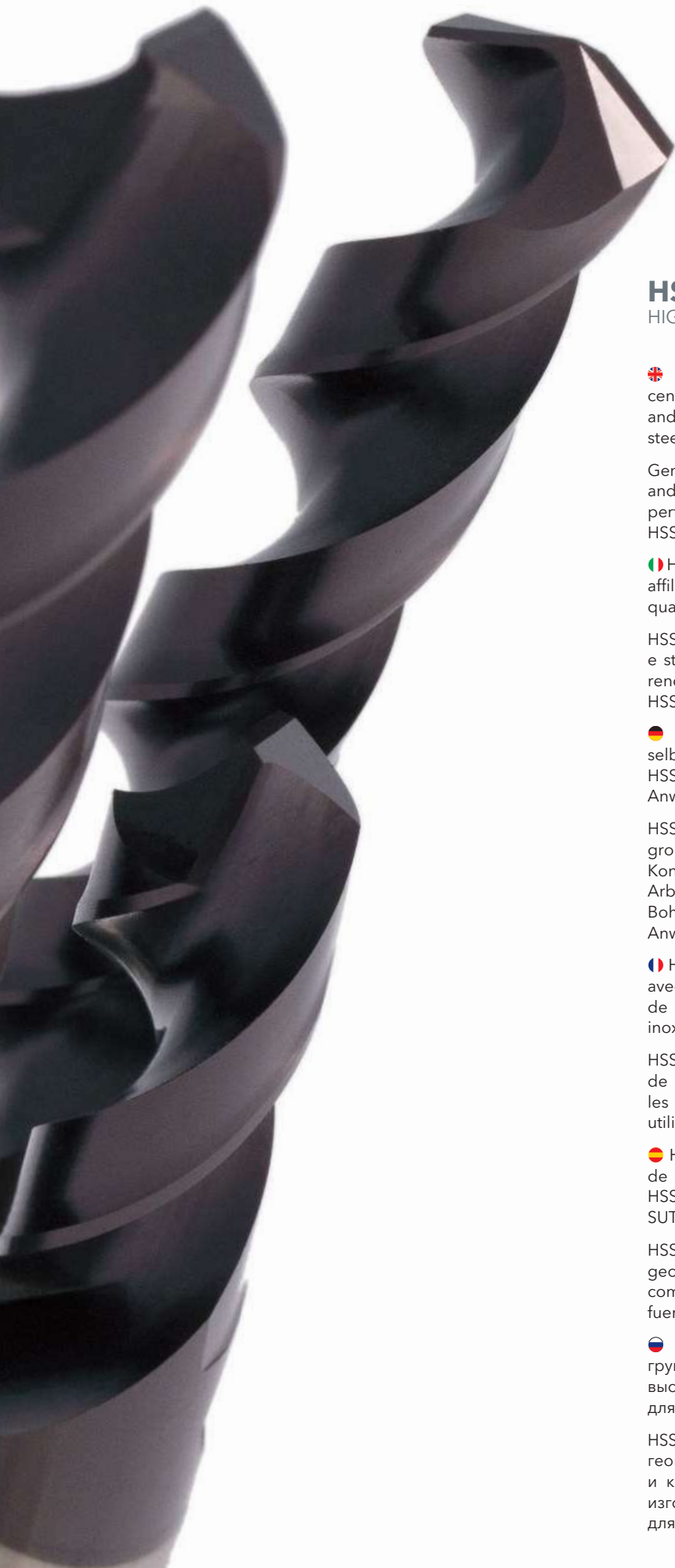
CSDTA120 - catalogue page 198



CSDTA120

P						★
M						★
K						★
N						★
S						☆
H						
D(h6)	d(h6)	l	L	EDP No.		€
6.00	6	16	50	CSDTA060B		36,42
8.00	8	20	64	CSDTA080B		50,02
10.00	10	25	70	CSDTA100B		79,02
12.00	12	25	75	CSDTA120B		97,00
16.00	16	26	90	CSDTA160B		183,31





HSS DRILLS

HIGH PERFORMANCE AND GENERAL PURPOSE DRILLS

✚ High-performance HSS/Co-HSSE: two families of self-centering high-performance drills, made of top-quality HSSE and HSS/Co: LFTA for general purpose and SUTA for stainless steel.

General purpose HSS-HSS/Co: a wide variety of geometries and manufacturing standards, and an excellent combination of performance and convenience, are the strengths of the Osawa HSS and HSS/Co general purpose drills.

🇮🇹 HSS/Co-HSSE ad alto rendimento: due famiglie di punte con affilatura autocentrante, prodotte con HSS/Co e HSSE di prima qualità: LFTA per uso generico e SUTA per acciaio inossidabile

HSS-HSS/Co per uso generico: ampia varietà di geometrie e standard costruttivi, con una vantaggiosa combinazione di rendimento e convenienza, sono i punti di forza delle punte in HSS e HSS/Co Osawa per uso generico.

🇩🇪 HSS/Co-HSSE Hochleistung: zwei Produktgruppen von selbstzentrierenden Hochleistungsbohrern bestehend aus HSS/Co und HSSE von höchster Qualität: LFTA für allgemeine Anwendung; SUTA für Edelstahl.

HSS-HSS/Co für die allgemeine Anwendung: eine große Auswahl an verschiedenen Geometrien und Konstruktionsstandards mit einer günstigen Kombination aus Arbeitsleistung und Wirtschaftlichkeit sind die Stärken der Bohrer aus HSS und HSS/Co von Osawa für die allgemeine Anwendung.

🇫🇷 HSS / Co-HSSE Haute performance: deux familles de forets avec un affûtage autocentré, fabriquées avec HSS / Co et HSSE de première qualité : LFTA générique et SUTA pour l'acier inoxydable.

HSS-HSS / Co pour une utilisation générique: grande variété de géométrie associant rendement, qualité et prix, sont les points forts des forets HSS et HSS / Co Osawa pour une utilisation générique.

🇪🇸 HSS/Co-HSSE de alto rendimiento: dos familias de brocas de alto rendimiento, con afilado autocentrante, hechas de HSS/Co y HSSE de calidad superior: LFTA para uso general y SUTA para acero inoxidable.

HSS-HSS/Co para uso general: una amplia variedad de geometrías y estándares de fabricación, con una provechosa combinación de rendimiento y economía: estos son los puntos fuertes de las brocas Osawa de HSS y HSS/Co para uso general.

🇷🇺 Высокопроизводительный HSS/Co-HSSE: Две группы самоцентрирующихся свёрл изготовленных из высококачественного HSS/Co и HSSE: LFTA предназначены для общего назначения и SUTA для нержавеющей сталей.

HSS-HSS/Co для общего применения: Широкая гамма геометрий и типов свёрл, с отличным соотношением цены и качества, являющейся сильной стороной гаммы свёрл изготовленных из HSS и HSS/Co Osawa предназначенных для общего применения.

218LF TA - catalogue page 212



218LF TA will be exhausted and gradually replaced by new 218PTA

DIN 1897	LF	HSS/CO PV10	130°	35-40°
----------	----	-------------	------	--------

238LF TA - catalogue page 216



238LF TA will be exhausted and gradually replaced by new 238PTA

DIN 338	LF	HSS/CO PV10	130°	35-40°
---------	----	-------------	------	--------

980SUTA - catalogue page 222

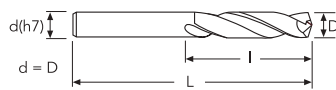


OSAWA NORM	SU	HSSE PV10	120°	38°
------------	----	-----------	------	-----

990SUTA - catalogue page 226



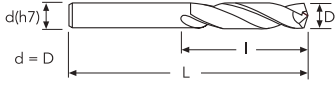
OSAWA NORM	SU	HSSE PV10	120°	38°
------------	----	-----------	------	-----



				218LF TA			238LF TA			980SUTA			990SUTA		
P	★														
M	☆														
K	★														
N	☆														
S	☆														
H															
D(h8)	d(h7)	EDP No.	I	L	€	I	L	€	I	L	€	I	L	€	
2.00	2	P.....0200	12	38	15,72	24	49	18,84	12	44	20,40	24	56	21,95	
2.10	2.1	P.....0210	12	38	16,42	24	49	19,51	12	44	22,93	24	56	24,83	
2.20	2.2	P.....0220	13	40	16,42	27	53	19,51	13	45	22,93	27	59	24,83	
2.30	2.3	P.....0230	13	40	16,42	27	53	19,51	13	45	22,93	27	59	24,83	
2.40	2.4	P.....0240	14	43	17,12	30	57	19,83	14	46	22,93	30	62	24,83	
2.50	2.5	P.....0250	14	43	15,72	30	57	18,49	14	46	20,40	30	62	21,95	
2.60	2.6	P.....0260	14	43	16,42	30	57	19,00	14	46	22,09	30	62	24,13	
2.70	2.7	P.....0270	16	46	17,12	33	61	19,83	16	48	22,09	33	65	24,13	
2.80	2.8	P.....0280	16	46	17,12	33	61	19,83	16	48	22,09	33	65	24,13	
2.90	2.9	P.....0290	16	46	17,12	33	61	19,83	16	48	22,09	33	65	24,13	
3.00	3	P.....0300	16	46	16,42	33	61	19,00	16	48	19,41	33	65	20,75	
3.10	3.1	P.....0310	18	49	17,60	36	65	20,72	18	50	22,93	36	68	24,83	
3.20	3.2	P.....0320	18	49	17,60	36	65	20,72	18	50	22,93	36	68	24,83	
3.30	3.3	P.....0330	18	49	17,60	36	65	20,72	18	50	22,93	36	68	24,83	
3.40	3.4	P.....0340	20	52	17,44	39	70	21,10	20	52	22,93	39	71	24,83	
3.50	3.5	P.....0350	20	52	17,79	39	70	21,23	20	52	22,93	39	71	24,83	
3.60	3.6	P.....0360	20	52	18,62	39	70	22,28	20	52	26,52	39	71	28,77	
3.70	3.7	P.....0370	20	52	18,62	39	70	22,28	20	52	26,52	39	71	28,77	
3.80	3.8	P.....0380	22	55	18,62	43	75	22,28	22	54	24,41	43	75	26,52	
3.90	3.9	P.....0390	22	55	18,62	43	75	22,28	22	54	26,52	43	75	28,77	
4.00	4	P.....0400	22	55	18,11	43	75	21,77	22	54	24,41	43	75	26,52	
4.10	4.1	P.....0410	22	55	19,19	43	75	24,67	22	66	30,17	43	87	35,31	
4.20	4.2	P.....0420	22	55	19,19	43	75	24,67	22	66	27,86	43	87	32,71	
4.30	4.3	P.....0430	24	58	21,77	47	80	25,53	24	68	30,17	47	91	35,10	
4.40	4.4	P.....0440	24	58	21,77	47	80	25,53	24	68	30,17	47	91	35,10	
4.50	4.5	P.....0450	24	58	20,53	47	80	23,28	24	68	34,96	47	91	32,42	
4.60	4.6	P.....0460	24	58	21,77	47	80	25,53	24	68	34,68	47	91	40,02	
4.70	4.7	P.....0470	24	58	21,77	47	80	25,53	24	68	34,68	47	91	40,02	
4.80	4.8	P.....0480	26	62	21,77	52	86	25,53	26	70	34,68	52	96	41,78	
4.90	4.9	P.....0490	26	62	21,77	52	86	25,53	26	70	34,68	52	96	41,78	
5.00	5	P.....0500	26	62	20,72	52	86	24,00	26	70	31,59	52	96	38,55	
5.10	5.1	P.....0510	26	62	21,90	52	86	27,65	26	70	31,59	52	96	38,55	
5.20	5.2	P.....0520	26	62	21,90	52	86	27,65	26	70	36,01	52	96	42,91	
5.30	5.3	P.....0530	26	62	22,09	52	86	27,51	26	70	39,46	52	96	47,20	
5.40	5.4	P.....0540	28	66	25,72	57	93	33,46	28	72	39,46	57	101	46,77	
5.50	5.5	P.....0550	28	66	24,35	57	93	30,39	28	72	36,01	57	101	42,62	
5.60	5.6	P.....0560	28	66	25,72	57	93	33,46	28	72	44,60	57	101	52,41	
5.70	5.7	P.....0570	28	66	26,05	57	93	33,79	28	72	44,60	57	101	52,41	
5.80	5.8	P.....0580	28	66	26,05	57	93	33,79	28	72	44,60	57	101	52,41	
5.90	5.9	P.....0590	28	66	25,72	57	93	33,26	28	72	44,60	57	101	52,41	
6.00	6	P.....0600	28	66	24,86	57	93	34,33	28	72	40,23	57	101	47,83	
6.10	6.1	P.....0610	31	70	28,89	63	101	33,91	31	75	44,74	63	107	55,01	
6.20	6.2	P.....0620	31	70	29,21	63	101	38,33	31	75	44,74	63	107	55,01	
6.30	6.3	P.....0630	31	70	28,89	63	101	37,37	31	75	44,74	63	107	55,01	
6.40	6.4	P.....0640	31	70	30,54	63	101	40,21	31	75	44,74	63	107	55,01	

EDP N° = P + item code + ø (example: 218LF TA mm 3.5 = P218LF TA0350)

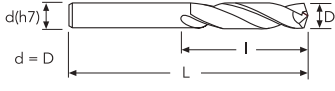




					218LFTA						238LFTA						980SUTA						990SUTA																			
P	★														★														★													
M	☆														☆														☆													
K	★														★														★													
N	☆														☆														☆													
S																													☆													
H																													☆													
D(h8)	d(h7)	EDP No.	I	L	€	I	L	€	I	L	€	I	L	€	I	L	€	I	L	€																						
6.50	6.5	P.....0650	31	70	30,19	63	101	35,46	31	75	47,69	63	107	50,72																												
6.60	6.6	P.....0660	31	70	30,54	63	101	40,21	31	75	52,13	63	107	59,09																												
6.70	6.7	P.....0670	31	70	30,54	63	101	40,21	31	75	52,13	63	107	59,09																												
6.80	6.8	P.....0680	34	74	31,52	69	109	41,38	34	78	52,13	69	113	58,81																												
6.90	6.9	P.....0690	34	74	31,52	69	109	41,38	34	78	52,13	69	113	58,81																												
7.00	7	P.....0700	34	74	30,54	69	109	40,21	34	78	48,54	69	113	55,78																												
7.10	7.1	P.....0710	34	74	42,14	69	109	48,69	34	78	51,77	69	113	59,79																												
7.20	7.2	P.....0720	34	74	42,14	69	109	48,69	34	78	51,77	69	113	59,79																												
7.30	7.3	P.....0730	34	74	42,14	69	109	48,69	34	78	51,77	69	113	59,79																												
7.40	7.4	P.....0740	34	74	42,14	69	109	48,69	34	78	51,77	69	113	59,79																												
7.50	7.5	P.....0750	34	74	31,52	69	109	42,54	34	78	51,77	69	113	59,79																												
7.60	7.6	P.....0760	37	79	46,70	75	117	54,01	37	81	56,62	75	119	68,23																												
7.70	7.7	P.....0770	37	79	46,70	75	117	54,01	37	81	56,62	75	119	68,23																												
7.80	7.8	P.....0780	37	79	45,19	75	117	52,10	37	81	56,62	75	119	68,23																												
7.90	7.9	P.....0790	37	79	45,19	75	117	52,10	37	81	56,62	75	119	68,23																												
8.00	8	P.....0800	37	79	36,46	75	117	50,40	37	81	52,41	75	119	64,08																												
8.10	8.1	P.....0810	37	79	50,22	75	117	61,17	37	87	57,54	75	125	67,74																												
8.20	8.2	P.....0820	37	79	50,22	75	117	61,17	37	87	57,54	75	125	67,74																												
8.30	8.3	P.....0830	37	79	50,22	75	117	61,17	37	87	57,54	75	125	67,74																												
8.40	8.4	P.....0840	37	79	50,22	75	117	61,17	37	87	57,54	75	125	67,74																												
8.50	8.5	P.....0850	37	79	38,98	75	117	55,23	37	87	52,96	75	125	63,59																												
8.60	8.6	P.....0860	40	84	58,56	81	125	72,88	40	90	53,11	81	131	66,61																												
8.70	8.7	P.....0870	40	84	58,56	81	125	73,06	40	90	63,59	81	131	78,01																												
8.80	8.8	P.....0880	40	84	58,56	81	125	73,06	40	90	63,59	81	131	78,01																												
8.90	8.9	P.....0890	40	84	58,56	81	125	73,06	40	90	63,59	81	131	78,01																												
9.00	9	P.....0900	40	84	44,80	81	125	65,56	40	90	54,16	81	131	67,24																												
9.10	9.1	P.....0910	40	84	64,90	81	125	82,05	40	90	68,72	81	131	84,06																												
9.20	9.2	P.....0920	40	84	64,90	81	125	82,05	40	90	68,72	81	131	84,06																												
9.30	9.3	P.....0930	40	84	67,13	81	125	82,05	40	90	68,72	81	131	84,06																												
9.40	9.4	P.....0940	40	84	67,13	81	125	82,05	40	90	68,72	81	131	84,06																												
9.50	9.5	P.....0950	40	84	45,52	81	125	64,25	40	90	64,01	81	131	78,57																												
9.60	9.6	P.....0960	43	89	69,92	87	133	87,21	43	93	76,04	87	137	96,44																												
9.70	9.7	P.....0970	43	89	69,92	87	133	87,21	43	93	76,04	87	137	96,44																												
9.80	9.8	P.....0980	43	89	69,92	87	133	87,21	43	93	76,04	87	137	96,44																												
9.90	9.9	P.....0990	43	89	69,92	87	133	87,21	43	93	76,04	87	137	96,44																												
10.00	10	P.....1000	43	89	46,86	87	133	72,28	43	93	65,42	87	137	83,85																												
10.10	10.1	P.....1010							43	100	79,42	87	144	97,00																												
10.20	10.2	P.....1020	43	89	84,82	87	133	103,49	43	100	79,42	87	144	97,00																												
10.30	10.3	P.....1030	43	89	69,94	87	133	88,17	43	100	79,42	87	144	97,00																												
10.40	10.4	P.....1040							43	100	79,42	87	144	97,00																												
10.50	10.5	P.....1050	43	89	69,94	87	133	88,17	43	100	73,93	87	144	90,88																												
10.60	10.6	P.....1060							43	100	86,17	87	144	104,95																												
10.70	10.7	P.....1070							47	104	85,68	94	151	108,96																												
10.80	10.8	P.....1080	47	95	77,58	94	142	98,47	47	104	85,68	94	151	108,96																												
10.90	10.9	P.....1090							47	104	85,68	94	151	108,96																												
11.00	11	P.....1100	47	95	77,58	94	142	98,47	47	104	74,56	94	151	96,09																												
11.10	11.1	P.....1110							47	104	93,69	94	151	118,03																												
11.20	11.2	P.....1120	47	95	77,58	94	142	105,47	47	104	93,69	94	151	118,03																												
11.30	11.3	P.....1130	47	95	77,58	94	142	105,47	47	104	93,69	94	151	118,03																												
11.40	11.4	P.....1140							47	104	93,69	94	151	118,03																												
11.50	11.5	P.....1150	47	95	77,58	94	142	105,47	47	104	86,73	94	151	109,87																												
11.60	11.6	P.....1160							47	104	100,94	94	151	125,70																												
11.70	11.7	P.....1170							47	104	100,94	94	151	125,70																												
11.80	11.8	P.....1180	47	95	77,35	94	142	125,82	47	104	100,94	94	151	125,70																												
11.90	11.9	P.....1190							51	108	102,49	101	158	130,97																												
12.00	12	P.....1200	51	102	77,35	101	151	125,82	51	108	88,42	101	158	115,78																												
12.10	12.1	P.....1210							51	108	109,59	101	158	139,77																												
12.20	12.2	P.....1220	51	102	83,94	101	151	140,53	51	108	109,59	101	158	139,77																												
12.30	12.3	P.....1230							51	108	109,59	101	158	139,77																												
12.40	12.4	P.....1240							51	108	109,59	101	158	139,77																												
12.50	12.5	P.....1250	51	102	83,94	101	151	143,19	51	108	101,85	101	158	130,90																												
12.60	12.6	P.....1260							51	108	115,71	101	158	146,45																												
12.70	12.7	P.....1270							51	108	115,71	101	158	146,45																												

EDP N° = P + item code + ø (example: 218LFTA mm 3.5 = P218LFTA0350)





					218LFTA						238LFTA						980SUTA						990SUTA																																	
P	★														★														★														★													
M	☆														☆														☆														☆													
K	★														★														★														★													
N	☆														☆														☆														☆													
S																																																								
H																																																								
D(h8)	d(h7)	EDP No.	I	L	€	I	L	€	I	L	€	I	L	€	I	L	€																																							
12.80	12.8	P.....1280	51	102	111,25	101	151	179,51	51	108	115,71	101	158	146,45																																										
12.90	12.9	P.....1290							51	108	115,71	101	158	146,45																																										
13.00	13	P.....1300	51	102	111,25	101	151	179,51	51	108	103,48	101	158	132,38																																										
13.30	13.3	P.....1330	54	107	117,86	108	160	189,48																																																
13.50	13.5	P.....1350	54	107	117,86	108	160	189,48				106	166	153,84																																										
13.80	13.8	P.....1380	54	107	115,06	108	160	184,82																																																
14.00	14	P.....1400	54	107	115,06	108	160	184,82				106	166	153,27																																										
14.10	14.1	P.....1410										109	169	194,00																																										
14.50	14.5	P.....1450	56	111	122,85	114	169	196,91				109	169	179,01																																										
14.80	14.8	P.....1480	56	111	122,85	114	169	196,91																																																
15.00	15	P.....1500	56	111	122,85	114	169	196,91				109	169	179,23																																										
15.30	15.3	P.....1530	56	111	143,70	120	178	231,85																																																
15.50	15.5	P.....1550	58	115	143,70	120	178	231,85				112	172	208,42																																										
15.60	15.6	P.....1560										112	172	226,71																																										
15.80	15.8	P.....1580	58	115	131,72	120	178	239,64																																																
16.00	16	P.....1600	58	115	131,72	120	178	239,64				112	172	209,12																																										
16.50	16.5	P.....1650	60	119	146,98	125	184	240,08				115	181	242,54																																										
17.00	17	P.....1700	60	119	148,51	125	184	242,68				115	181	247,25																																										
17.50	17.5	P.....1750	62	123	151,57	130	191	248,03				118	184	295,29																																										
17.60	17.6	P.....1760										118	184	320,83																																										
18.00	18	P.....1800	62	123	153,25	130	191	250,93				118	184	300,99																																										
18.50	18.5	P.....1850	64	127	154,86	135	198	260,09				122	188	316,82																																										
19.00	19	P.....1900	64	127	157,99	135	198	264,97				122	188	323,57																																										
19.50	19.5	P.....1950	66	131	161,28	140	205	270,07				125	191	352,76																																										
20.00	20	P.....2000	66	131	165,79	140	205	277,22				125	191	397,78																																										

EDP N° = P + item code + ø (example: 218LFTA mm 3.5 = P218LFTA0350)



138N - catalogue page 246



1386STI (≤1.5mm = 1385NTI) - catalogue page 241



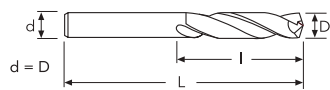
238NVA - catalogue page 265



2386STI (≤1.5mm = 2385NTI) - catalogue page 260

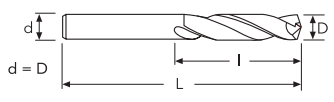


DIN 338		HSS		
	N	OX *		
* \varnothing 2 mm = 138NB HSS BR				
DIN 338		HSS		
	SPLIT POINT	TIN		
DIN 338		HSS/CO		
	NH	HT		
DIN 338		HSS/Co		
	SPLIT POINT	TIN		



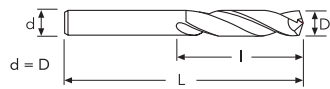
						138N	1386STI		238NVA		2386STI	
P						★		★		★		★
M								☆		★		★
K						☆		★		☆		★
N						☆		☆		☆		☆
S								☆		☆		☆
H												
D(h8)	d	I	L	PACKAGING	EDP No.	€	EDP No.	€	EDP No.	€	EDP No.	€
0.20	0.2	2.5	19	10	P138NB0020	5,95						
0.30	0.3	3	19	10	P138NB0030	4,29						
0.40	0.4	5	20	10	P138NB0040	3,51						
0.50	0.5	6	22	10	P138NB0050	2,82						
0.60	0.6	7	24	10	P138NB0060	2,82						
0.70	0.7	9	28	10	P138NB0070	2,63						
0.80	0.8	10	30	10	P138NB0080	2,63						
0.90	0.9	11	32	10	P138NB0090	2,27						
1.00	1	12	34	10	P138NB0100	1,78	P1385NTI0100	1,99	P238NVA0100	4,29	P2385NTI0100	2,88
1.10	1.1	14	36	10	P138NB0110	1,89	P1385NTI0110	2,17	P238NVA0110	4,29	P2385NTI0110	2,88
1.20	1.2	16	38	10	P138NB0120	1,89	P1385NTI0120	2,17	P238NVA0120	4,29	P2385NTI0120	2,88
1.25	1.25	16	38	10	P138NB0125	2,06			P238NVA0125	4,29		
1.30	1.3	16	38	10	P138NB0130	1,89	P1385NTI0130	2,17	P238NVA0130	4,29	P2385NTI0130	2,88
1.40	1.4	18	40	10	P138NB0140	1,89	P1385NTI0140	2,17	P238NVA0140	4,29	P2385NTI0140	2,88
1.50	1.5	18	40	10	P138NB0150	1,89	P1385NTI0150	2,17	P238NVA0150	4,29	P2385NTI0150	2,88
1.60	1.6	20	43	10	P138NB0160	1,89	P1386STI0160	2,41	P238NVA0160	4,05	P2386STI0160	3,05
1.70	1.7	20	43	10	P138NB0170	1,89	P1386STI0170	2,41	P238NVA0170	4,05	P2386STI0170	3,05
1.75	1.75	22	46	10	P138NB0175	2,06			P238NVA0175	4,45		
1.80	1.8	22	46	10	P138NB0180	1,89	P1386STI0180	2,41	P238NVA0180	4,05	P2386STI0180	3,05
1.90	1.9	22	46	10	P138NB0190	1,89	P1386STI0190	2,41	P238NVA0190	4,05	P2386STI0190	3,05
2.00	2	24	49	10	P138N0200	1,63	P1386STI0200	2,41	P238NVA0200	4,05	P2386STI0200	3,05
2.10	2.1	24	49	10	P138N0210	1,63	P1386STI0210	2,41	P238NVA0210	4,05	P2386STI0210	3,14
2.20	2.2	27	53	10	P138N0220	1,55	P1386STI0220	2,17	P238NVA0220	3,97	P2386STI0220	3,14
2.25	2.25	27	53	10	P138N0225	1,55			P238NVA0225	4,29		
2.30	2.3	27	53	10	P138N0230	1,55	P1386STI0230	2,17	P238NVA0230	3,97	P2386STI0230	3,14
2.40	2.4	30	57	10	P138N0240	1,55	P1386STI0240	2,17	P238NVA0240	3,97	P2386STI0240	3,14
2.50	2.5	30	57	10	P138N0250	1,55	P1386STI0250	2,17	P238NVA0250	3,97	P2386STI0250	3,14
2.60	2.6	30	57	10	P138N0260	1,70	P1386STI0260	2,41	P238NVA0260	4,21	P2386STI0260	3,48
2.70	2.7	33	61	10	P138N0270	1,70	P1386STI0270	2,41	P238NVA0270	4,21	P2386STI0270	3,48
2.75	2.75	33	61	10	P138N0275	1,78			P238NVA0275	4,61		
2.80	2.8	33	61	10	P138N0280	1,70	P1386STI0280	2,41	P238NVA0280	4,21	P2386STI0280	3,48
2.90	2.9	33	61	10	P138N0290	1,70	P1386STI0290	2,41	P238NVA0290	4,21	P2386STI0290	3,48
3.00	3	33	61	10	P138N0300	1,70	P1386STI0300	2,41	P238NVA0300	4,21	P2386STI0300	3,48
3.10	3.1	36	65	10	P138N0310	1,97	P1386STI0310	2,60	P238NVA0310	4,45	P2386STI0310	3,91
3.20	3.2	36	65	10	P138N0320	1,97	P1386STI0320	2,60	P238NVA0320	4,45	P2386STI0320	3,91
3.25	3.25	36	65	10	P138N0325	2,19			P238NVA0325	5,01		
3.30	3.3	36	65	10	P138N0330	1,97	P1386STI0330	2,60	P238NVA0330	4,45	P2386STI0330	3,91
3.40	3.4	39	70	10	P138N0340	1,97	P1386STI0340	2,60	P238NVA0340	4,45	P2386STI0340	3,91
3.50	3.5	39	70	10	P138N0350	1,97	P1386STI0350	2,60	P238NVA0350	4,45	P2386STI0350	3,91
3.60	3.6	39	70	10	P138N0360	2,12	P1386STI0360	2,75	P238NVA0360	5,16	P2386STI0360	4,76
3.70	3.7	39	70	10	P138N0370	2,12	P1386STI0370	2,75	P238NVA0370	5,16	P2386STI0370	4,76
3.75	3.75	39	70	10	P138N0375	2,33			P238NVA0375	5,64		
3.80	3.8	43	75	10	P138N0380	2,12	P1386STI0380	2,75	P238NVA0380	5,16	P2386STI0380	4,76
3.90	3.9	43	75	10	P138N0390	2,12	P1386STI0390	2,75	P238NVA0390	5,16	P2386STI0390	4,76
4.00	4	43	75	10	P138N0400	2,12	P1386STI0400	2,90	P238NVA0400	5,16	P2386STI0400	4,76
4.10	4.1	43	75	10	P138N0410	2,48	P1386STI0410	3,36	P238NVA0410	5,87	P2386STI0410	5,44





						138N			1386STI			238NVA			2386STI
P	M	K	N	S	H										
D(h8)	d	I	L	PACKAGING	EDP No.	€	EDP No.	€	EDP No.	€	EDP No.	€	EDP No.	€	
4.20	4.2	43	75	10	P138N0420	2,48	P1386STI0420	3,36	P238NVA0420	5,87	P2386STI0420	5,44			
4.25	4.25	43	75	10	P138N0425	2,85			P238NVA0425	6,43					
4.30	4.3	47	80	10	P138N0430	2,48	P1386STI0430	3,36	P238NVA0430	5,87	P2386STI0430	5,44			
4.40	4.4	47	80	10	P138N0440	2,48	P1386STI0440	3,36	P238NVA0440	5,87	P2386STI0440	5,44			
4.50	4.5	47	80	10	P138N0450	2,48	P1386STI0450	3,36	P238NVA0450	5,87	P2386STI0450	5,44			
4.60	4.6	47	80	10	P138N0460	2,85	P1386STI0460	3,77	P238NVA0460	6,11	P2386STI0460	5,44			
4.70	4.7	47	80	10	P138N0470	2,85	P1386STI0470	3,77	P238NVA0470	6,11	P2386STI0470	5,44			
4.75	4.75	47	80	10	P138N0475	3,07			P238NVA0475	6,83					
4.80	4.8	52	86	10	P138N0480	2,85	P1386STI0480	3,77	P238NVA0480	6,11	P2386STI0480	5,44			
4.90	4.9	52	86	10	P138N0490	2,85	P1386STI0490	3,77	P238NVA0490	6,11	P2386STI0490	5,44			
5.00	5	52	86	10	P138N0500	2,85	P1386STI0500	4,10	P238NVA0500	6,11	P2386STI0500	5,44			
5.10	5.1	52	86	10	P138N0510	2,85	P1386STI0510	4,10	P238NVA0510	7,38	P2386STI0510	6,88			
5.20	5.2	52	86	10	P138N0520	2,85	P1386STI0520	4,10	P238NVA0520	7,38	P2386STI0520	6,88			
5.25	5.25	52	86	10	P138N0525	2,85			P238NVA0525	8,02					
5.30	5.3	52	86	10	P138N0530	3,54	P1386STI0530	4,76	P238NVA0530	7,38	P2386STI0530	6,88			
5.40	5.4	57	93	10	P138N0540	3,54	P1386STI0540	4,76	P238NVA0540	7,38	P2386STI0540	6,88			
5.50	5.5	57	93	10	P138N0550	3,54	P1386STI0550	4,76	P238NVA0550	7,38	P2386STI0550	6,88			
5.60	5.6	57	93	10	P138N0560	3,54	P1386STI0560	4,76	P238NVA0560	8,10	P2386STI0560	7,56			
5.70	5.7	57	93	10	P138N0570	3,54	P1386STI0570	4,76	P238NVA0570	8,10	P2386STI0570	7,56			
5.75	5.75	57	93	10	P138N0575	3,54			P238NVA0575	8,89					
5.80	5.8	57	93	10	P138N0580	3,54	P1386STI0580	4,76	P238NVA0580	8,10	P2386STI0580	7,56			
5.90	5.9	57	93	10	P138N0590	3,54	P1386STI0590	4,76	P238NVA0590	8,10	P2386STI0590	7,56			
6.00	6	57	93	10	P138N0600	3,88	P1386STI0600	5,46	P238NVA0600	8,10	P2386STI0600	7,56			
6.10	6.1	63	101	10	P138N0610	4,21	P1386STI0610	5,46	P238NVA0610	8,82	P2386STI0610	8,41			
6.20	6.2	63	101	10	P138N0620	4,21	P1386STI0620	5,46	P238NVA0620	8,82	P2386STI0620	8,41			
6.25	6.25	63	101	10	P138N0625	4,36			P238NVA0625	9,68					
6.30	6.3	63	101	10	P138N0630	4,36	P1386STI0630	5,61	P238NVA0630	8,82	P2386STI0630	8,41			
6.40	6.4	63	101	10	P138N0640	4,36	P1386STI0640	5,61	P238NVA0640	8,82	P2386STI0640	8,41			
6.50	6.5	63	101	10	P138N0650	4,44	P1386STI0650	5,68	P238NVA0650	8,82	P2386STI0650	8,41			
6.60	6.6	63	101	5	P138N0660	4,44	P1386STI0660	5,68	P238NVA0660	9,13	P2386STI0660	9,09			
6.70	6.7	63	101	5	P138N0670	4,69	P1386STI0670	5,75	P238NVA0670	9,13	P2386STI0670	9,09			
6.75	6.75	69	109	5	P138N0675	4,69			P238NVA0675	10,08					
6.80	6.8	69	109	5	P138N0680	5,10	P1386STI0680	6,12	P238NVA0680	9,13	P2386STI0680	9,09			
6.90	6.9	69	109	5	P138N0690	5,10	P1386STI0690	6,12	P238NVA0690	9,13	P2386STI0690	9,09			
7.00	7	69	109	5	P138N0700	4,76	P1386STI0700	6,95	P238NVA0700	9,13	P2386STI0700	9,09			
7.10	7.1	69	109	5	P138N0710	5,58	P1386STI0710	7,17	P238NVA0710	11,03	P2386STI0710	11,13			
7.20	7.2	69	109	5	P138N0720	5,58	P1386STI0720	7,17	P238NVA0720	11,03	P2386STI0720	11,13			
7.25	7.25	69	109	5	P138N0725	5,58			P238NVA0725	12,23					
7.30	7.3	69	109	5	P138N0730	5,58	P1386STI0730	7,17	P238NVA0730	11,03	P2386STI0730	11,13			
7.40	7.4	69	109	5	P138N0740	5,74	P1386STI0740	7,31	P238NVA0740	11,03	P2386STI0740	11,13			
7.50	7.5	69	109	5	P138N0750	5,74	P1386STI0750	7,31	P238NVA0750	11,03	P2386STI0750	11,13			
7.60	7.6	75	117	5	P138N0760	5,74	P1386STI0760	7,31	P238NVA0760	11,91	P2386STI0760	12,23			
7.70	7.7	75	117	5	P138N0770	6,14	P1386STI0770	7,83	P238NVA0770	11,91	P2386STI0770	12,23			
7.75	7.75	75	117	5	P138N0775	6,14			P238NVA0775	13,18					
7.80	7.8	75	117	5	P138N0780	6,14	P1386STI0780	7,83	P238NVA0780	11,91	P2386STI0780	12,23			
7.90	7.9	75	117	5	P138N0790	6,14	P1386STI0790	7,83	P238NVA0790	11,91	P2386STI0790	12,23			
8.00	8	75	117	5	P138N0800	6,29	P1386STI0800	8,63	P238NVA0800	11,91	P2386STI0800	12,23			
8.10	8.1	75	117	5	P138N0810	7,09	P1386STI0810	9,65	P238NVA0810	13,34	P2386STI0810	13,43			
8.20	8.2	75	117	5	P138N0820	7,09	P1386STI0820	9,65	P238NVA0820	13,34	P2386STI0820	13,43			
8.25	8.25	75	117	5	P138N0825	7,09			P238NVA0825	14,69					
8.30	8.3	75	117	5	P138N0830	7,75	P1386STI0830	10,46	P238NVA0830	13,34	P2386STI0830	13,43			
8.40	8.4	75	117	5	P138N0840	7,75	P1386STI0840	10,46	P238NVA0840	13,34	P2386STI0840	13,43			
8.50	8.5	75	117	5	P138N0850	7,75	P1386STI0850	10,46	P238NVA0850	13,34	P2386STI0850	13,43			
8.60	8.6	81	125	5	P138N0860	8,56	P1386STI0860	11,34	P238NVA0860	15,08	P2386STI0860	15,12			
8.70	8.7	81	125	5	P138N0870	8,56	P1386STI0870	11,34	P238NVA0870	15,08	P2386STI0870	15,12			
8.75	8.75	81	125	5	P138N0875	8,56			P238NVA0875	15,08					
8.80	8.8	81	125	5	P138N0880	8,56	P1386STI0880	11,34	P238NVA0880	15,08	P2386STI0880	15,12			
8.90	8.9	81	125	5	P138N0890	8,56	P1386STI0890	11,34	P238NVA0890	15,08	P2386STI0890	15,12			
9.00	9	81	125	5	P138N0900	8,49	P1386STI0900	11,41	P238NVA0900	15,08	P2386STI0900	15,12			
9.10	9.1	81	125	5	P138N0910	9,14	P1386STI0910	12,00	P238NVA0910	20,73	P2386STI0910	18,77			
9.20	9.2	81	125	5	P138N0920	9,14	P1386STI0920	12,00	P238NVA0920	20,73	P2386STI0920	18,77			
9.25	9.25	81	125	5	P138N0925	9,58			P238NVA0925	20,73					
9.30	9.3	81	125	5	P138N0930	9,58	P1386STI0930	12,65	P238NVA0930	20,73	P2386STI0930	18,77			
9.40	9.4	81	125	5	P138N0940	9,58	P1386STI0940	12,65	P238NVA0940	20,73	P2386STI0940	18,77			





						138N			1386STI			238NVA			2386STI
P	M	K	N	S	H										
D(h8)	d	I	L	PACKAGING	EDP No.	€	EDP No.	€	EDP No.	€	EDP No.	€	EDP No.	€	
9.50	9.5	81	125	5	P138N0950	9,58	P1386STI0950	12,65	P238NVA0950	20,73	P2386STI0950	18,77			
9.60	9.6	87	133	5	P138N0960	10,98	P1386STI0960	13,01	P238NVA0960	19,05	P2386STI0960	18,77			
9.70	9.7	87	133	5	P138N0970	10,98	P1386STI0970	13,01	P238NVA0970	19,05	P2386STI0970	18,77			
9.75	9.75	87	133	5	P138N0975	10,98			P238NVA0975	19,05					
9.80	9.8	87	133	5	P138N0980	11,07	P1386STI0980	13,23	P238NVA0980	19,05	P2386STI0980	18,77			
9.90	9.9	87	133	5	P138N0990	11,07	P1386STI0990	13,23	P238NVA0990	19,05	P2386STI0990	18,77			
10.00	10	87	133	5	P138N1000	10,11	P1386STI1000	13,45	P238NVA1000	19,05	P2386STI1000	18,77			
10.10	10.1	87	133	5	P138N1010	11,39	P1386STI1010	13,60			P2386STI1010	21,75			
10.20	10.2	87	133	5	P138N1020	11,80	P1386STI1020	14,04	P238NVA1020	26,52	P2386STI1020	21,75			
10.25	10.25	87	133	5	P138N1025	11,96									
10.30	10.3	87	133	5	P138N1030	11,96	P1386STI1030	14,41			P2386STI1030	21,75			
10.40	10.4	87	133	5	P138N1040	11,96	P1386STI1040	14,41			P2386STI1040	21,75			
10.50	10.5	87	133	5	P138N1050	11,96	P1386STI1050	14,41	P238NVA1050	26,52	P2386STI1050	21,75			
10.60	10.6	87	133	5	P138N1060	12,12	P1386STI1060	14,48			P2386STI1060	22,44			
10.70	10.7	94	142	5	P138N1070	12,12	P1386STI1070	14,48			P2386STI1070	22,44			
10.75	10.75	94	142	5	P138N1075	12,12									
10.80	10.8	94	142	5	P138N1080	12,12	P1386STI1080	14,48			P2386STI1080	22,44			
10.90	10.9	94	142	5	P138N1090	12,12	P1386STI1090	14,48			P2386STI1090	22,44			
11.00	11	94	142	5	P138N1100	12,12	P1386STI1100	15,14	P238NVA1100	29,53	P2386STI1100	22,44			
11.10	11.1	94	142	5	P138N1110	15,19	P1386STI1110	18,21			P2386STI1110	27,10			
11.20	11.2	94	142	5	P138N1120	15,19	P1386STI1120	18,21			P2386STI1120	27,10			
11.25	11.25	94	142	5	P138N1125	15,19									
11.30	11.3	94	142	5	P138N1130	15,19	P1386STI1130	18,21			P2386STI1130	27,10			
11.40	11.4	94	142	5	P138N1140	15,19	P1386STI1140	18,21			P2386STI1140	27,10			
11.50	11.5	94	142	5	P138N1150	15,19	P1386STI1150	18,21	P238NVA1150	32,71	P2386STI1150	27,10			
11.60	11.6	94	142	5	P138N1160	15,19	P1386STI1160	18,21			P2386STI1160	27,10			
11.70	11.7	94	142	5	P138N1170	15,19	P1386STI1170	18,21			P2386STI1170	27,10			
11.75	11.75	94	142	5	P138N1175	15,19									
11.80	11.8	94	142	5	P138N1180	15,19	P1386STI1180	18,21			P2386STI1180	27,10			
11.90	11.9	101	151	5	P138N1190	15,19	P1386STI1190	18,21			P2386STI1190	27,10			
12.00	12	101	151	5	P138N1200	15,19	P1386STI1200	18,58	P238NVA1200	33,90	P2386STI1200	27,10			
12.10	12.1	101	151	5	P138N1210	15,75	P1386STI1210	19,02			P2386STI1210	30,00			
12.20	12.2	101	151	5	P138N1220	15,75	P1386STI1220	19,02			P2386STI1220	30,00			
12.25	12.25	101	151	5	P138N1225	15,75									
12.30	12.3	101	151	5	P138N1230	15,75	P1386STI1230	19,02			P2386STI1230	30,00			
12.40	12.4	101	151	5	P138N1240	17,85	P1386STI1240	21,06			P2386STI1240	30,00			
12.50	12.5	101	151	5	P138N1250	17,85	P1386STI1250	21,94	P238NVA1250	40,57	P2386STI1250	31,09			
12.60	12.6	101	151	5	P138N1260	17,85	P1386STI1260	21,94			P2386STI1260	31,09			
12.70	12.7	101	151	5	P138N1270	17,85	P1386STI1270	21,94			P2386STI1270	31,09			
12.75	12.75	101	151	5	P138N1275	17,85									
12.80	12.8	101	151	5	P138N1280	17,85	P1386STI1280	21,94			P2386STI1280	31,09			
12.90	12.9	101	151	5	P138N1290	17,85	P1386STI1290	21,94			P2386STI1290	31,09			
13.00	13	101	151	5	P138N1300	17,85	P1386STI1300	22,75	P238NVA1300	51,29	P2386STI1300	31,77			
13.25	13.25	108	160	1	P138N1325	21,67									
13.50	13.5	108	160	1	P138N1350	19,96			P238NVA1350	52,95					
13.75	13.75	108	160	1	P138N1375	21,67									
14.00	14	108	160	1	P138N1400	19,96			P238NVA1400	55,18					
14.25	14.25	114	169	1	P138N1425	26,33									
14.50	14.5	114	169	1	P138N1450	24,06			P238NVA1450	55,58					
14.75	14.75	114	169	1	P138N1475	26,33									
15.00	15	114	169	1	P138N1500	24,06			P238NVA1500	56,29					
15.25	15.25	120	178	1	P138N1525	31,59									
15.50	15.5	120	178	1	P138N1550	31,59			P238NVA1550	63,83					
15.75	15.75	120	178	1	P138N1575	31,59									
16.00	16	120	178	1	P138N1600	28,87			P238NVA1600	65,58					
16.25	16.25	125	184	1	P138N1625	36,60									
16.50	16.5	125	184	1	P138N1650	36,60			P238NVA1650	72,25					
16.75	16.75	125	184	1	P138N1675	36,60									
17.00	17	125	184	1	P138N1700	33,45			P238NVA1700	72,25					
17.50	17.5	130	191	1	P138N1750	45,08			P238NVA1750	81,46					
18.00	18	130	191	1	P138N1800	41,19			P238NVA1800	81,46					
18.50	18.5	135	198	1	P138N1850	51,14			P238NVA1850	94,80					
19.00	19	135	198	1	P138N1900	45,55			P238NVA1900	94,80					
19.50	19.5	140	205	1	P138N1950	56,87									
20.00	20	140	205	1	P138N2000	57,66			P238NVA2000	112,03					



234NVA - catalogue page 270



134NB (Ø 0.5 mm ÷ 1.9 mm) will be exhausted and gradually replaced by new 234NVA

234LS - catalogue page 274

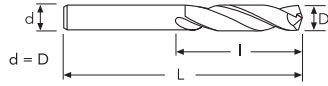


234LSTH - catalogue page 274



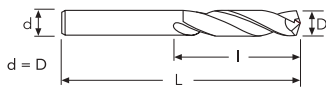
DIN 340	NH	HSS/CO* HT	130°	30°
DIN 340	LS	HSS/CO OX	130°	35-40°
DIN 340	LS	HSS/CO PV15	130°	35-40°

* < Ø2 mm = 134NB HSS BR



						234NVA		234LS		234LSTH
P						★		★		★
M						★		★		★
K						☆		★		★
N						☆				
S						☆				
H										
D(h8)	d	I	L	PACKAGING	EDP No.	€	EDP No.	€	EDP No.	€
0.50	0.5	12	32	10	P134NB0050	23,92				
0.60	0.6	15	35	10	P134NB0060	18,58				
0.70	0.7	21	42	10	P134NB0070	17,02				
0.80	0.8	25	46	10	P134NB0080	17,02				
0.90	0.9	29	51	10	P134NB0090	15,31				
1.00	1	33	56	10	P134NB0100	11,09				
1.10	1.1	37	60	10	P134NB0110	11,41				
1.20	1.2	41	65	10	P134NB0120	11,41				
1.30	1.3	41	65	10	P134NB0130	11,41				
1.40	1.4	45	70	10	P134NB0140	10,46				
1.50	1.5	45	70	10	P134NB0150	9,07				
1.60	1.6	50	76	10	P134NB0160	9,56				
1.70	1.7	50	76	10	P134NB0170	9,56				
1.80	1.8	53	80	10	P134NB0180	9,22				
1.90	1.9	53	80	10	P134NB0190	9,22				
2.00	2	56	85	10	P234NVA0200	5,20	P234LS0200	5,52	P234LSTH0200	19,95
2.10	2.1	56	85	10	P234NVA0210	5,20	P234LS0210	6,00	P234LSTH0210	20,20
2.20	2.2	59	90	10	P234NVA0220	5,05	P234LS0220	6,00	P234LSTH0220	22,70
2.30	2.3	59	90	10	P234NVA0230	5,05	P234LS0230	6,00	P234LSTH0230	22,70
2.40	2.4	62	95	10	P234NVA0240	5,05	P234LS0240	6,00	P234LSTH0240	22,70
2.50	2.5	62	95	10	P234NVA0250	5,05	P234LS0250	6,00	P234LSTH0250	22,70
2.60	2.6	62	95	10	P234NVA0260	5,41	P234LS0260	6,37	P234LSTH0260	23,43
2.70	2.7	66	100	10	P234NVA0270	5,41	P234LS0270	6,37	P234LSTH0270	26,41
2.80	2.8	66	100	10	P234NVA0280	5,41	P234LS0280	6,37	P234LSTH0280	26,41
2.90	2.9	66	100	10	P234NVA0290	5,41	P234LS0290	6,37	P234LSTH0290	26,41
3.00	3	66	100	10	P234NVA0300	5,41	P234LS0300	6,37	P234LSTH0300	26,41
3.10	3.1	69	106	10	P234NVA0310	5,77	P234LS0310	7,44	P234LSTH0310	31,10
3.20	3.2	69	106	10	P234NVA0320	5,77	P234LS0320	7,44	P234LSTH0320	31,10
3.30	3.3	69	106	10	P234NVA0330	5,77	P234LS0330	7,44	P234LSTH0330	31,10
3.40	3.4	73	112	10	P234NVA0340	5,77	P234LS0340	7,44	P234LSTH0340	31,10
3.50	3.5	73	112	10	P234NVA0350	5,77	P234LS0350	7,44	P234LSTH0350	31,10
3.60	3.6	73	112	10	P234NVA0360	6,80	P234LS0360	8,79	P234LSTH0360	32,24
3.70	3.7	73	112	10	P234NVA0370	6,80	P234LS0370	8,79	P234LSTH0370	32,24
3.80	3.8	78	119	10	P234NVA0380	6,80	P234LS0380	8,79	P234LSTH0380	35,63
3.90	3.9	78	119	10	P234NVA0390	6,80	P234LS0390	8,79	P234LSTH0390	35,63
4.00	4	78	119	10	P234NVA0400	6,80	P234LS0400	8,79	P234LSTH0400	35,63
4.10	4.1	78	119	10	P234NVA0410	7,61				
4.20	4.2	78	119	10	P234NVA0420	7,61	P234LS0420	10,23	P234LSTH0420	36,92
4.30	4.3	82	126	10	P234NVA0430	7,61				
4.40	4.4	82	126	10	P234NVA0440	7,61				
4.50	4.5	82	126	10	P234NVA0450	7,61	P234LS0450	10,23	P234LSTH0450	43,79
4.60	4.6	82	126	10	P234NVA0460	7,90				
4.70	4.7	82	126	10	P234NVA0470	7,90				
4.80	4.8	87	132	10	P234NVA0480	7,90	P234LS0480	10,23	P234LSTH0480	43,79
4.90	4.9	87	132	10	P234NVA0490	7,90				
5.00	5	87	132	10	P234NVA0500	7,90	P234LS0500	10,23	P234LSTH0500	43,79
5.10	5.1	87	132	10	P234NVA0510	9,36				
5.20	5.2	87	132	10	P234NVA0520	9,36	P234LS0520	12,64	P234LSTH0520	45,88
5.30	5.3	87	132	10	P234NVA0530	9,36				
5.40	5.4	91	139	10	P234NVA0540	9,36				





					234NVA		234LS		234LSTH	
P					★		★		★	
M					★		☆		☆	
K					☆		★		★	
N					☆					
S					☆					
H					☆					
D(h8)	d	I	L	PACKAGING	EDP No.	€	EDP No.	€	EDP No.	€
5.50	5.5	91	139	10	P234NVA0550	9,36	P234LS0550	12,64	P234LSTH0550	49,36
5.60	5.6	91	139	10	P234NVA0560	10,46				
5.70	5.7	91	139	10	P234NVA0570	10,46				
5.80	5.8	91	139	10	P234NVA0580	10,46	P234LS0580	13,46	P234LSTH0580	50,25
5.90	5.9	91	139	10	P234NVA0590	10,46				
6.00	6	91	139	10	P234NVA0600	10,46	P234LS0600	13,46	P234LSTH0600	50,25
6.10	6.1	97	148	5	P234NVA0610	11,34				
6.20	6.2	97	148	5	P234NVA0620	11,34	P234LS0620	15,60	P234LSTH0620	57,76
6.30	6.3	97	148	5	P234NVA0630	11,34				
6.50	6.5	97	148	5	P234NVA0650	11,34	P234LS0650	15,60	P234LSTH0650	60,35
6.60	6.6	97	148	5	P234NVA0660	11,85				
6.70	6.7	97	148	5	P234NVA0670	11,85				
6.80	6.8	102	156	5	P234NVA0680	11,85	P234LS0680	16,95	P234LSTH0680	68,83
6.90	6.9	102	156	5	P234NVA0690	11,85				
7.00	7	102	156	5	P234NVA0700	11,85	P234LS0700	16,95	P234LSTH0700	68,83
7.10	7.1	102	156	5	P234NVA0710	14,41				
7.20	7.2	102	156	5	P234NVA0720	14,41	P234LS0720	18,13		
7.40	7.4	102	156	5	P234NVA0740	14,41				
7.50	7.5	102	156	5	P234NVA0750	14,41	P234LS0750	18,13	P234LSTH0750	71,90
7.60	7.6	109	165	5	P234NVA0760	15,43				
7.70	7.7	109	165	5	P234NVA0770	15,43				
7.80	7.8	109	165	5	P234NVA0780	15,43	P234LS0780	19,55		
7.90	7.9	109	165	5	P234NVA0790	15,43				
8.00	8	109	165	5	P234NVA0800	15,43	P234LS0800	19,55	P234LSTH0800	73,60
8.10	8.1	109	165	5	P234NVA0810	17,33				
8.20	8.2	109	165	5	P234NVA0820	17,33	P234LS0820	21,83		
8.30	8.3	109	165	5	P234NVA0830	17,33				
8.40	8.4	109	165	5	P234NVA0840	17,33				
8.50	8.5	109	165	5	P234NVA0850	17,33	P234LS0850	21,83	P234LSTH0850	80,30
8.60	8.6	115	175	5	P234NVA0860	19,67				
8.70	8.7	115	175	5	P234NVA0870	19,67				
8.80	8.8	115	175	5	P234NVA0880	19,67				
8.90	8.9	115	175	5	P234NVA0890	19,67				
9.00	9	115	175	5	P234NVA0900	19,67	P234LS0900	24,75	P234LSTH0900	89,11
9.10	9.1	115	175	5	P234NVA0910	26,98				
9.20	9.2	115	175	5	P234NVA0920	26,98				
9.30	9.3	115	175	5	P234NVA0930	26,98				
9.40	9.4	115	175	5	P234NVA0940	26,98				
9.50	9.5	115	175	5	P234NVA0950	26,98	P234LS0950	31,92	P234LSTH0950	96,46
9.60	9.6	121	184	5	P234NVA0960	24,57				
9.70	9.7	121	184	5	P234NVA0970	24,57				
9.80	9.8	121	184	5	P234NVA0980	24,57	P234LS0980	31,92		
9.90	9.9	121	184	5	P234NVA0990	24,57				
10.00	10	121	184	5	P234NVA1000	24,57	P234LS1000	31,92	P234LSTH1000	102,76
10.20	10.2	121	184	5	P234NVA1020	34,00				
10.50	10.5	121	184	5	P234NVA1050	34,00	P234LS1050	41,61	P234LSTH1050	110,84
10.80	10.8	128	195	5	P234NVA1080	34,00				
11.00	11	128	195	5	P234NVA1100	38,02	P234LS1100	42,06	P234LSTH1100	118,68
11.20	11.20	128	195	5	P234NVA1120	38,02				
11.50	11.5	128	195	5	P234NVA1150	42,12	P234LS1150	51,75	P234LSTH1150	127,40
11.80	11.80	128	195	5	P234NVA1180	43,73				
12.00	12	134	205	5	P234NVA1200	43,73	P234LS1200	51,75	P234LSTH1200	135,56
12.50	12.5	134	205	5			P234LS1250	60,79	P234LSTH1250	140,65
13.00	13	134	205	5			P234LS1300	61,45	P234LSTH1300	141,22



145N - catalogue page 283



DIN
345

H

HSS
OX

118°

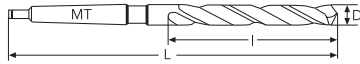
25-30°

145N							145N						
P	M	K	N	S	H	€	P	M	K	N	S	H	€
D(h8)	D Tol.	MT	I	L	EDP No.	€	D(h8)	D Tol.	MT	I	L	EDP No.	€
5.00	0/-0.018	1	52	133	P145N0500	39,96	23.00	0/-0.033	2	155	253	P145N2300	87,65
5.50	0/-0.018	1	57	138	P145N0550	41,42	23.25	0/-0.033	3	155	276	P145N2325	183,10
6.00	0/-0.018	1	57	138	P145N0600	42,87	23.50	0/-0.033	3	155	276	P145N2350	94,57
6.50	0/-0.022	1	63	144	P145N0650	42,14	23.75	0/-0.033	3	160	281	P145N2375	193,28
6.75	0/-0.022	1	69	150	P145N0675	45,78	24.00	0/-0.033	3	160	281	P145N2400	96,94
7.00	0/-0.022	1	69	150	P145N0700	42,14	24.25	0/-0.033	3	160	281	P145N2425	207,81
7.50	0/-0.022	1	69	150	P145N0750	48,68	24.50	0/-0.033	3	160	281	P145N2450	101,43
8.00	0/-0.022	1	75	156	P145N0800	38,51	24.75	0/-0.033	3	160	281	P145N2475	210,72
8.50	0/-0.022	1	75	156	P145N0850	42,14	25.00	0/-0.033	3	160	281	P145N2500	105,02
9.00	0/-0.022	1	81	162	P145N0900	41,42	25.50	0/-0.033	3	165	286	P145N2550	106,81
9.50	0/-0.022	1	81	162	P145N0950	49,41	26.00	0/-0.033	3	165	286	P145N2600	107,26
10.00	0/-0.022	1	87	168	P145N1000	42,14	26.50	0/-0.033	3	165	286	P145N2650	121,35
10.25	0/-0.027	1	87	168	P145N1025	69,75	27.00	0/-0.033	3	170	291	P145N2700	125,65
10.50	0/-0.027	1	87	168	P145N1050	44,32	27.50	0/-0.033	3	170	291	P145N2750	129,81
11.00	0/-0.027	1	94	175	P145N1100	45,78	28.00	0/-0.033	3	170	291	P145N2800	125,90
11.50	0/-0.027	1	94	175	P145N1150	52,32	28.50	0/-0.033	3	175	296	P145N2850	140,96
12.00	0/-0.027	1	101	182	P145N1200	47,23	29.00	0/-0.033	3	175	296	P145N2900	148,59
12.50	0/-0.027	1	101	182	P145N1250	50,14	29.50	0/-0.033	3	175	296	P145N2950	153,58
13.00	0/-0.027	1	101	182	P145N1300	35,37	30.00	0/-0.033	3	175	296	P145N3000	158,78
13.25	0/-0.027	1	108	189	P145N1325	74,11	30.50	0/-0.039	3	180	301	P145N3050	166,33
13.50	0/-0.027	1	108	189	P145N1350	36,14	31.00	0/-0.039	3	180	301	P145N3100	174,02
13.75	0/-0.027	1	108	189	P145N1375	74,11	31.50	0/-0.039	3	180	301	P145N3150	182,09
14.00	0/-0.027	1	108	189	P145N1400	37,80	32.00	0/-0.039	4	185	334	P145N3200	190,11
14.25	0/-0.027	2	114	212	P145N1425	88,65	32.50	0/-0.039	4	185	334	P145N3250	217,27
14.50	0/-0.027	2	114	212	P145N1450	44,15	33.00	0/-0.039	4	185	334	P145N3300	217,27
14.75	0/-0.027	2	114	212	P145N1475	97,37	33.50	0/-0.039	4	185	334	P145N3350	223,68
15.00	0/-0.027	2	114	212	P145N1500	45,36	34.00	0/-0.039	4	190	339	P145N3400	229,96
15.25	0/-0.027	2	120	218	P145N1525	88,65	34.50	0/-0.039	4	190	339	P145N3450	231,17
15.50	0/-0.027	2	120	218	P145N1550	47,48	35.00	0/-0.039	4	190	339	P145N3500	232,27
15.75	0/-0.027	2	120	218	P145N1575	85,74	35.50	0/-0.039	4	190	339	P145N3550	238,35
16.00	0/-0.027	2	120	218	P145N1600	49,59	36.00	0/-0.039	4	195	344	P145N3600	244,44
16.25	0/-0.027	2	125	223	P145N1625	103,18	36.50	0/-0.039	4	195	344	P145N3650	250,91
16.50	0/-0.027	2	125	223	P145N1650	53,44	37.00	0/-0.039	4	195	344	P145N3700	257,51
16.75	0/-0.027	2	125	223	P145N1675	94,46	37.50	0/-0.039	4	195	344	P145N3750	263,98
17.00	0/-0.027	2	125	223	P145N1700	56,19	38.00	0/-0.039	4	200	349	P145N3800	270,46
17.25	0/-0.027	2	130	228	P145N1725	101,72	38.50	0/-0.039	4	200	349	P145N3850	283,71
17.50	0/-0.027	2	130	228	P145N1750	58,82	39.00	0/-0.039	4	200	349	P145N3900	296,85
17.75	0/-0.027	2	130	228	P145N1775	97,37	39.50	0/-0.039	4	200	349	P145N3950	306,66
18.00	0/-0.027	2	130	228	P145N1800	62,22	40.00	0/-0.039	4	200	349	P145N4000	316,59
18.25	0/-0.033	2	135	233	P145N1825	111,90	40.50	0/-0.039	4	205	354	P145N4050	325,94
18.50	0/-0.033	2	135	233	P145N1850	63,88	41.00	0/-0.039	4	205	354	P145N4100	335,23
18.75	0/-0.033	2	135	233	P145N1875	107,54	42.00	0/-0.039	4	205	354	P145N4200	348,23
19.00	0/-0.033	2	135	233	P145N1900	67,34	43.00	0/-0.039	4	210	359	P145N4300	395,20
19.25	0/-0.033	2	140	238	P145N1925	124,98	44.00	0/-0.039	4	210	359	P145N4400	410,51
19.50	0/-0.033	2	140	238	P145N1950	70,99	45.00	0/-0.039	4	210	359	P145N4500	432,94
19.75	0/-0.033	2	140	238	P145N1975	120,62	46.00	0/-0.039	4	215	364	P145N4600	454,34
20.00	0/-0.033	2	140	238	P145N2000	73,62	47.00	0/-0.039	4	215	364	P145N4700	478,56
20.25	0/-0.033	2	145	243	P145N2025	140,96	48.00	0/-0.039	4	220	369	P145N4800	525,65
20.50	0/-0.033	2	145	243	P145N2050	75,74	49.00	0/-0.039	4	220	369	P145N4900	551,93
20.75	0/-0.033	2	145	243	P145N2075	135,15	50.00	0/-0.039	4	220	369	P145N5000	577,17
21.00	0/-0.033	2	145	243	P145N2100	76,89	55.00	0/-0.046	5	230	417	P145N5500	817,83
21.25	0/-0.033	2	150	248	P145N2125	146,77	60.00	0/-0.046	5	235	422	P145N6000	1066,24
21.50	0/-0.033	2	150	248	P145N2150	78,43							
21.75	0/-0.033	2	150	248	P145N2175	139,51							
22.00	0/-0.033	2	150	248	P145N2200	81,18							
22.25	0/-0.033	2	150	248	P145N2225	146,77							
22.50	0/-0.033	2	155	253	P145N2250	84,96							
22.75	0/-0.033	2	155	253	P145N2275	146,77							

245N - catalogue page 288



DIN 345	NH	HSS/CO OX	118°	30°
------------	----	--------------	------	-----



245N

P	M	K	N	S	H						★	
D(h8)	D Tol.	MT	I	L	EDP No.		€					
						P245N1300	115,09					
						P245N1350	150,52					
						P245N1400	146,54					
						P245N1450	162,98					
						P245N1500	149,86					
						P245N1550	162,98					
						P245N1600	158,72					
						P245N1650	168,35					
						P245N1700	161,15					
						P245N1750	175,94					
						P245N1800	172,06					
						P245N1850	188,94					
						P245N1900	184,79					
						P245N1950	211,53					
						P245N2000	206,72					
						P245N2050	322,09					
						P245N2100	240,98					
						P245N2150	243,14					
						P245N2200	243,31					
						P245N2250	285,11					
						P245N2300	284,83					
						P245N2350	303,87					
						P245N2400	302,21					
						P245N2450	344,51					
						P245N2500	312,45					
						P245N2600	377,06					
						P245N2700	416,64					
						P245N2800	428,49					
						P245N2900	455,67					
						P245N3000	446,04					



PARAMETERS

★ 1st choice ☆ suitable



G2

GENERAL PURPOSE

✚ Range of general-purpose endmills, featuring new cutting geometries and innovative coatings for enhanced performance. The answer given by Osawa to the market demand for higher performance tools. Thanks to a fully optimized manufacturing process and to large production batches the G2 range excels in the cost-performance ratio.

🇮🇹 Gamma di frese per uso generico, dotate di geometria di taglio e rivestimenti innovativi per garantire prestazioni ancora più elevate. La risposta di Osawa ad un mercato che chiede utensili sempre più performanti e competitivi. L'innovazione nei processi produttivi consente alla gamma G2 di eccellere nel rapporto qualità-prezzo.

🇩🇪 Produktpalette von Fräser für allgemeine Anwendungen, ausgestattet mit einer Schnittgeometrie und innovativen Beschichtungen zur Gewährleistung noch höheren Leistungen. Die Antwort von Osawa auf einen Markt, der immer leistungsstärkere und wettbewerbsfähigere Werkzeuge fordert. Dank der Innovation der Produktionsprozesse zeichnet sich die Produktreihe G2 durch ein außergewöhnliches Preis-Leistungsverhältnis aus.

🇫🇷 Gamme de fraises pour un usage général, dotées de géométrie de coupe et de revêtements innovants pour garantir des prestations encore plus élevées. C'est la réponse d'Osawa à un marché qui nécessite d'outils de plus en plus performants et compétitifs. L'innovation des processus de production permet à la gamme G2 d'avoir un rapport qualité-prix excellent.

🇪🇸 Gama de fresas para uso genérico, provistas de geometría de corte y revestimientos innovadores para garantizar prestaciones aún más elevadas. La respuesta de Osawa a un mercado que pide herramientas cada vez con mayor rendimiento y más competitivas. La innovación en los procesos de producción permite a la gama G2 sobresalir en la relación calidad-precio.

🇷🇺 Ассортимент фрез общего назначения, с новой геометрией и покрытиями, гарантирующими высокоэффективную работу. Это ответ компании Osawa на запросы рынка, который требует всё более конкурентоспособные инструменты с высокими эксплуатационными характеристиками. Инновации в производственных процессах и большие изготавливаемые партии позволяют серии G2 иметь превосходное соотношение цена-качество.

GB205 - catalogue page 316

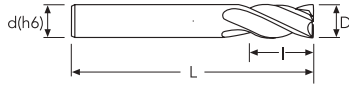


OSAWA NORM	N	MG BR	<45 HRC	30°	SQUARE	Z2
---------------	---	----------	------------	-----	--------	----

G2CS2 - catalogue page 320



OSAWA NORM	N	MG PV200	<45 HRC	30°	SQUARE	Z2
---------------	---	-------------	------------	-----	--------	----



					GB205		G2CS2
P	M	K	N	S	H		
						★	★
						☆	☆
						★	★
						☆	☆
D(e8)	d(h6)	l	L	EDP No.	€	EDP No.	€
1	4	3	50	GB205010	15,52	G2CS2010	16,77
1.5	4	4.5	50	GB205015	15,52	G2CS2015	16,77
2	2	8	50			G2CS2020S02	19,29
2	4	6	50	GB205020	15,52	G2CS2020	16,77
2.5	4	7	50			G2CS2025	17,65
3	3	9	50			G2CS2030S03	19,29
3	4	8	50	GB205030	15,52	G2CS2030	16,77
3.5	4	10	50			G2CS2035	17,65
4	4	11	50	GB205040	15,52	G2CS2040	16,77
4.5	6	13	50			G2CS2045	22,44
5	6	13	50	GB205050	19,89	G2CS2050	20,80
5.5	6	13	50			G2CS2055	22,44
6	6	15	50	GB205060	19,89	G2CS2060	20,80
6.5	8	17	60			G2CS2065	38,94
7	8	17	60			G2CS2070	38,94
7.5	8	17	60			G2CS2075	38,94
8	8	20	60	GB205080	34,53	G2CS2080	34,84
8.5	10	23	75			G2CS2085	58,34
9	10	23	75			G2CS2090	58,34
10	10	30	75	GB205100	50,68	G2CS2100	49,81
10.5	12	25	75			G2CS2105	80,60
11	12	30	75			G2CS2110	80,60
12	12	30	75	GB205120	70,33	G2CS2120	68,62
13	14	26	83			G2CS2130	183,29
14	14	26	83			G2CS2140	111,67
15	16	32	92			G2CS2150	185,25
16	16	32	92			G2CS2160	127,22
17	20	40	100			G2CS2170	271,64
18	20	40	100			G2CS2180	247,39
20	20	40	100			G2CS2200	230,51



GB305 - catalogue page 327

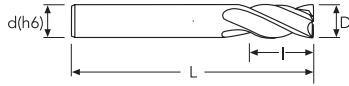


OSAWA NORM	N	MG BR	<45 HRC	45°	SQUARE	Z3
---------------	---	----------	------------	-----	--------	----

G2CSH3 - catalogue page 329



OSAWA NORM	N	MG PV200	<45 HRC	45°	SQUARE	Z3
---------------	---	-------------	------------	-----	--------	----



					GB305		G2CSH3	
P							★	★
M							☆	☆
K							★	★
N							☆	☆
S								
H								
D(e8)	d(h6)	l	L	EDP No.	€	EDP No.	€	
1	4	3	50	GB305010	15,52	G2CSH3010	16,77	
1.5	4	4.5	50	GB305015	15,52	G2CSH3015	16,77	
2	4	6	50	GB305020	15,52	G2CSH3020	16,77	
2.5	4	7	50			G2CSH3025	17,65	
3	3	9	50			G2CSH3030S03	19,29	
3	4	8	50	GB305030	15,52	G2CSH3030	16,77	
3.5	4	10	50			G2CSH3035	17,65	
4	4	11	50	GB305040	15,52	G2CSH3040	16,77	
4.5	6	13	50			G2CSH3045	22,44	
5	6	13	50	GB305050	19,89	G2CSH3050	20,80	
5.5	6	13	50			G2CSH3055	22,44	
6	6	15	50	GB305060	19,89	G2CSH3060	20,80	
6.5	8	17	60			G2CSH3065	38,94	
7	8	17	60			G2CSH3070	38,94	
7.5	8	17	60			G2CSH3075	38,94	
8	8	20	60	GB305080	34,53	G2CSH3080	34,84	
8.5	10	23	75			G2CSH3085	58,34	
9	10	23	75			G2CSH3090	58,34	
10	10	30	75	GB305100	50,68	G2CSH3100	49,81	
11	12	30	75			G2CSH3110	80,60	
12	12	30	75	GB305120	70,33	G2CSH3120	68,62	
14	14	26	83			G2CSH3140	111,67	
16	16	32	92			G2CSH3160	127,22	
18	20	40	100			G2CSH3180	247,39	
20	20	40	100			G2CSH3200	230,51	



GB405 - catalogue page 335

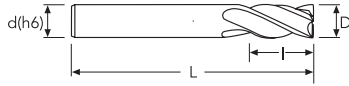


OSAWA NORM	N	MG BR	<45 HRC	30°	SQUARE	Z4
---------------	---	----------	------------	-----	--------	----

G2CS4 - catalogue page 339



OSAWA NORM	N	MG PV200	<45 HRC	30°	SQUARE	Z4
---------------	---	-------------	------------	-----	--------	----



					GB405		G2CS4
P	M	K	N	S	H		
						★	★
						☆	☆
						★	★
						☆	☆
D(e8)	d(h6)	l	L	EDP No.	€	EDP No.	€
1	4	3	50	GB405010	15,52	G2CS4010	16,77
1.5	4	4.5	50	GB405015	15,52	G2CS4015	16,77
2	2	8	50			G2CS4020S02	19,29
2	4	6	50	GB405020	15,52	G2CS4020	16,77
2.5	4	7	50			G2CS4025	17,65
3	3	9	50			G2CS4030S03	19,29
3	4	8	50	GB405030	15,52	G2CS4030	16,77
3.5	4	10	50			G2CS4035	17,65
4	4	11	50	GB405040	15,52	G2CS4040	16,77
4.5	6	13	50			G2CS4045	22,44
5	6	13	50	GB405050	19,89	G2CS4050	20,80
5.5	6	13	50			G2CS4055	22,44
6	6	15	50	GB405060	19,89	G2CS4060	20,80
6.5	8	17	60			G2CS4065	38,94
7	8	17	60			G2CS4070	38,94
7.5	8	17	60			G2CS4075	38,94
8	8	20	60	GB405080	34,53	G2CS4080	34,84
8.5	10	23	75			G2CS4085	58,34
9	10	23	75			G2CS4090	58,34
9.5	10	25	75			G2CS4095	58,34
10	10	30	75	GB405100	50,68	G2CS4100	49,81
10.5	12	25	75			G2CS4105	80,60
11	12	30	75			G2CS4110	80,60
11.5	12	28	75			G2CS4115	80,66
12	12	30	75	GB405120	70,33	G2CS4120	68,62
12.5	14	26	83			G2CS4125	129,94
13	14	26	83			G2CS4130	129,94
13.5	14	26	83			G2CS4135	129,94
14	14	26	83			G2CS4140	111,67
14.5	16	32	92			G2CS4145	153,83
15	16	32	92			G2CS4150	157,40
15.5	16	32	92			G2CS4155	157,40
16	16	32	92			G2CS4160	127,22
17	20	40	100			G2CS4170	271,64
18	20	40	100			G2CS4180	247,39
19	20	40	100			G2CS4190	271,64
20	20	40	100			G2CS4200	230,51
22	25	40	100			G2CS4220	436,04
25	25	40	100			G2CS4250	436,04



G2WS2 - catalogue page 322



OSAWA NORM	N	MG PV200	<45 HRC	30°	SQUARE	Z2
------------	---	-------------	------------	-----	--------	----

G2WSH3 - catalogue page 331

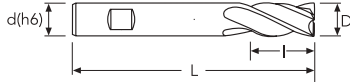


OSAWA NORM	N	MG PV200	<45 HRC	45°	SQUARE	Z3
------------	---	-------------	------------	-----	--------	----

G2WS4 - catalogue page 341



OSAWA NORM	N	MG PV200	<45 HRC	30°	SQUARE	Z4
------------	---	-------------	------------	-----	--------	----



					G2WS2			G2WSH3			G2WS4
P					★			★			★
M					☆			☆			☆
K					★			★			★
N					☆			☆			☆
S											
H											
D(e8)	d(h6)	I	L	EDP No.	€	EDP No.	€	EDP No.	€	EDP No.	€
3	6	8	57	G2WS2030	22,59	G2WSH3030	22,59	G2WS4030	22,59		
4	6	11	57	G2WS2040	22,59	G2WSH3040	22,59	G2WS4040	22,59		
5	6	13	57	G2WS2050	22,59	G2WSH3050	22,59	G2WS4050	22,59		
6	6	13	57	G2WS2060	22,59	G2WSH3060	22,59	G2WS4060	22,59		
8	8	19	63	G2WS2080	40,26	G2WSH3080	40,26	G2WS4080	40,26		
10	10	22	72	G2WS2100	53,54	G2WSH3100	53,54	G2WS4100	53,54		
12	12	26	83	G2WS2120	80,52	G2WSH3120	80,52	G2WS4120	80,52		
14	14	26	83	G2WS2140	115,54	G2WSH3140	115,54	G2WS4140	115,54		
16	16	32	92	G2WS2160	139,91	G2WSH3160	139,91	G2WS4160	139,91		
20	20	38	104	G2WS2200	251,53	G2WSH3200	251,53	G2WS4200	251,53		

GBL2 - catalogue page 318

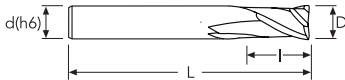


OSAWA NORM	N	MG PV200	<45 HRC	30°	SQUARE	Z2
------------	---	-------------	------------	-----	--------	----

GBL4 - catalogue page 337



OSAWA NORM	N	MG PV200	<45 HRC	30°	SQUARE	Z4
------------	---	-------------	------------	-----	--------	----



					GBL2			GBL4
P					★			★
M					☆			☆
K					★			★
N					☆			☆
S								
H								
D	d(h6)	I	L	EDP No.	€	EDP No.	€	
3	3	30	75	GBL2030	40,69	GBL4030	40,69	
4	4	30	75	GBL2040	43,50	GBL4040	43,50	
5	5	40	100	GBL2050	56,95	GBL4050	56,95	
6	6	60	150	GBL2060	86,79	GBL4060	89,63	
8	8	60	150	GBL2080	114,36	GBL4080	114,36	
10	10	75	150	GBL2100	150,87	GBL4100	150,87	
12	12	75	150	GBL2120	200,66	GBL4120	200,67	



G2210 / G2211 / G2212 - catalogue page 324



OSAWA NORM	N	MG PV200	<45 HRC	30°	SQUARE	Z2
---------------	---	-------------	------------	-----	--------	----

G2310 / G2311 / G2312 - catalogue page 333

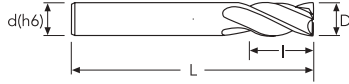


OSAWA NORM	N	MG PV200	<45 HRC	45°	SQUARE	Z3
---------------	---	-------------	------------	-----	--------	----

G2410 / G2411 / G2412 / G2413 - catalogue page 343




OSAWA NORM	N	MG PV200	<45 HRC	30°	SQUARE	Z4
---------------	---	-------------	------------	-----	--------	----



				G2210		G2310		G2410	
P				★		★		★	
M				☆		☆		☆	
K				★		★		★	
N				☆		☆		☆	
S									
H									
D(e8)	d(h6)	I	L	EDP No.	€	EDP No.	€	EDP No.	€
2	4	9	75	G2210020	31,62	G2310020	31,62	G2410020	31,62
2.5	4	10	75					G2410025	31,84
3	4	15	75	G2210030	31,62	G2310030	31,62	G2410030	31,62
3	3	25	75	G2210030CL25	36,41			G2410030CL25	36,41
3.5	4	15	75					G2410035	31,84
4	4	20	75	G2210040	31,62	G2310040	31,62	G2410040	31,62
4	4	30	75	G2210040CL30	36,41			G2410040CL30	36,41
4.5	6	20	75					G2410045	37,20
5	6	25	75	G2210050	36,93	G2310050	36,93	G2410050	36,93
5	5	30	75	G2210050S05	42,63			G2410050S05	42,63
6	6	25	75	G2210060	36,93	G2310060	36,93	G2410060	36,93
6	6	35	75	G2210060CL35	42,63			G2410060CL35	42,63
8	8	30	75	G2210080	65,48			G2410080	65,48
				G2211		G2311		G2411	
3	6	15	100					G2411030	42,97
4	6	25	100			G2311040	42,97	G2411040	42,97
5	6	30	100	G2211050	43,43	G2311050	43,43	G2411050	43,43
6	6	30	100	G2211060	43,43	G2311060	43,43	G2411060	43,43
7	8	35	100			G2311070	77,26	G2411070	77,26
8	8	35	100	G2211080	75,13	G2311080	75,13	G2411080	75,13
9	10	40	100			G2311090	99,21	G2411090	100,12
10	10	40	100	G2211100	96,48	G2311100	96,48	G2411100	96,48
11	12	45	100			G2311110	131,50	G2411110	131,50
12	12	45	100	G2211120	126,72	G2311120	126,72	G2411120	126,72
14	14	45	100					G2411140	189,38
16	16	45	100					G2411160	202,63
				G2212		G2312		G2412	
6	6	40	150					G2412060CL40	96,20
6	6	60	150					G2412060CL60	96,20
8	8	40	150	G2212080	109,35	G2312080	109,35	G2412080	109,35
8	8	60	150					G2412080CL60	125,75
10	10	50	150	G2212100	139,79	G2312100	139,79	G2412100	139,79
10	10	75	150					G2412100CL75	160,62
12	12	50	150	G2212120	184,30	G2312120	184,30	G2412120	184,30
12	12	75	150					G2412120CL75	212,24
16	16	70	150	G2212160	358,02	G2312160	358,02	G2412160	358,02
18	20	80	150					G2412180	503,87
20	20	80	150			G2312200	503,85	G2412200	503,85
				G2413					
16	16	40	200					G2413160	408,25
20	20	40	200					G2413200	570,51



G2CSHM - catalogue page 345



OSAWA
NORM

N

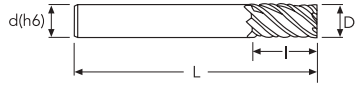
MG
PV200

<45
HRC

45°

SQUARE

Z6




G2CSHM

P	★
M	☆
K	★
N	☆
S	
H	

D	d(h6)	l	L	EDP No.	€
6	6	15	50	G2CSHM060	33,02
8	8	20	60	G2CSHM080	45,50
10	10	30	75	G2CSHM100	63,69
12	12	30	75	G2CSHM120	86,96
14	14	30	83	G2CSHM140	167,10
16	16	35	92	G2CSHM160	188,81
20	20	40	100	G2CSHM200	270,45

G2 - General purpose - 45° chamfer

G2CSFR - catalogue page 347



OSAWA
NORM

N

MG
PV200

<45
HRC


30°

C45°

HR FINE

Z3-Z4

G2WSFR - catalogue page 349



OSAWA
NORM

N

MG
PV200

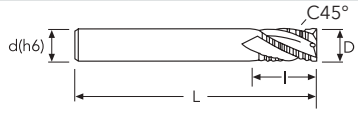
<45
HRC

30°

C45°

HR FINE

Z3-Z4



G2CSFR

G2WSFR

P	★	★
M	☆	☆
K	★	★
N	☆	☆
S		
H		

D	C45°	d(h6)	l	L	z	EDP No.	€	l	L	z	EDP No.	€
4	0.28	6	11	50	3	G2CSFR040	42,04					
5	0.35	6	13	50	3	G2CSFR050	42,04					
6	0.42	6	15	50	3	G2CSFR060	41,29	13	57	3	G2WSFR060	46,77
7	0.49	8	20	60	3	G2CSFR070	51,42					
8	0.56	8	20	60	3	G2CSFR080	45,48	19	63	3	G2WSFR080	51,52
9	0.63	10	25	75	3	G2CSFR090	82,53					
10	0.70	10	30	75	4	G2CSFR100	73,10	22	72	4	G2WSFR100	76,10
11	0.77	12	30	75	4	G2CSFR110	103,06					
12	0.84	12	30	75	4	G2CSFR120	99,31	26	83	4	G2WSFR120	108,23
13	0.91	14	30	83	4	G2CSFR130	144,17					
14	0.98	14	30	83	4	G2CSFR140	136,44	26	83	4	G2WSFR140	134,78
15	1.05	16	30	92	4	G2CSFR150	167,82					
16	1.12	16	35	92	4	G2CSFR160	155,61	32	92	4	G2WSFR160	162,65
20	1.40	20	40	100	4	G2CSFR200	234,59	38	104	4	G2WSFR200	266,07



G2CS2R - catalogue page 351



OSAWA NORM	N	MG PV200	<45 HRC	30°	RADIUS	Z2
---------------	---	-------------	------------	-----	--------	----

G2CS4R - catalogue page 353

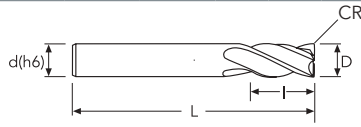


OSAWA NORM	N	MG PV200	<45 HRC	30°	RADIUS	Z4
---------------	---	-------------	------------	-----	--------	----

G2CL4R - catalogue page 355



OSAWA NORM	N	MG PV200	<45 HRC	30°	RADIUS	Z4
---------------	---	-------------	------------	-----	--------	----



							G2CS2R		G2CS4R		G2CL4R				
P	M	K	N	S	H		★		★						★
							☆		☆						☆
							★		★						★
							☆		☆						☆
D	CR	d(h6)			I	L	EDP No.	€	EDP No.	€	I	L	EDP No.	€	
1	0.20	4			2	50	G2CS2R02010	24,89	G2CS4R02010	24,89					
1.5	0.20	4			3	50	G2CS2R02015	24,89	G2CS4R02015	24,89					
1.5	0.50	4			3	50	G2CS2R05015	24,89	G2CS4R05015	24,89					
2	0.20	4			4	50	G2CS2R02020	24,89	G2CS4R02020	24,89	4	75	G2CL4R02020	32,72	
2	0.50	4			4	50	G2CS2R05020	24,89	G2CS4R05020	24,89	4	75	G2CL4R05020	32,72	
2.5	0.20	4			5	50	G2CS2R02025	24,89	G2CS4R02025	24,89					
2.5	0.50	4			5	50	G2CS2R05025	24,89	G2CS4R05025	24,89					
3	0.20	4			6	50	G2CS2R02030	24,89	G2CS4R02030	24,89	6	75	G2CL4R02030	32,72	
3	0.50	4			6	50	G2CS2R05030	24,89	G2CS4R05030	24,89	6	75	G2CL4R05030	32,72	
3	1.00	4			6	50	G2CS2R10030	24,89	G2CS4R10030	24,89	6	75	G2CL4R10030	32,72	
4	0.20	4			8	50	G2CS2R02040	24,89	G2CS4R02040	24,89	8	75	G2CL4R02040	32,72	
4	0.50	4			8	50	G2CS2R05040	24,89	G2CS4R05040	24,89	8	75	G2CL4R05040	32,72	
4	1.00	4			8	50	G2CS2R10040	24,89	G2CS4R10040	24,89	8	75	G2CL4R10040	32,72	
5	0.50	6			10	50	G2CS2R05050	30,76	G2CS4R05050	30,76	10	75	G2CL4R05050	37,95	
5	1.00	6			10	50	G2CS2R10050	30,76	G2CS4R10050	30,76	10	75	G2CL4R10050	37,95	
6	0.20	6			12	50	G2CS2R02060	30,76	G2CS4R02060	30,76					
6	0.50	6			12	50	G2CS2R05060	30,76	G2CS4R05060	30,76	12	75	G2CL4R05060	37,95	
6	1.00	6			12	50	G2CS2R10060	30,76	G2CS4R10060	30,76	12	75	G2CL4R10060	37,95	
6	1.50	6			12	50	G2CS2R15060	30,76	G2CS4R15060	30,76					
6	2.00	6			12	50	G2CS2R20060	30,76	G2CS4R20060	30,76					
8	0.50	8			16	60	G2CS2R05080	52,72	G2CS4R05080	52,72	16	100	G2CL4R05080	74,86	
8	1.00	8			16	60	G2CS2R10080	52,72	G2CS4R10080	52,72	16	100	G2CL4R10080	74,86	
8	1.50	8			16	60	G2CS2R15080	52,72	G2CS4R15080	52,72					
8	2.00	8			16	60	G2CS2R20080	52,72	G2CS4R20080	52,72	16	100	G2CL4R20080	74,86	
10	0.50	10			20	75	G2CS2R05100	78,12	G2CS4R05100	78,12	20	100	G2CL4R05100	102,29	
10	1.00	10			20	75	G2CS2R10100	78,12	G2CS4R10100	78,12	20	100	G2CL4R10100	102,29	
10	1.50	10			20	75	G2CS2R15100	78,12	G2CS4R15100	78,12					
10	2.00	10			20	75	G2CS2R20100	78,12	G2CS4R20100	78,12	20	100	G2CL4R20100	102,29	
10	2.50	10			20	75			G2CS4R25100	78,12					
10	3.00	10			20	75			G2CS4R30100	78,12					
12	0.50	12			24	75	G2CS2R05120	101,22	G2CS4R05120	101,22	24	100	G2CL4R05120	129,45	
12	1.00	12			24	75	G2CS2R10120	101,22	G2CS4R10120	101,22	24	100	G2CL4R10120	129,45	
12	1.50	12			24	75	G2CS2R15120	101,22	G2CS4R15120	101,22					
12	2.00	12			24	75	G2CS2R20120	101,22	G2CS4R20120	101,22	24	100	G2CL4R20120	126,95	
12	2.50	12			24	75			G2CS4R25120	101,22					
12	3.00	12			24	75			G2CS4R30120	101,22					



GB255 - catalogue page 357



OSAWA NORM	N	MG BR	<45 HRC	30°	BALL NOSE	Z2 BALL
---------------	---	----------	------------	-----	-----------	---------

G2CSB2 - catalogue page 359

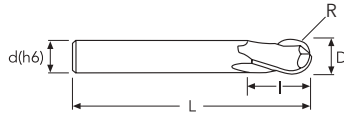


OSAWA NORM	N	MG PV200	<45 HRC	30°	BALL NOSE	Z2 BALL
---------------	---	-------------	------------	-----	-----------	---------

G2CSB4 - catalogue page 363



OSAWA NORM	N	MG PV200	<45 HRC	30°	BALL NOSE	Z4 BALL
---------------	---	-------------	------------	-----	-----------	---------



						GB255		G2CSB2		G2CSB4
P						★		★		★
M						☆		☆		☆
K						★		★		★
N						☆		☆		☆
S										
H										
D	R	d(h6)	I	L	EDP No.	€	EDP No.	€	EDP No.	€
1	0.50	3	3	50	G2CSB2010S03	24,95				
1	0.50	4	2	50	GB255010	18,97	G2CSB2010	20,55	G2CSB4010	20,83
1.5	0.75	3	5	50	G2CSB2015S03	24,95				
1.5	0.75	4	3	50	GB255015	18,97	G2CSB2015	20,55	G2CSB4015	20,83
2	1.00	3	7	50	G2CSB2020S03	24,95				
2	1.00	4	4	50	GB255020	18,97	G2CSB2020	20,55	G2CSB4020	20,83
2.5	1.25	3	8	50	G2CSB2025S03	24,95				
2.5	1.25	4	5	50			G2CSB2025	21,75		
3	1.50	3	9	50	G2CSB2030S03	24,95				
3	1.50	4	6	50	GB255030	18,97	G2CSB2030	20,55	G2CSB4030	20,83
3.5	1.75	4	7	50			G2CSB2035	21,75		
4	2.00	4	8	50	GB255040	18,97	G2CSB2040	20,55	G2CSB4040	20,83
4.5	2.25	6	9	50			G2CSB2045	26,13		
5	2.50	5	10	50	G2CSB2050S05	28,13				
5	2.50	6	10	50	GB255050	23,05	G2CSB2050	24,38	G2CSB4050	24,80
5.5	2.75	6	11	50			G2CSB2055	26,13		
6	3.00	6	12	50	GB255060	23,05	G2CSB2060	24,38	G2CSB4060	24,80
6.5	3.25	8	13	60			G2CSB2065	47,18		
7	3.50	8	14	60			G2CSB2070	46,04		
8	4.00	8	16	60	GB255080	39,30	G2CSB2080	41,91	G2CSB4080	43,36
9	4.50	10	18	75			G2CSB2090	58,19		
10	5.00	10	20	75	GB255100	57,11	G2CSB2100	59,38	G2CSB4100	62,07
12	6.00	12	24	75	GB255120	77,82	G2CSB2120	80,63	G2CSB4120	84,56
16	8.00	16	30	92			G2CSB2160	203,06	G2CSB4160	203,06
20	10.00	20	30	100			G2CSB2200	268,17	G2CSB4200	268,17



G2250 - catalogue page 361

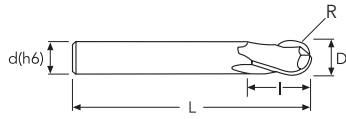


OSAWA NORM	N	MG PV200	<45 HRC	30°	BALL NOSE	Z2 BALL
---------------	---	-------------	------------	-----	-----------	---------

G2251 - catalogue page 361



OSAWA NORM	N	MG PV200	<45 HRC	30°	BALL NOSE	Z2 BALL
---------------	---	-------------	------------	-----	-----------	---------



						G2250					G2251
P						★					★
M						☆					☆
K						★					★
N						☆					☆
S											
H											
D	R	d(h6)	I	L	EDP No.	€	I	L	EDP No.	€	
1	0.50	3	3	50	G2250010	28,68					
1	0.50	4	2	50	G2250010	28,68					
1.5	0.75	4	3	50	G2250015	28,68					
2	1.00	4	4	50	G2250020	28,68					
3	1.50	3	9	50	G2250030S03	36,18					
3	1.50	4	6	50	G2250030	28,68					
4	2.00	4	8	50	G2250040	28,68					
5	2.50	5	10	50	G2250050S05	37,08					
5	2.50	6	10	50	G2250050	34,49					
6	3.00	6	12	50	G2250060	39,38	12	150	G2251060	59,91	
8	4.00	8	16	60	G2250080	71,52	16	150	G2251080	104,75	
10	5.00	10	20	75	G2250100	91,13	20	150	G2251100	132,77	
12	6.00	12	24	75	G2250120	123,11	24	150	G2251120	180,18	
16	8.00	16	30	92			30	150	G2251160	318,41	
20	10.00	20	30	100			30	150	G2251200	508,42	





HF VH/UP

VARIABLE HELIX AND UNEQUAL PITCH
UNIVERSAL PURPOSE

✚ HF EVOLution is the Osawa family of micrograin carbide endmills for universal application with coatings and cutting edges specifically designed for high performance machining of all ISO materials. The HF EVOLution endmills are available in a broad range of types, lengths and radii. They are the ideal tools for both mass production and small batch manufacturing, thanks to the outstanding performance delivered and the universal applicability.






















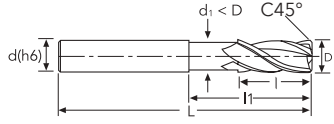
🇮🇹 HF EVOLution è la linea Osawa di frese universali in metallo duro micrograna con spoglie e rivestimenti specifici per la lavorazione ad alto rendimento di tutti i materiali della scala ISO. Le frese HF EVOLution sono disponibili in un'ampia gamma di tipologie, lunghezze e raggi torici. Sono gli utensili ideali sia per le superproduzioni di serie che per la produzione di piccoli lotti, grazie all'eccellenza del rendimento e all'universalità d'impiego.

🇩🇪 HF EVOLution heißt die Linie der Universalfräser aus mikrokörnigem Hartmetall von Osawa, mit Schneidekanten und spezifischen Beschichtungen zur Hochleistungsbearbeitung von allen Materialien der ISO-Skala. Die Fräser HF EVOLution sind in einer reichen Auswahl an Typologien, Längen und Torusradien erhältlich. Mit ihren ausgezeichneten Leistungen und dem universellen Einsatz sind sie die idealen Werkzeuge, sowohl für die Serienproduktion großer Mengen als auch für die Herstellung kleiner Lose.

























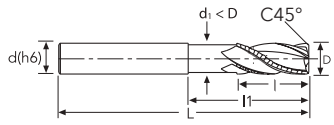
🇫🇷 HF EVOLution est la ligne Osawa de fraises universelles en carbure micrograin avec dépouilles et revêtements spécifiques pour l'usinage de haute performance de tous les matériaux de l'échelle ISO. Les fraises HF EVOLution sont disponibles dans une large gamme, longueurs et rayons. Ce sont des outils aussi bien pour les grandes séries que pour la production de prototypes, grâce à leur excellence de rendement et leur polyvalence.

🇪🇸 HF EVOLution es la línea de fresas universales de metal duro microgranulado con inclinación y revestimientos específicos para el mecanizado de alto rendimiento de todos los materiales de la escala ISO. Las fresas HF EVOLution están disponibles en una amplia gama de tipologías, longitudes y radios tóricos. Son las herramientas ideales tanto para las superproducciones en serie como para la producción de pequeños lotes, gracias a la excelencia del rendimiento y la universalidad de empleo.

🇷🇺 HF EVOLution - это линейка универсальных фрез Osawa из мелкозернистого твердого сплава со специальным покрытием для высокопроизводительной обработки всех материалов по ISO. Доступна широкая гамма фрез этой серии, имеющих различную длину и радиусы на уголках. Благодаря высокой эффективности и универсальности, это идеальные инструменты как для массового, так и для мелкосерийного производства.

HF840 - catalogue page 368 				     										
HF440 - catalogue page 372 				     										
HF441 - catalogue page 377 				     										
				HF840	HF440	HF441								
P				★			★			★				
M				★			★			★				
K				★			★			★				
N				★			★			★				
S				★			★			★				
H				★			★			★				
D	C45°	d(h6)	I	L	EDP No.	€	I	l1	d1	L	EDP No.	€	EDP No.	€
3	0.10	6	9	57	HF840030	38,91	9	15	2.80	57	HF440030	39,11	HF441030	39,11
4	0.10	6	11	57	HF840040	38,91	11	18	3.80	57	HF440040	39,11	HF441040	39,11
5	0.10	6	13	57	HF840050	38,91	13	19	4.80	57	HF440050	39,11	HF441050	39,11
6	0.10	6	13	57	HF840060	38,91	13	20	5.80	57	HF440060	39,11	HF441060	39,11
8	0.20	8	20	64	HF840080	55,10	20	26	7.80	64	HF440080	55,41	HF441080	55,41
10	0.20	10	22	72	HF840100	81,44	22	30	9.80	72	HF440100	81,86	HF441100	81,86
12	0.20	12	26	83	HF840120	104,99	26	36	11.80	83	HF440120	105,46	HF441120	105,46
14	0.30	14	32	90	HF840140	140,34	32	36	13.70	90	HF440140	140,92	HF441140	140,92
16	0.30	16	32	92	HF840160	183,04	32	42	15.70	92	HF440160	183,78	HF441160	183,78
18	0.30	18	32	92	HF840180	255,64	32	42	17.70	92	HF440180	255,64	HF441180	256,86
20	0.40	20	38	104	HF840200	296,69	38	50	19.70	104	HF440200	298,14	HF441200	298,59

HF UNI - VH/UP - 45° chamfer

HF844 - catalogue page 383 				      										
HF444 - catalogue page 387 				      										
HF445 - catalogue page 391 				      										
				HF844	HF444	HF445								
P				★			★			★				
M				★			★			★				
K				★			★			★				
N				★			★			★				
S				★			★			★				
H				★			★			★				
D	C45°	d(h6)	I	L	EDP No.	€	I	l1	d1	L	EDP No.	€	EDP No.	€
6	0.10	6	16	57	HF844060	66,65	13	20	5.80	57	HF444060	66,65	HF445060	66,65
8	0.20	8	20	64	HF844080	75,87	20	26	7.80	64	HF444080	75,87	HF445080	75,87
10	0.20	10	22	72	HF844100	108,07	22	30	9.80	72	HF444100	108,08	HF445100	108,08
12	0.20	12	26	83	HF844120	151,74	26	36	11.80	83	HF444120	151,75	HF445120	151,75
14	0.20	14	26	83	HF844140	177,53	26	36	13.70	83	HF444140	177,54	HF445140	186,41
16	0.30	16	32	92	HF844160	217,71	32	42	15.70	92	HF444160	217,71	HF445160	228,58
18	0.30	18	32	92	HF844180	288,78	32	42	17.70	92	HF444180	288,78	HF445180	298,59
20	0.40	20	38	104	HF844200	358,77	38	50	19.70	104	HF444200	358,81	HF445200	366,77



HF842 - catalogue page 399



OSAWA NORM	MG PV300	<40 HRC	VH 36°/39°	RADIUS	Z4 UP
---------------	-------------	------------	------------	--------	-------

HF442 - catalogue page 403

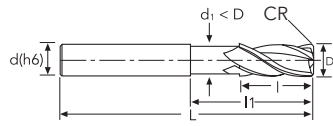


OSAWA NORM	MG PV300	<40 HRC	VH 36°/39°	RADIUS	Z4 UP
---------------	-------------	------------	------------	--------	-------

HF443 - catalogue page 408



OSAWA NORM	MG PV300	<40 HRC	VH 36°/39°	RADIUS	Z4 UP
---------------	-------------	------------	------------	--------	-------

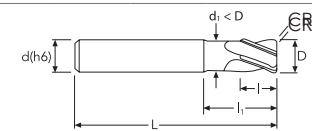


							HF842								HF442			HF443
P	M	K	N	S	H		★					★				★		
D	CR	d(h6)	I	L	EDP No.	€	I	l1	d1	L	EDP No.	€	EDP No.	€				
3	0.30	6					9	15	2.80	57	HF44203030	42,93	HF44303030	42,93				
3	0.50	6					9	15	2.80	57	HF44205030	42,93	HF44305030	42,93				
4	0.30	6	11	57	HF84203040	42,93	11	18	3.80	57	HF44203040	42,93	HF44303040	42,93				
4	0.50	6	11	57	HF84205040	42,93	11	18	3.80	57	HF44205040	42,93	HF44305040	42,93				
5	0.30	6	13	57	HF84203050	42,93	13	19	4.80	57	HF44203050	42,93						
5	0.50	6	13	57	HF84205050	42,93	13	19	4.80	57	HF44205050	42,93	HF44305050	42,93				
6	0.30	6	13	57	HF84203060	42,93	13	20	5.80	57	HF44203060	42,93						
6	0.50	6	13	57	HF84205060	42,93	13	20	5.80	57	HF44205060	42,93	HF44305060	42,93				
6	1.00	6	13	57	HF84210060	42,93	13	20	5.80	57	HF44210060	42,93	HF44310060	42,93				
8	0.50	8	20	64	HF84205080	60,86	20	26	7.80	64	HF44205080	60,86	HF44305080	60,86				
8	1.00	8	20	64	HF84210080	60,86	20	26	7.80	64	HF44210080	60,86	HF44310080	60,86				
10	0.50	10	22	72	HF84205100	89,91	22	30	9.80	72	HF44205100	89,91	HF44305100	89,91				
10	1.00	10	22	72	HF84210100	89,91	22	30	9.80	72	HF44210100	89,91	HF44310100	89,91				
12	0.50	12	26	83	HF84205120	115,94	26	36	11.80	83	HF44205120	115,94	HF44305120	115,94				
12	1.00	12	26	83	HF84210120	115,94	26	36	11.80	83	HF44210120	115,94	HF44310120	115,94				
12	2.00	12	26	83	HF84220120	115,94												
12	3.00	12	26	83	HF84230120	115,94												
14	1.00	14	26	83	HF84210140	155,00	26	36	13.70	83	HF44210140	155,00	HF44310140	155,00				
16	1.00	16	32	92	HF84210160	202,10	32	42	15.70	92	HF44210160	202,10	HF44310160	202,10				
16	2.00	16	32	92	HF84220160	202,10	32	42	15.70	92	HF44220160	202,10						
16	3.00	16	32	92	HF84230160	202,10												
18	1.00	18	32	92	HF84210180	282,31												
20	1.00	20	38	104	HF84210200	312,02	38	50	19.70	104	HF44210200	312,02	HF44310200	315,77				
20	2.00	20	38	104	HF84220200	312,02	38	50	19.70	104	HF44220200	312,02						
20	3.00	20	38	104	HF84230200	327,62												

HF342 - catalogue page 396



OSAWA NORM	MG PV300	<40 HRC	VH 36°/39°	RADIUS	Z4 UP
---------------	-------------	------------	------------	--------	-------



											HF342
P	M	K	N	S	H		★				★
D	CR	d(h6)	I	l1	d1	L	EDP No.				€
3	0.20	6	5	9	2.80	50	HF34202030				37,38
4	0.20	6	6	12	3.80	50	HF34202040				37,38
5	0.20	6	8	14	4.80	50	HF34202050				37,38
6	0.30	6	9	18	5.80	55	HF34203060				37,38
8	0.50	8	12	24	7.80	60	HF34205080				50,68
10	1.00	10	15	30	9.80	70	HF34210100				75,43
12	1.00	12	18	35	11.80	80	HF34210120				95,46



HF942 - catalogue page 416

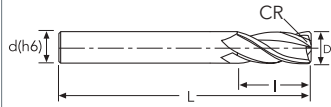


OSAWA NORM	MG PV300	<40 HRC	VH 36°/39°	RADIUS	Z4 UP
---------------	-------------	------------	------------	--------	-------

HF943 - catalogue page 420



OSAWA NORM	MG PV300	<40 HRC	VH 36°/39°	RADIUS	Z4 UP
---------------	-------------	------------	------------	--------	-------

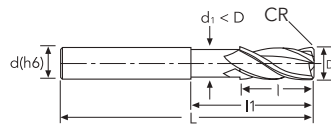


					HF942	HF943		
P					★	★		
M					★	★		
K					★	★		
N								
S					★	★		
H								
D	CR	d(h6)	l	L	EDP No.	€	EDP No.	€
4	0.10	6	19	75	HF9420104075	53,98	HF9430104075	56,96
5	0.10	6	19	75	HF9420105075	53,98	HF9430105075	56,96
6	0.10	6	25	75	HF9420106075	53,98	HF9430106075	56,96
8	0.20	8	30	75	HF9420208075	73,50	HF9430208075	77,08
10	0.20	10	40	100	HF94202100100	119,19	HF94302100100	123,96
12	0.30	12	45	100	HF94203120100	157,65	HF94303120100	162,42
16	0.30	16	65	125	HF94203160125	318,47	HF94303160125	326,83
20	0.30	20	65	125	HF94203200125	457,43	HF94303200125	466,39

HF542 - catalogue page 413



OSAWA NORM	MG PV300	<40 HRC	VH 36°/39°	RADIUS	Z4 UP
---------------	-------------	------------	------------	--------	-------



								HF542
P								★
M								★
K								★
N								
S								★
H								
D	CR	d(h6)	l	l1	d1	L	EDP No.	€
6	0.30	6	12	30	5.80	75	HF5420306075	50,45
6	0.50	6	12	30	5.80	75	HF5420506075	50,45
6	1.00	6	12	30	5.80	75	HF5421006075	52,11
6	0.30	6	12	30	5.80	100	HF54203060100	57,31
6	0.50	6	12	30	5.80	100	HF54205060100	57,31
6	1.00	6	12	30	5.80	100	HF54210060100	58,97
8	0.50	8	16	40	7.80	100	HF54205080100	79,68
8	1.00	8	16	40	7.80	100	HF54210080100	79,68
8	2.00	8	16	40	7.80	100	HF54220080100	81,34
10	0.50	10	20	50	9.80	125	HF54205100125	124,54
10	1.00	10	20	50	9.80	125	HF54210100125	124,54
10	2.00	10	20	50	9.80	125	HF54220100125	126,20
12	0.50	12	24	60	11.80	125	HF54205120125	165,56
12	1.00	12	24	60	11.80	125	HF54210120125	167,22
12	2.00	12	24	60	11.80	125	HF54220120125	169,44
12	3.00	12	24	60	11.80	125	HF54230120125	173,89
12	0.50	12	24	60	11.80	150	HF54205120150	187,50
12	1.00	12	24	60	11.80	150	HF54210120150	189,16
12	2.00	12	24	60	11.80	150	HF54220120150	191,37
12	3.00	12	24	60	11.80	150	HF54230120150	195,82
16	0.50	16	32	80	15.70	150	HF54205160150	298,39
16	1.00	16	32	80	15.70	150	HF54210160150	300,06
16	2.00	16	32	80	15.70	150	HF54220160150	302,27
16	3.00	16	32	80	15.70	150	HF54230160150	306,72
16	4.00	16	32	80	15.70	150	HF54240160150	307,83
20	0.50	20	40	100	19.70	150	HF54205200150	429,00
20	1.00	20	40	100	19.70	150	HF54210200150	430,66
20	2.00	20	40	100	19.70	150	HF54220200150	432,87
20	3.00	20	40	100	19.70	150	HF54230200150	437,32
20	4.00	20	40	100	19.70	150	HF54240200150	438,43



HF642 - catalogue page 424



OSAWA NORM	MG PV300	<40 HRC	36°/37°/38°	RADIUS	Z5
---------------	-------------	------------	-------------	--------	----

HF643 - catalogue page 427



OSAWA NORM	MG PV300	<40 HRC	36°/37°/38°	RADIUS	Z5
---------------	-------------	------------	-------------	--------	----

HF742 - catalogue page 430

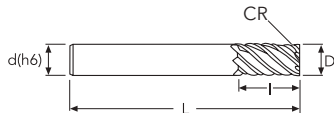


OSAWA NORM	MG PV300	<40 HRC	36°/37°/38°	RADIUS	Z5
---------------	-------------	------------	-------------	--------	----

HF743 - catalogue page 433



OSAWA NORM	MG PV300	<40 HRC	36°/37°/38°	RADIUS	Z5
---------------	-------------	------------	-------------	--------	----

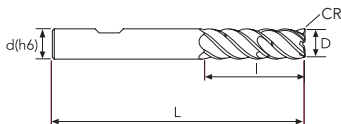


		HF642		HF643		HF742		HF743						
P		★		★		★		★						
M		★		★		★		★						
K		★		★		★		★						
N														
S		★		★		★		★						
H														
D	CR	d(h6)	I	L	EDP No.	€	EDP No.	€	I	L	EDP No.	€	EDP No.	€
4	0.10	6	12	57	HF64201040	53,20	HF64301040	56,12						
5	0.10	6	13	57	HF64201050	53,20	HF64301050	56,12						
6	0.10	6	13	57	HF64201060	53,20	HF64301060	56,12	25	75	HF7420106075	63,16	HF7430106075	66,08
8	0.20	8	20	64	HF64202080	75,93	HF64302080	79,44	25	75	HF7420208075	82,32	HF7430208075	85,83
10	0.20	10	22	72	HF64202100	99,27	HF64302100	103,95	38	100	HF74202100100	122,51	HF74302100100	127,18
12	0.30	12	26	83	HF64203120	140,18	HF64303120	144,85	45	100	HF74203120100	159,75	HF74303120100	164,43
16	0.30	16	32	92	HF64203160	225,43	HF64303160	233,62	55	125	HF74203160125	325,39	HF74303160125	333,58
20	0.30	20	38	104	HF64203200	382,92	HF64303200	391,70	65	125	HF74203200125	456,32	HF74303200125	465,11

HF535T - catalogue page 436



OSAWA NORM	MG PV300	<45 HRC	36°/37°/38°	RADIUS	Z5 UP
---------------	-------------	------------	-------------	--------	-------



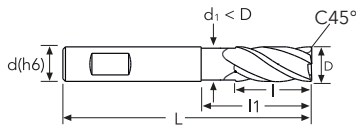
										HF535T
P										★
M										☆
K										★
N										
S										☆
H										
D	CR	d(h6)	I	L	EDP No.					€
10	0.10	10	35	90	HF535T010100					138,84
12	0.12	12	45	100	HF535T012120					185,09
16	0.15	16	55	115	HF535T015160					334,34
20	0.20	20	70	131	HF535T020200					525,58



HF471 - catalogue page 438



OSAWA NORM	MG PV300	<40 HRC	VH 36°/39°	C45°	Z4 UP
---------------	-------------	------------	------------	------	-------



HF471

P							★
M							★
K							★
N							
S							★
H							
D	C45°	d(h6)	l	l1	L	EDP No.	€
1	0.1	4	3		50	HF471010	32,50
1.5	0.1	4	4.5		50	HF471015	32,50
2	0.1	4	6.5		50	HF471020	32,50
2.5	0.1	4	6.5		50	HF471025	32,50
3	0.1	6	9	15	57	HF471030	35,20
3.5	0.1	6	11	20	57	HF471035	40,49
4	0.1	6	11	20	57	HF471040	35,20
4.5	0.1	6	13	20	57	HF471045	40,49
5	0.1	6	13	20	57	HF471050	35,20
5.5	0.1	6	13	20	57	HF471055	40,49
6	0.1	6	13	20	57	HF471060	35,20
7	0.2	8	20	26	64	HF471070	57,71
8	0.2	8	20	26	64	HF471080	50,10
9	0.2	10	22	32	72	HF471090	84,90
10	0.2	10	22	32	72	HF471100	74,28
11	0.2	12	26	37	83	HF471110	107,35
12	0.2	12	26	37	83	HF471120	95,95
13	0.2	14	26	37	83	HF471130	148,30
14	0.2	14	26	37	83	HF471140	132,00
15	0.2	16	32	42	92	HF471150	181,86
16	0.2	16	32	42	92	HF471160	165,62
18	0.2	18	32	42	92	HF471180	236,00
20	0.2	20	38	50	104	HF471200	268,14

HF HARD - UP - 45° chamfer

HF850 - catalogue page 443



HF450 - catalogue page 447



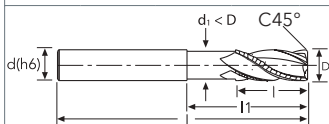
HF451 - catalogue page 451



OSAWA NORM	MG PV300	30÷55 HRC	40°	C45°	Z4 UP
---------------	-------------	--------------	-----	------	-------

OSAWA NORM	MG PV300	30÷55 HRC	40°	C45°	Z4 UP
---------------	-------------	--------------	-----	------	-------

OSAWA NORM	MG PV300	30÷55 HRC	40°	C45°	Z4 UP
---------------	-------------	--------------	-----	------	-------



HF850

HF450

HF451

P							★							★
M							★							★
K							★							★
N														
S							★							★
H							★							★
D	C45°	d(h6)	l	L	EDP No.	€	l	l1	d1	L	EDP No.	€	EDP No.	€
3	0.10	6	9	57	HF850030	48,19	9	15	2.80	57	HF450030	48,17	HF451030	48,17
4	0.10	6	11	57	HF850040	48,19	11	18	3.80	57	HF450040	48,17	HF451040	48,17
5	0.10	6	13	57	HF850050	48,19	13	19	4.80	57	HF450050	48,17	HF451050	48,17
6	0.10	6	13	57	HF850060	48,19	13	20	5.80	57	HF450060	48,17	HF451060	48,17
8	0.20	8	20	64	HF850080	68,27	20	26	7.80	64	HF450080	68,27	HF451080	68,27
10	0.20	10	22	72	HF850100	100,85	22	30	9.80	72	HF450100	100,85	HF451100	100,85
12	0.20	12	26	83	HF850120	130,02	26	36	11.80	83	HF450120	130,03	HF451120	130,03
14	0.30	14	32	90	HF850140	173,85	26	36	13.70	83	HF450140	173,84	HF451140	173,84
16	0.30	16	32	92	HF850160	226,72	32	42	15.70	92	HF450160	226,69	HF451160	226,69
20	0.40	20	38	104	HF850200	350,01	38	50	19.70	104	HF450200	350,00	HF451200	350,00



HF852 - catalogue page 455

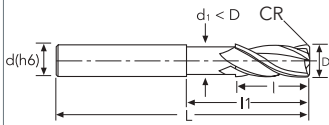


OSAWA NORM	MG PV300	30÷55 HRC	40°	RADIUS	Z4 UP
---------------	-------------	--------------	-----	--------	-------

HF452 - catalogue page 459



OSAWA NORM	MG PV300	30÷55 HRC	40°	RADIUS	Z4 UP
---------------	-------------	--------------	-----	--------	-------



						HF852							HF452
P						★							★
M						★							★
K						★							★
N													
S						★							★
H						★							★
D	C+R	d(h6)	l	L	EDP No.	€	l	l1	d1	L	EDP No.	€	
3	0.30	6					9	15	2.80	57	HF45203030	52,95	
3	0.50	6					9	15	2.80	57	HF45205030	52,95	
4	0.30	6	11	57	HF85203040	52,96	11	18	3.80	57	HF45203040	52,95	
4	0.50	6	11	57	HF85205040	52,96	11	18	3.80	57	HF45205040	52,95	
5	0.30	6	15	57	HF85203050	52,96							
5	0.50	6	15	57	HF85205050	52,96	13	19	4.80	57	HF45205050	52,95	
6	0.30	6	13	57	HF85203060	52,96							
6	0.50	6	13	57	HF85205060	52,96	13	20	5.80	57	HF45205060	52,95	
6	1.00	6	13	57	HF85210060	52,96	13	20	5.80	57	HF45210060	52,95	
8	0.50	8	20	64	HF85205080	75,12	20	26	7.80	64	HF45205080	75,12	
8	1.00	8	20	64	HF85210080	75,12	20	26	7.80	64	HF45210080	75,12	
10	0.50	10	22	72	HF85205100	110,94	22	30	9.80	72	HF45205100	110,94	
10	1.00	10	22	72	HF85210100	110,94	22	30	9.80	72	HF45210100	110,94	
12	0.50	12	26	83	HF85205120	143,08	26	36	11.80	83	HF45205120	143,09	
12	1.00	12	26	83	HF85210120	143,08	26	36	11.80	83	HF45210120	143,09	
12	2.00	12	26	83	HF85220120	143,08							
12	3.00	12	26	83	HF85230120	143,08							
14	1.00	14	26	83	HF85210140	191,30							
16	1.00	16	32	92	HF85210160	249,41	32	42	15.70	92	HF45210160	249,36	
16	2.00	16	32	92	HF85220160	249,41	32	42	15.70	92	HF45220160	249,36	
20	1.00	20	38	104	HF85210200	384,96	38	50	19.70	104	HF45210200	384,97	
20	2.00	20	38	104	HF85220200	384,96	38	50	19.70	104	HF45220200	384,97	





MEF

STAINLESS STEEL AND SUPER ALLOYS

🇬🇧 Ultra-fine micrograin and Endless Black coating for high performance machining on stainless steel, HRSA and titanium alloy, carbon and low alloy steel. The unique design of the cutting geometry and the Endless Black coating are specifically developed to control the cutting friction delivering longer tool life through the reduction of the heat generation.

🇮🇹 Micrograna ultrafine e rivestimento Endless Black per la lavorazione ad alto rendimento di acciai al carbonio, acciai inossidabili, HRSA e leghe di titanio. La geometria e il rivestimento specifici consentono di generare bassi sforzi di taglio e l'abbassamento del coefficiente di attrito, garantendo una riduzione dello sviluppo del calore con conseguente rallentamento del processo di usura del tagliente.

🇩🇪 Besonders feine Mikrokörnung und Beschichtung Endless Black für Hochleistungsbearbeitungen von Kohlenstoffstahl, Edelstahl, HRSA und Titanlegierungen. Dank der speziellen Geometrie und der spezifischen Beschichtung wird ein niedriger Schneiddruck erzeugt und der Reibungsfaktor gesenkt, wodurch die Hitzeentwicklung reduziert und in Folge die Abnutzung der Schneidkante verzögert werden.

🇫🇷 Ultra Micrograin et revêtement Endless Black pour l'usage à haute performance pour les aciers au carbone, aciers inoxydables, HRSA et alliages de titane. La géométrie et le revêtement spécifiques permettent de générer peu d'efforts de coupe et de réduire le coefficient de frottement, en garantissant une diminution du développement de la chaleur et le ralentissement consécutif du processus d'usure de l'arête.

🇪🇸 Micrograno ultrafino y revestimiento Endless Black para el mecanizado a alto rendimiento de aceros al carbono, aceros inoxidables, HRSA y aleaciones de titanio. La geometría y revestimiento específicos permiten generar bajos esfuerzos de corte y reducción del coeficiente de rozamiento, garantizando una reducción del desarrollo de calor con la consiguiente ralentización del proceso de desgaste del filo.

🇷🇺 Микрозернистая супермелкая структура твердого сплава и покрытие Endless Black служат для высокоэффективной обработки нержавеющей стали, жаропрочных и титановых сплавов, низко- и высокоуглеродистых сталей. Специальная геометрия и покрытие позволяют снизить трение и тепловыделение при резании и, тем самым, увеличить стойкость инструмента.

MEFCS2 - catalogue page 464

MEFCSH3 - catalogue page 466

MEFCS4 - catalogue page 468

MEF600 - catalogue page 470

OSAWA NORM

VA

UMG ENDLESS

<45 HRC

35°

SQUARE

Z2

OSAWA NORM

VA

UMG ENDLESS

<45 HRC

50°

SQUARE

Z3

Z4

OSAWA NORM

VA

UMG ENDLESS

<45 HRC

35°

SQUARE

Z4

OSAWA NORM

VA

UMG ENDLESS

<45 HRC

50°

SQUARE

Z6-Z8

				MEFCS2		MEFCSH3		MEFCS4				MEF600		
P														*
M														*
K														
N														
S														*
H														
D	d(h6)	I	L	EDP No.	€	EDP No.	€	EDP No.	€	I	L	z	EDP No.	€
1	4	2.5	40	MEFCS2010	51,50									
1.5	4	4	40	MEFCS2015	51,50									
2	4	6	40	MEFCS2020	46,79			MEFCS4020	46,79					
2.5	4	8	40	MEFCS2025	46,79			MEFCS4025	46,79					
3	6	8	45	MEFCS2030	67,62			MEFCS4030	67,62					
4	6	11	45	MEFCS2040	67,62			MEFCS4040	67,62					
5	6	13	50	MEFCS2050	67,62			MEFCS4050	67,62					
6	6	13	50	MEFCS2060	67,62	MEFCSH3060	87,88	MEFCS4060	67,62	13	57	6	MEF600060	79,16
8	8	19	60	MEFCS2080	86,55	MEFCSH3080	112,65	MEFCS4080	86,55	19	63	6	MEF600080	100,33
10	10	22	70	MEFCS2100	128,20	MEFCSH3100	166,61	MEFCS4100	128,20	22	72	6	MEF600100	150,15
12	12	26	75	MEFCS2120	175,76	MEFCSH3120	228,53	MEFCS4120	175,76	26	83	6	MEF600120	204,05
14	14	26	85	MEFCS2140	291,58			MEFCS4140	291,58					
16	16	32	100	MEFCS2160	291,58	MEFCSH3160	379,10	MEFCS4160	291,58	32	92	6	MEF600160	343,08
18	18					MEFCSH3180	554,16							
20	20					MEFCSH4200	628,61	MEFCS4200	483,45	38	104	8	MEF600200	504,07

MEF - Stainless steel and super alloys - Roughing - 45° chamfer

MEF901 - catalogue page 472

MEF902 - catalogue page 474

OSAWA NORM

VA

UMG ENDLESS

<45 HRC

45°

C45°

HR FINE

Z3-Z6

OSAWA NORM

VA

UMG ENDLESS

<45 HRC

45°

C45°

HR FINE

Z4-Z6

													MEF901		MEF902	
P														*		*
M														*		*
K																
N																
S														*		*
H																
D	C45°	d(h6)	I	L	z	EDP No.	€	I	I1	d1	L	z	EDP No.	€		
4	0.10	6	11	57	3	MEF901040	89,92									
5	0.10	6	13	57	4	MEF901050	89,92									
6	0.15	6	16	57	4	MEF901060	89,92	16	20	5.50	57	4	MEF902060	108,00		
8	0.20	8	16	63	4	MEF901080	105,26	16	26	7.50	63	4	MEF902080	126,16		
10	0.20	10	22	72	4	MEF901100	157,19	22	31	9.50	72	4	MEF902100	188,77		
12	0.20	12	26	83	4	MEF901120	201,80	26	37	11.50	83	4	MEF902120	242,18		
14	0.20	14	26	83	5	MEF901140	244,93									
16	0.20	16	32	92	5	MEF901160	328,87	32	51	15.50	92	5	MEF902160	394,73		
20	0.20	20	38	104	6	MEF901200	529,40	38	59	19.20	104	6	MEF902200	635,29		





ALU

NON-FERROUS MATERIALS

✚ Uncoated micrograin carbide and cutting geometry specifically developed for non-ferrous machining. Lapped cutting edges and ad-hoc profile of the chip pocket for low cutting forces and outstanding finishing quality. Also available in the HF ALU version with unequal pitch (UP) with a specific design allowing mirror finishing and DxD machining, even in the 4-flutes version.

🇮🇹 Micrograna non rivestita e geometria di taglio sviluppata specificamente per la lavorazione di materiali non-ferrosi. Taglienti lappati e particolare profilo del vano truciolo per bassi sforzi di taglio e un'eccellente finitura superficiale. Disponibile anche la versione HF Alu con passo differenziato (UP) con un particolare design che permette finiture a specchio e lavorazioni DxD, anche nella versione a 4 taglienti.

🇩🇪 Unbeschichtete Mikrokörnung und eigens für die Bearbeitung von NE-Metallen entwickelte Schnittgeometrie. Dank der geläpften Schneiden und der besonderen Form der Nuten ist die aufzubringende Schnittkraft gering, bei gleichzeitig ausgezeichnetem Oberflächenfinish. Auch in der Version HF Alu mit ungleicher Teilung (UP) und besonderer Form erhältlich, die auch in der Version mit 4 Schneiden ein spiegelblankes Oberflächenfinish und DxD-Bearbeitungen ermöglicht.

🇫🇷 Micrograin non revêtu et géométrie de coupe développée spécifiquement pour l'usinage de matériaux non ferreux. Arêtes de coupe polies et profil particulier de la goujure pour de faibles efforts de coupe et une excellente finition superficielle. Également disponible la version HF Alu à pas décalé(UP), avec un design particulier qui permet des finitions glacées et des usinages DxD, aussi dans la version à 4 arêtes de coupe.

🇪🇸 Micrograna no revestida y geometría de corte desarrollada específicamente para la elaboración de materiales no ferrosos. Filos de corte lapeados y perfil especial del compartimento de virutas, para bajos esfuerzos de corte y un excelente acabado de la superficie. También está disponible la versión HF Alu con paso diferenciado (UP) con un diseño especial que permite acabados a espejo y elaboraciones D x D, incluso en la versión de 4 filos.

🇷🇺 Мелкозернистый твердый сплав без покрытия со специально разработанной геометрией для обработки цветных металлов. Доведенные режущие кромки и специальный профиль стружечных канавок снижают силы резания и улучшают качество обработанной поверхности. Также доступна версия HF Alu с неравномерным шагом (UP) и специальной геометрией, позволяющая получать зеркальную поверхность и работать в режиме DxD, в том числе для версий с 4-мя зубьями.

MDCSA1 - catalogue page 490

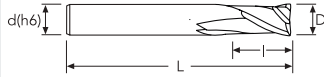


OSAWA NORM	ALU	MG POLISHED	25°	SQUARE	Z1
------------	-----	----------------	-----	--------	----

MDCSA2 - catalogue page 492



OSAWA NORM	ALU	MG POLISHED	45°	SQUARE	Z2
------------	-----	----------------	-----	--------	----

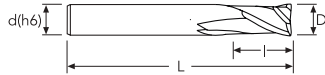


					MDCSA1						MDCSA2
P	M	K	N	S	H						
D(e8)	d(h6)	l	L	EDP No.	€	d(h6)	l	L	EDP No.	€	
1						4	3	40	MDCSA2010	27,91	
1.5						4	4.5	40	MDCSA2015	27,91	
2	2	10	40	MDCSA1020	25,95	4	6.5	40	MDCSA2020	27,91	
2.5						4	6.5	40	MDCSA2025	27,91	
3	3	12	40	MDCSA1030	25,95	6	8	57	MDCSA2030	35,77	
4	4	15	50	MDCSA1040	33,49	6	11	57	MDCSA2040	35,77	
5	5	16	50	MDCSA1050	38,41	6	13	57	MDCSA2050	35,77	
6	6	20	60	MDCSA1060	48,59	6	13	57	MDCSA2060	35,77	
8	8	22	63	MDCSA1080	74,46	8	19	63	MDCSA2080	57,29	
10	10	25	72	MDCSA1100	110,70	10	22	72	MDCSA2100	86,28	
12	12	30	83	MDCSA1120	157,48	12	26	83	MDCSA2120	120,97	
14						14	26	83	MDCSA2140	164,87	
16						16	32	92	MDCSA2160	208,04	
18						18	32	92	MDCSA2180	268,32	
20						20	38	104	MDCSA2200	347,34	

HFAL4 - catalogue page 478



OSAWA NORM	ALU	MG BR	40°	SQUARE	Z4 UP
------------	-----	----------	-----	--------	-------



					HFAL4					
P	M	K	N	S	H					
D(e8)	d(h6)	l	L	EDP No.	€					
3	6	9	57	HFAL4030	38,93					
4	6	12	57	HFAL4040	38,93					
5	6	13	57	HFAL4050	38,93					
6	6	13	57	HFAL4060	38,93					
8	8	20	64	HFAL4080	55,12					
10	10	22	72	HFAL4100	81,46					
12	12	26	83	HFAL4120	105,01					
14	14	32	90	HFAL4140	140,36					
16	16	32	92	HFAL4160	183,02					
20	20	38	104	HFAL4200	296,68					



MDCSA3 - catalogue page 495

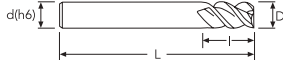


OSAWA NORM	ALU	MG POLISHED	55°	SQUARE	Z3
------------	-----	-------------	-----	--------	----

MDA310 - catalogue page 497



OSAWA NORM	ALU	MG POLISHED	55°	SQUARE	Z3
------------	-----	-------------	-----	--------	----

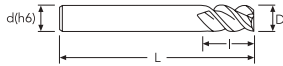


					MDCSA3						MDA310	
P												
M												
K												
N						★						★
S												
H												
D	d(h6)	I	L	EDP No.	€	d(h6)	I	L	EDP No.	€		
1	4	3	50	MDCSA3010	22,87							
1.5	4	4.5	50	MDCSA3015	22,87							
2	4	6	50	MDCSA3020	22,87							
3	4	8	50	MDCSA3030	22,87	6	12	75	MDA310030	39,65		
4	4	11	50	MDCSA3040	22,87	6	16	75	MDA310040	39,65		
5	6	13	50	MDCSA3050	27,43	6	20	75	MDA310050	39,70		
6	6	15	50	MDCSA3060	27,43	6	25	75	MDA310060	39,70		
8	8	20	60	MDCSA3080	45,40							
10	10	25	75	MDCSA3100	68,08							
12	12	30	75	MDCSA3120	92,39							
16	16	40	100	MDCSA3160	205,95							
20	20	40	100	MDCSA3200	284,11							

MDA311 - MDA312 - catalogue page 497



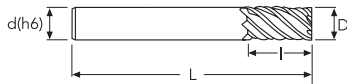
OSAWA NORM	ALU	MG POLISHED	55°	SQUARE	Z3
------------	-----	-------------	-----	--------	----



					MDA311						MDA312	
P												
M												
K												
N						★						★
S												
H												
D	d(h6)	I	L	EDP No.	€	d(h6)	I	L	EDP No.	€		
3	6	15	100	MDA311030	49,44							
4	6	20	100	MDA311040	49,44							
5	6	25	100	MDA311050	49,55							
6	6	30	100	MDA311060	49,55							
8	8	35	100	MDA311080	73,68	8	40	150	MDA312080	109,40		
10	10	40	100	MDA311100	95,20	10	50	150	MDA312100	129,04		
12	12	45	100	MDA311120	130,74	12	50	150	MDA312120	177,98		
16						16	70	150	MDA312160	319,94		
20						20	80	150	MDA312200	422,82		



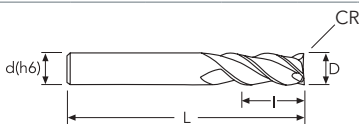
MDCSAM - catalogue page 500



MDCSAM

P						
M						
K						
N						★
S						
H						
D	d(h6)	I	L	EDP No.		€
6	6	15	57	MDCSAM060		67,80
8	8	20	64	MDCSAM080		98,26
10	10	22	75	MDCSAM100		123,39
12	12	25	75	MDCSAM120		161,08

HFAL3 - catalogue page 481



HFAL3



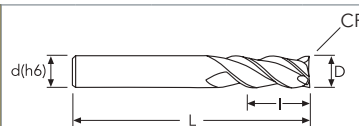
HFAL3

P							P						
M							M						
K							K						
N						★	N						★
S							S						
H							H						
D	CR	d(h6)	I	L	EDP No.	€	D	CR	d(h6)	I	L	EDP No.	€
1	0.10	6	3	50	HFAL301010030	42,59	3	0.10	6	9	50	HFAL301030	42,59
1	0.10	6	5	50	HFAL301010050	42,59	3	0.10	6	12	50	HFAL301030120	42,59
1.5	0.10	6	4.5	50	HFAL301015045	42,59	4	0.10	6	12	50	HFAL301040	42,59
1.5	0.10	6	6	50	HFAL301015060	42,59	5	0.10	6	15	50	HFAL301050	42,59
1.5	0.10	6	8	50	HFAL301015080	42,59	6	0.10	6	20	60	HFAL301060	48,91
2	0.10	6	3	50	HFAL301020030	42,59	8	0.10	8	20	64	HFAL301080	69,10
2	0.10	6	5	50	HFAL301020050	42,59	10	0.10	10	22	75	HFAL301100	97,90
2	0.10	6	6.5	50	HFAL301020	42,59	12	0.10	12	25	75	HFAL301120	129,55
2	0.10	6	8	50	HFAL301020080	42,59	14	0.10	14	32	90	HFAL301140	191,15
2	0.10	6	10	50	HFAL301020100	42,59	16	0.10	16	32	90	HFAL301160	241,67
3	0.10	6	6	50	HFAL301030060	42,59	20	0.10	20	38	100	HFAL301200	355,42

HFA3D - catalogue page 484



HFA3D



HFA3D

P							P						
M							M						
K							K						
N						★	N						★
S							S						
H							H						
D	CR	d(h6)	I	L	EDP No.	€	D	CR	d(h6)	I	L	EDP No.	€
1	0.10	6	3	50	HFA3D01010030	52,43	3	0.10	6	6	50	HFA3D01030060	52,43
1	0.10	6	5	50	HFA3D01010050	52,43	3	0.10	6	9	50	HFA3D01030090	52,43
1,5	0.10	6	4.5	50	HFA3D01015045	52,43	3	0.10	6	12	50	HFA3D01030120	52,43
1,5	0.10	6	6	50	HFA3D01015060	52,43	4	0.10	6	12	50	HFA3D01040120	52,43
2	0.10	6	5	50	HFA3D01020050	52,43	6	0.10	6	20	60	HFA3D01060	60,70
2	0.10	6	6.5	50	HFA3D01020065	52,43	8	0.10	8	20	64	HFA3D01080	81,16
2	0.10	6	8	50	HFA3D01020080	52,43	10	0.10	10	22	75	HFA3D01100	109,85



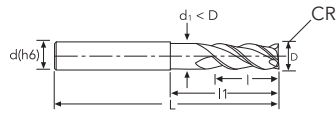
HFA53 - catalogue page 487



OSAWA
NORM

ALU

MG
BR



HFA53

P	M	K	N	S	H								€
D	CR	d(h6)	l	l1	d1	L	EDP No.					€	
3	0.20	6	5	18	2.80	60	HFA5302030					48,96	
3	0.50	6	5	18	2.80	60	HFA5305030					48,96	
4	0.50	6	6	22	3.80	60	HFA5305040					44,86	
4	1.00	6	6	22	3.80	60	HFA5310040					44,86	
5	0.50	6	8	24	4.80	60	HFA5305050					46,77	
5	1.00	6	8	24	4.80	60	HFA5310050					46,77	
6	0.50	6	9	29	5.80	65	HFA5305060					53,84	
6	1.00	6	9	29	5.80	65	HFA5310060					53,84	
6	2.00	6	9	29	5.80	65	HFA5320060					53,84	
8	0.50	8	12	39	7.80	75	HFA5305080					78,18	
8	1.00	8	12	39	7.80	75	HFA5310080					78,18	
8	2.00	8	12	39	7.80	75	HFA5320080					78,18	
8	3.00	8	12	39	7.80	75	HFA5330080					78,18	
10	0.50	10	15	52	9.80	100	HFA5305100					116,63	
10	1.00	10	15	52	9.80	100	HFA5310100					118,99	
10	2.00	10	15	52	9.80	100	HFA5320100					118,99	
10	3.00	10	15	52	9.80	100	HFA5330100					118,99	
10	4.00	10	15	52	9.80	100	HFA5340100					118,99	
12	0.50	12	18	62	11.80	120	HFA5305120					182,84	
12	1.00	12	18	62	11.80	120	HFA5310120					185,56	
12	2.00	12	18	62	11.80	120	HFA5320120					185,56	
12	3.00	12	18	62	11.80	120	HFA5330120					185,56	
12	4.00	12	18	62	11.80	120	HFA5340120					185,56	
16	0.50	16	24	82	15.70	130	HFA5305160					327,60	
16	1.00	16	24	82	15.70	130	HFA5310160					330,62	
16	2.00	16	24	82	15.70	130	HFA5320160					330,62	
16	3.00	16	24	82	15.70	130	HFA5330160					330,62	
16	4.00	16	24	82	15.70	130	HFA5340160					330,62	
20	0.50	20	30	100	19.70	150	HFA5305200					511,91	
20	1.00	20	30	100	19.70	150	HFA5310200					514,93	
20	2.00	20	30	100	19.70	150	HFA5320200					514,93	
20	3.00	20	30	100	19.70	150	HFA5330200					514,93	
20	4.00	20	30	100	19.70	150	HFA5340200					514,93	



PARAMETERS

★ 1st choice ☆ suitable

MDCAB2 - catalogue page 504



OSAWA
NORM

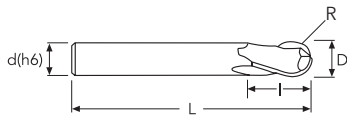
ALU

MG
POLISHED

40°

BALL NOSE

Z2 BALL



MDCAB2

P	M	K	N	S	H						€	
						D	R	d(h6)	l	L	EDP No.	
						1	0.50	4	2	50	MDCAB2010	26,67
						1.5	0.75	4	3	50	MDCAB2015	26,67
						2	1.00	4	4	50	MDCAB2020	26,67
						3	1.50	4	6	50	MDCAB2030	26,67
						4	2.00	4	8	50	MDCAB2040	26,67
						5	2.50	6	10	50	MDCAB2050	33,39
						6	3.00	6	12	50	MDCAB2060	33,39
						8	4.00	8	16	60	MDCAB2080	53,42
						10	5.00	10	20	75	MDCAB2100	83,37
						12	6.00	12	24	75	MDCAB2120	112,99





MEX AND MH

STEEL AND HARDENED STEEL
30÷55 HRC (MEX) AND 30÷70 HRC (MH)

🇺🇸 MEX: Ultra-fine micrograin and Endless Orange coating for high performance machining on 30÷55 HRC materials. MH: Wide range of tools available for general milling, copying and super finishing (30÷70 HRC).

🇮🇹 MEX: Micrograna ultrafine e rivestimento Endless Orange per lavorazione ad alto rendimento di materiali con durezza compresa tra 30÷55 HRC. MH: Ampia gamma per soddisfare applicazioni di copiatura e super finitura (30÷70 HRC).

🇩🇪 MEX: Besonders feine Mikrokörnung und Beschichtung Endless Orange für Hochleistungsbearbeitungen von Materialien mit einer Härte zwischen 30 und 55 HRC. MH: Große Produktpalette für Anwendungen zum Fräsen im Allgemeinen, Kopierfräsen und Schlichtbearbeitung (30÷70 HRC).

🇫🇷 MEX: Ultra Micrograin et revêtement Endless Orange pour un usinage à rendement élevé de matériaux ayant une dureté comprise entre 30÷55 HRC. MH: Une large gamme pour satisfaire les applications de fraisage général, copiage et super finition (30÷70 HRC).

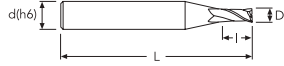
🇪🇸 MEX: Micrograno ultrafino y revestimiento Endless Orange para el mecanizado a alto rendimiento de materiales con una dureza comprendida entre 30 y 55 HRC. MH: Amplia gama para satisfacer aplicaciones de fresado general, copiado y súper acabado (30÷70 HRC).

🇷🇺 MEX: Микрозернистая структура твердого сплава и покрытие Endless Orange служат для высокоэффективной обработки материалов с твердостью 30÷55 HRC. MH: Широкий ассортимент для профилированной и суперфинишной обработки (30 ÷ 70 HRC).

MEXM2 - catalogue page 508



MEXM2SC - catalogue page 510



					MEXM2						MEXM2						MEXM2SC
P	★																
M																	
K	★																
N																	
S																	
H	★																
D	d(h6)	l	L	EDP No.	€	D	d(h6)	l	L	EDP No.	€	D	d(h6)	l	L	EDP No.	€
0.3	4	0.6	40	MEXM20030	63,92	1.2	3	2.4	40	MEXM20120	44,71	0.2	4	0.3	50	MEXM2SC0020	70,26
0.4	4	0.8	40	MEXM20040	55,78	1.3	3	2.6	40	MEXM20130	44,71	0.3	4	0.4	50	MEXM2SC0030	63,87
0.5	4	1	40	MEXM20050	48,77	1.4	3	2.8	40	MEXM20140	44,71	0.4	4	0.6	50	MEXM2SC0040	55,77
0.6	4	1.2	40	MEXM20060	48,77	1.5	3	3	40	MEXM20150	44,71	0.5	4	0.7	50	MEXM2SC0050	48,80
0.7	4	1.4	40	MEXM20070	48,77	1.6	3	3.2	40	MEXM20160	38,35	0.6	4	0.9	50	MEXM2SC0060	48,80
0.8	4	1.6	40	MEXM20080	44,71	1.7	3	3.4	40	MEXM20170	38,35	0.7	4	1	50	MEXM2SC0070	48,80
0.9	4	1.8	40	MEXM20090	44,71	1.8	3	3.6	40	MEXM20180	38,35	0.8	4	1.2	50	MEXM2SC0080	44,71
1	3	2	40	MEXM20100	44,71	1.9	3	3.8	40	MEXM20190	38,35	0.9	4	1.4	50	MEXM2SC0090	44,71
1.1	3	2.2	40	MEXM20110	44,71	2	3	4	40	MEXM20200	38,35						

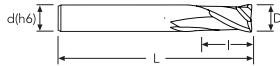
MEXCS2 - catalogue page 517



MEXCL2 - catalogue page 519



≥ Ø14



					MEXCS2						MEXCL2
P	★										
M											
K	★										
N											
S											
H	★										
D	d(h6)	l	L	EDP No.	€	d(h6)	l	L	EDP No.	€	
1	4	2.5	40	MEXCS2010	50,55	6	8	60	MEXCL2010	81,22	
1.5	4	4	40	MEXCS2015	50,55	6	12	60	MEXCL2015	81,22	
2	4	6	40	MEXCS2020	45,98	6	12	60	MEXCL2020	78,11	
2.5	4	8	40	MEXCS2025	45,98						
3	6	8	55	MEXCS2030	66,88	6	15	60	MEXCL2030	80,80	
3.5	6	10	55	MEXCS2035	66,88						
4	6	10	55	MEXCS2040	66,88	6	20	60	MEXCL2040	80,80	
4.5	6	12	55	MEXCS2045	65,57						
5	6	13	55	MEXCS2050	66,88	6	25	70	MEXCL2050	82,05	
5.5	6	14	55	MEXCS2055	65,57						
6	6	15	60	MEXCS2060	66,88	6	25	70	MEXCL2060	82,34	
6.5	8	17	65	MEXCS2065	83,54						
7	8	18	65	MEXCS2070	83,48						
8	8	20	70	MEXCS2080	85,19	8	30	80	MEXCL2080	103,72	
8.5	10	21	70	MEXCS2085	123,43						
9	10	23	70	MEXCS2090	123,43						
10	10	22	75	MEXCS2100	125,87	10	35	90	MEXCL2100	131,99	
11	12	28	75	MEXCS2110	169,31						
12	12	26	80	MEXCS2120	172,66	12	40	90	MEXCL2120	193,41	
14	14	32	90	MEXCS2140	196,37						
16	16	32	90	MEXCS2160	255,34						
18	18	38	100	MEXCS2180	346,94						
20	20	38	100	MEXCS2200	425,52						



MEX400 - catalogue page 521

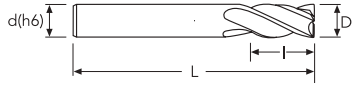


OSAWA NORM
MEX
NMG ENDLESS ORANGE
<55 HRC
40°
SQUARE
Z4 UP

MEXCL4 - catalogue page 523



OSAWA NORM
MEX
UMG ENDLESS ORANGE
<55 HRC
40°
SQUARE
Z4



					MEX400						MEXCL4						MEXCL4			
P	M	K	N	S	H															
D	d(h6)	l	L	EDP No.	€	d(h6)	l	L	EDP No.	€	d(h6)	l	L	EDP No.	€					
					★					★					★					
1	4	3	50	MEX400010	38,35															
1.5	4	4.5	50	MEX400015	38,35															
2	4	6	40	MEX400020	39,07	6	8	60	MEXCL4020	88,13										
2.5	4	8	40	MEX400025	39,07															
3	6	8	55	MEX400030	59,31	6	15	60	MEXCL4030	88,13	6	25	100	MEXCL4030100	91,27					
3.5	6	10	55	MEX400035	59,31															
4	6	11	55	MEX400040	59,31	6	20	60	MEXCL4040	88,13	6	31	100	MEXCL4040100	91,27					
4.5	6	11	45	MEX400045	59,31															
5	6	13	55	MEX400050	59,31	6	25	70	MEXCL4050	89,83	6	31	100	MEXCL4050100	91,27					
5.5	6	13	55	MEX400055	59,31															
6	6	15	60	MEX400060	59,31	6	25	70	MEXCL4060	89,83	6	38	100	MEXCL4060100	91,27					
6.5	8	17	65	MEX400065	78,99															
7	8	18	65	MEX400070	78,99															
8	8	20	70	MEX400080	75,29	8	30	80	MEXCL4080	113,14	8	41	100	MEXCL4080100	117,35					
9	10	23	70	MEX400090	104,99															
10	10	22	75	MEX400100	104,99	10	35	90	MEXCL4100	144,73	10	57	125	MEXCL4100125	182,62					
11	12	28	75	MEX400110	150,80															
12	12	26	80	MEX400120	143,66	12	40	90	MEXCL4120	210,94	12	75	150	MEXCL4120150	271,08					
14	14	35	90	MEX400140	181,70	12	50	110	MEXCL4140	370,76	12	75	150	MEXCL4140150	365,03					
16	16	32	100	MEX400160	237,35	16	50	110	MEXCL4160	370,76	16	75	150	MEXCL4160150	450,08					
20	20	40	100	MEX400200	392,88	20	50	110	MEXCL4200	614,61	20	75	150	MEXCL4200150	686,39					
25	25	40	100	MEX400250	630,75	25	70	130	MEXCL4250	955,75										



MEXCSHM - catalogue page 525

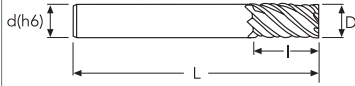


OSAWA NORM	MEX	UMG ENDLESS ORANGE	<55 HRC	50°	SQUARE	Z6-Z8
---------------	------------	--------------------------	------------	-----	--------	-------

MEXCLHM - catalogue page 527



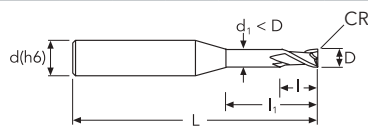
OSAWA NORM	MEX	UMG ENDLESS ORANGE	<55 HRC	50°	SQUARE	Z6-Z8
---------------	------------	--------------------------	------------	-----	--------	-------



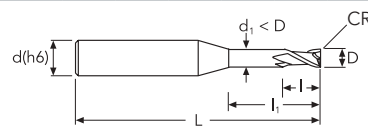
						MEXCSHM							MEXCLHM
P	M	K	N	S	H	★							★
D	d(h6)	l	L	z	EDP No.	€	l	L	z	EDP No.	€		
3	6	8	50	6	MEXCSHM030	72,48	19	75	6	MEXCLHM030	95,16		
4	6	11	50	6	MEXCSHM040	72,48	19	75	6	MEXCLHM040	95,16		
5	6	13	50	6	MEXCSHM050	72,48	19	75	6	MEXCLHM050	95,16		
6	6	15	60	6	MEXCSHM060	73,13	25	80	6	MEXCLHM060	99,17		
8	8	20	70	6	MEXCSHM080	96,87	40	100	6	MEXCLHM080	134,99		
10	10	25	80	6	MEXCSHM100	144,72	45	120	6	MEXCLHM100	219,38		
12	12	30	80	6	MEXCSHM120	198,39	60	120	6	MEXCLHM120	310,36		
14	14	30	90	6	MEXCSHM140	225,89							
16	16	40	100	6	MEXCSHM160	329,67	80	150	6	MEXCLHM160	556,48		
18	18	35	100	8	MEXCSHM180	360,61							
20	20	50	100	8	MEXCSHM200	459,15	80	150	8	MEXCLHM200	867,16		



MEXLN2R - catalogue page 529



MEXLN2R

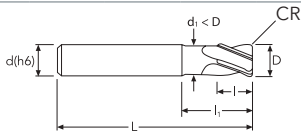


MEXLN2R

P	M	K	N	S	H								★	P	M	K	N	S	H								★
D	CR	d(h6)	l	l1	d1	L	EDP No.	€	D	CR	d(h6)	l	l1	d1	L	EDP No.	€										
0.3	0.05	4	0.4	1	0.26	50	MEXLN20030001	79,52	1.5	0.20	4	2.3	10	1.45	50	MEXLN20150210	54,94										
0.3	0.05	4	0.4	1.5	0.26	50	MEXLN20030065	79,52	1.5	0.20	4	2.3	12	1.45	50	MEXLN20150212	54,94										
0.3	0.05	4	0.4	2	0.26	50	MEXLN20030002	79,52	1.5	0.20	4	2.3	16	1.45	50	MEXLN20150216	56,20										
0.3	0.05	4	0.4	3	0.26	50	MEXLN20030003	79,52	1.5	0.20	4	2.3	20	1.45	60	MEXLN20150220	59,36										
0.3	0.10	4	0.4	1	0.26	50	MEXLN20030101	79,52	1.5	0.30	4	2.3	8	1.45	50	MEXLN20150308	54,28										
0.3	0.10	4	0.4	1.5	0.26	50	MEXLN20030165	79,52	1.5	0.30	4	2.3	16	1.45	50	MEXLN20150316	56,20										
0.3	0.10	4	0.4	2	0.26	50	MEXLN20030102	79,52	1.5	0.30	4	2.3	20	1.45	60	MEXLN20150320	59,36										
0.3	0.10	4	0.4	3	0.26	50	MEXLN20030103	79,52	1.6	0.10	4	2.4	8	1.55	50	MEXLN20160108	54,28										
0.4	0.05	4	0.6	1	0.37	50	MEXLN20040001	74,21	1.6	0.10	4	2.4	12	1.55	50	MEXLN20160112	54,94										
0.4	0.05	4	0.6	2	0.37	50	MEXLN20040006	74,21	1.6	0.10	4	2.4	16	1.55	50	MEXLN20160116	56,20										
0.4	0.05	4	0.6	3	0.37	50	MEXLN20040003	74,21	1.8	0.20	4	2.7	8	1.75	50	MEXLN20180208	54,28										
0.4	0.05	4	0.6	4	0.37	50	MEXLN20040004	74,21	1.8	0.20	4	2.7	12	1.75	50	MEXLN20180212	54,94										
0.4	0.10	4	0.6	1	0.37	50	MEXLN20040101	74,21	1.8	0.20	4	2.7	16	1.75	50	MEXLN20180216	56,20										
0.4	0.10	4	0.6	2	0.37	50	MEXLN20040102	74,21	2	0.20	4	3	6	1.95	50	MEXLN20200206	53,60										
0.4	0.10	4	0.6	3	0.37	50	MEXLN20040103	74,21	2	0.20	4	3	8	1.95	50	MEXLN20200208	53,60										
0.4	0.10	4	0.6	4	0.37	50	MEXLN20040104	74,21	2	0.20	4	3	10	1.95	50	MEXLN20200210	53,60										
0.5	0.05	4	0.7	2	0.45	50	MEXLN20050002	70,45	2	0.20	4	3	12	1.95	50	MEXLN20200212	54,94										
0.5	0.05	4	0.7	4	0.45	50	MEXLN20050004	70,45	2	0.20	4	3	14	1.95	50	MEXLN20200214	54,94										
0.5	0.05	4	0.7	6	0.45	50	MEXLN20050006	70,45	2	0.20	4	3	16	1.95	50	MEXLN20200216	56,20										
0.5	0.10	4	0.7	2	0.45	50	MEXLN20050102	70,45	2	0.20	4	3	20	1.95	60	MEXLN20200220	62,28										
0.5	0.10	4	0.7	4	0.45	50	MEXLN20050104	70,45	2	0.20	4	3	25	1.95	75	MEXLN20200225	65,29										
0.5	0.10	4	0.7	6	0.45	50	MEXLN20050106	70,45	2	0.20	4	3	30	1.95	75	MEXLN20200230	66,74										
0.6	0.10	4	0.9	2	0.55	50	MEXLN20060102	67,30	2	0.50	4	3	6	1.95	50	MEXLN20200506	53,60										
0.6	0.10	4	0.9	4	0.55	50	MEXLN20060104	67,30	2	0.50	4	3	8	1.95	50	MEXLN20200508	53,60										
0.6	0.10	4	0.9	6	0.55	50	MEXLN20060106	67,30	2	0.50	4	3	12	1.95	50	MEXLN20200512	54,94										
0.7	0.10	4	1.0	4	0.65	50	MEXLN20070104	70,90	2	0.50	4	3	16	1.95	50	MEXLN20200516	56,20										
0.7	0.10	4	1.0	6	0.65	50	MEXLN20070106	70,90	2	0.50	4	3	20	1.95	60	MEXLN20200520	62,28										
0.8	0.05	4	1.2	4	0.75	50	MEXLN20080004	67,30	2	0.50	4	3	25	1.95	75	MEXLN20200525	65,29										
0.8	0.05	4	1.2	6	0.75	50	MEXLN20080006	67,30	2	0.50	4	3	30	1.95	75	MEXLN20200530	66,74										
0.8	0.05	4	1.2	8	0.75	50	MEXLN20080008	67,57	2.5	0.30	4	3.7	8	2.40	50	MEXLN20250308	53,60										
0.8	0.10	4	1.2	4	0.75	50	MEXLN20080104	67,57	2.5	0.30	4	3.7	12	2.40	50	MEXLN20250312	53,60										
0.8	0.10	4	1.2	6	0.75	50	MEXLN20080106	67,57	2.5	0.30	4	3.7	16	2.40	50	MEXLN20250316	56,20										
0.8	0.10	4	1.2	8	0.75	50	MEXLN20080108	67,57	2.5	0.30	4	3.7	20	2.40	60	MEXLN20250320	62,28										
0.9	0.10	4	1.4	8	0.85	50	MEXLN20090108	71,33	2.5	0.30	4	3.7	25	2.40	60	MEXLN20250325	65,29										
0.9	0.10	4	1.4	15	0.85	50	MEXLN20090115	72,08	2.5	0.30	4	3.7	30	2.40	75	MEXLN20250330	66,74										
1	0.10	4	1.5	4	0.95	50	MEXLN20100104	55,52	2.5	0.50	4	3.7	8	2.40	50	MEXLN20250508	53,60										
1	0.10	4	1.5	6	0.95	50	MEXLN20100106	55,52	2.5	0.50	4	3.7	12	2.40	50	MEXLN20250512	54,94										
1	0.10	4	1.5	8	0.95	50	MEXLN20100108	55,52	2.5	0.50	4	3.7	16	2.40	50	MEXLN20250516	56,20										
1	0.10	4	1.5	10	0.95	50	MEXLN20100110	56,80	2.5	0.50	4	3.7	20	2.40	60	MEXLN20250520	62,28										
1	0.10	4	1.5	12	0.95	50	MEXLN20100112	57,42	2.5	0.50	4	3.7	25	2.40	60	MEXLN20250525	65,29										
1	0.10	4	1.5	16	0.95	50	MEXLN20100116	58,72	2.5	0.50	4	3.7	30	2.40	75	MEXLN20250530	66,74										
1	0.10	4	1.5	20	0.95	50	MEXLN20100120	58,72	3	0.20	6	4.5	10	2.85	50	MEXLN20300210	77,93										
1	0.20	4	1.5	4	0.95	50	MEXLN20100204	55,52	3	0.20	6	4.5	12	2.85	50	MEXLN20300212	77,93										
1	0.20	4	1.5	6	0.95	50	MEXLN20100206	55,52	3	0.20	6	4.5	16	2.85	60	MEXLN20300216	77,93										
1	0.20	4	1.5	8	0.95	50	MEXLN20100208	55,52	3	0.20	6	4.5	20	2.85	60	MEXLN20300220	77,93										
1	0.20	4	1.5	10	0.95	50	MEXLN20100210	56,80	3	0.20	6	4.5	25	2.85	75	MEXLN20300225	82,53										
1	0.20	4	1.5	12	0.95	50	MEXLN20100212	57,42	3	0.30	6	4.5	10	2.85	50	MEXLN20300310	77,93										
1	0.20	4	1.5	16	0.95	50	MEXLN20100216	58,72	3	0.30	6	4.5	12	2.85	50	MEXLN20300312	77,93										
1	0.20	4	1.5	20	0.95	50	MEXLN20100220	58,72	3	0.30	6	4.5	16	2.85	60	MEXLN20300316	77,93										
1	0.30	4	1.5	6	0.95	50	MEXLN20100306	55,52	3	0.30	6	4.5	20	2.85	60	MEXLN20300320	77,93										
1	0.30	4	1.5	10	0.95	50	MEXLN20100310	56,80	3	0.30	6	4.5	25	2.85	75	MEXLN20300325	82,53										
1	0.30	4	1.5	16	0.95	50	MEXLN20100316	58,72	3	0.50	6	4.5	10	2.85	50	MEXLN20300510	77,93										
1	0.30	4	1.5	20	0.95	50	MEXLN20100320	58,72	3	0.50	6	4.5	12	2.85	50	MEXLN20300512	77,93										
1.2	0.10	4	1.8	6	1.15	50	MEXLN20120106	54,28	3	0.50	6	4.5	16	2.85	60	MEXLN20300516	77,93										
1.2	0.10	4	1.8	8	1.15	50	MEXLN20120108	54,28	3	0.50	6	4.5	20	2.85	60	MEXLN20300520	77,93										
1.2	0.10	4	1.8	10	1.15	50	MEXLN20120110	54,94	3	0.50	6	4.5	25	2.85	75	MEXLN20300525	82,53										
1.2	0.10	4	1.8	12	1.15	50	MEXLN20120112	54,94	4	0.30	6	4.5	10	3.85	60	MEXLN20400310	77,93										
1.4	0.10	4	2.1	6	1.35	50	MEXLN20140106	54,28	4	0.30	6	4.5	15	3.85	60	MEXLN20400315	77,93										
1.4	0.10	4	2.1	8	1.35	50	MEXLN20140108	54,28	4	0.30	6	4.5	20	3.85	60	MEXLN20400320	77,93										
1.4	0.10	4	2.1	10	1.35	50	MEXLN20140110	54,94	4	0.30	6	4.5	25	3.85	75	MEXLN20400325	82,53										
1.4	0.10	4	2.1	12	1.35	50	MEXLN20140112	54,94	4	0.30	6	4.5	30	3.85	75	MEXLN20400330	83,33										
1.4	0.10	4	2.1	16	1.35	50	MEXLN20140116	56,20	4	0.30	6	4.5	40	3.85	75	MEXLN20400340	83,33										
1.5	0.10	4	2.3	4	1.45	50	MEXLN20150104	54,28	4	0.50	6	4.5	10	3.85	60	MEXLN20400510	77,93										
1.5	0.10	4	2.3	8	1.45	50	MEXLN20150108	54,28	4	0.50	6	4.5	15	3.85	60	MEXLN20400515	77,93										
1.5	0.10	4	2.3	12	1.45	50	MEXLN20150112	54,94	4	0.50	6	4.5	20	3.85	60	MEXLN20400520	77,93										
1.5	0.10	4	2.3	16	1.45	50	MEXLN20150116	56,20	4	0.50	6	4.5	25	3.85	75	MEXLN20400525	82,53										
1.5	0.10	4	2.3	20	1.45	60	MEXLN20150120	59,36	4	0.50	6	4.5	30	3.85	75	MEXLN20400530	83,33										
1.5	0.20	4	2.3	8	1.45	50	MEXLN20150208	54,28	4	0.50	6	4.5	40	3.85	75	MEXLN20400540	83,33										



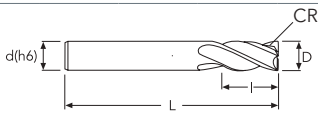
MEX410R - catalogue page 540



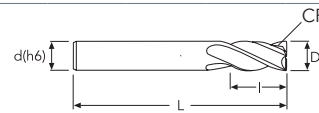
MEX410R

P	M	K	N	S	H	D	CR	d(h6)	I	l1	d1	L	EDP No.	€
						2	0.20	6	2.5	5	1.90	50	MEX410R02020	73,97
						2.5	0.25	6	3	6	2.40	50	MEX410R025025	73,97
						3	0.30	6	4	7	2.85	50	MEX410R03030	73,97
						4	0.50	6	5	9	3.85	50	MEX410R05040	73,97
						5	0.50	6	6	12	4.85	50	MEX410R05050	73,97
						6	0.50	6	7	14	5.80	60	MEX410R05060	73,97
						8	1.00	8	10	18	7.80	70	MEX410R10080	96,64
						10	1.00	10	12	25	9.80	75	MEX410R10100	140,53
						12	1.00	12	15	30	11.80	80	MEX410R10120	192,73

MEXCS4R - catalogue page 537



MEXCS4R



MEXCS4R

P	M	K	N	S	H	D	CR	d(h6)	I	L	EDP No.	€	P	M	K	N	S	H	D	CR	d(h6)	I	L	EDP No.	€
						1	0.20	4	3	50	MEXCS4R01002	48,06							12	1.50	12	25	75	MEXCS4R12015	169,54
						1.5	0.20	4	4.5	50	MEXCS4R01502	48,06							12	2.00	12	25	75	MEXCS4R12020	169,54
						2	0.20	4	6.5	50	MEXCS4R02002	48,06							12	3.00	12	25	75	MEXCS4R12030	169,54
						2	0.30	4	6.5	50	MEXCS4R02003	48,06							14	1.00	14	32	90	MEXCS4R14010	244,99
						2.5	0.20	4	6.5	50	MEXCS4R02502	48,61							16	0.50	16	32	90	MEXCS4R16005	298,51
						2.5	0.50	4	6.5	50	MEXCS4R02505	48,06							16	1.00	16	32	90	MEXCS4R16010	298,51
						3	0.20	4	9	50	MEXCS4R03002	48,06							16	2.00	16	32	90	MEXCS4R16020	298,51
						3	0.30	4	9	50	MEXCS4R03003	48,06							16	3.00	16	32	90	MEXCS4R16030	298,51
						3	0.50	4	9	50	MEXCS4R03005	48,06							18	0.50	18	38	100	MEXCS4R18005	392,62
						4	0.30	4	12	50	MEXCS4R04003	50,61							18	1.00	18	38	100	MEXCS4R18010	392,62
						4	0.50	4	12	50	MEXCS4R04005	50,61							20	0.50	20	38	100	MEXCS4R20005	468,54
						4	1.00	4	12	50	MEXCS4R04010	52,76							20	1.00	20	38	100	MEXCS4R20010	468,54
						5	0.30	5	15	50	MEXCS4R05003	56,91							20	2.00	20	38	100	MEXCS4R20020	468,54
						5	0.50	5	15	50	MEXCS4R05005	56,91							20	3.00	20	38	100	MEXCS4R20030	468,54
						5	1.00	5	15	50	MEXCS4R05010	59,06													
						6	0.30	6	16	50	MEXCS4R06003	63,88													
						6	0.50	6	16	50	MEXCS4R06005	63,88													
						6	1.00	6	16	50	MEXCS4R06010	63,88													
						8	0.30	8	20	64	MEXCS4R08003	90,69													
						8	0.50	8	20	64	MEXCS4R08005	90,69													
						8	1.00	8	20	64	MEXCS4R08010	90,69													
						8	1.50	8	20	64	MEXCS4R08015	90,69													
						8	2.00	8	20	64	MEXCS4R08020	90,69													
						10	0.30	10	22	75	MEXCS4R10003	134,14													
						10	0.50	10	22	75	MEXCS4R10005	134,14													
						10	1.00	10	22	75	MEXCS4R10010	134,14													
						10	1.50	10	22	75	MEXCS4R10015	134,14													
						10	2.00	10	22	75	MEXCS4R10020	134,14													
						12	0.30	12	25	75	MEXCS4R12003	169,54													
						12	0.50	12	25	75	MEXCS4R12005	169,54													
						12	1.00	12	25	75	MEXCS4R12010	169,54													



MEXLS2R - catalogue page 535

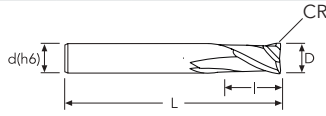


OSAWA NORM
MEX
UMG ENDLESS ORANGE
<55 HRC
40°
RADIUS
Z2

MEXLS4R - catalogue page 542



OSAWA NORM
MEX
UMG ENDLESS ORANGE
<55 HRC
40°
RADIUS
Z4



						MEXLS2R		MEXLS4R	
P							★		★
M									
K							★		★
N									
S									
H							★		★
D	CR	d(h6)	l	L	EDP No.	€	EDP No.	€	
2	0.30	6	4	75	MEXLS2R03020	76,67	MEXLS4R03020	76,67	
3	0.30	6	5	75	MEXLS2R03030	76,67	MEXLS4R03030	76,67	
3	0.50	6	5	75	MEXLS2R05030	76,67	MEXLS4R05030	76,67	
4	0.30	6	8	75	MEXLS2R03040	76,67	MEXLS4R03040	76,67	
4	0.50	6	8	75	MEXLS2R05040	76,67	MEXLS4R05040	76,67	
5	0.30	6	9	75	MEXLS2R03050	76,67	MEXLS4R03050	76,67	
5	0.50	6	9	75	MEXLS2R05050	76,67	MEXLS4R05050	76,67	
6	0.30	6	10	75	MEXLS2R03060	76,67	MEXLS4R03060	76,67	
6	0.50	6	10	75	MEXLS2R05060	76,67	MEXLS4R05060	76,67	
6	1.00	6	10	75	MEXLS2R10060	76,67	MEXLS4R10060	76,67	
8	0.30	8	12	75	MEXLS2R03080	97,62	MEXLS4R03080	97,62	
8	0.50	8	12	75	MEXLS2R05080	97,62	MEXLS4R05080	97,62	
8	1.00	8	12	75	MEXLS2R10080	97,62	MEXLS4R10080	97,62	
10	0.50	10	14	100	MEXLS2R05100	153,40	MEXLS4R05100	153,40	
10	1.00	10	14	100	MEXLS2R10100	153,40	MEXLS4R10100	153,40	
12	0.50	12	16	100	MEXLS2R05120	202,17	MEXLS4R05120	185,33	
12	1.00	12	16	100	MEXLS2R10120	202,17	MEXLS4R10120	185,33	
16	0.50	16	22	125	MEXLS2R05160	357,87	MEXLS4R05160	357,87	

MEX610R - catalogue page 544

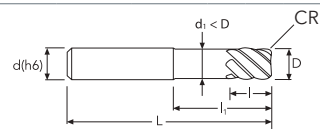


OSAWA NORM
MEX
UMG ENDLESS ORANGE
<55 HRC
45°
RADIUS
Z6

MEX611R - catalogue page 546



OSAWA NORM
MEX
UMG ENDLESS ORANGE
<55 HRC
45°
RADIUS
Z6



										MEX610R		MEX611R	
P											★		★
M													
K											★		★
N													
S													
H											★		★
D	CR	d(h6)	l	l1	d1	L	EDP No.	€	l	L	EDP No.	€	
6	0.50	6	6	14	5.80	50	MEX610R05060	64,64	15	90	MEX611R05060	83,69	
8	0.50	8	8	24	7.80	60	MEX610R05080	77,96	20	100	MEX611R05080	94,88	
10	0.50	10							25	100	MEX611R05100	139,04	
10	1.00	10	10	30	9.80	70	MEX610R10100	120,71	25	100	MEX611R10100	139,04	
12	0.50	12							30	100	MEX611R05120	189,07	
12	1.00	12	12	30	11.80	75	MEX610R10120	143,89	30	100	MEX611R10120	189,07	



MHMB204 - catalogue page 548/612



OSAWA
NORM

MH

NMG
MH COAT

<70
HRC



MHMB206 - catalogue page 550/614

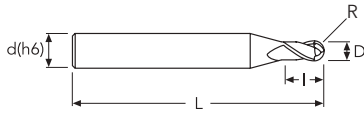


OSAWA
NORM

MH

NMG
MH COAT

<70
HRC



MHMB204

MHMB206

P	M	K	N	S	H	MHMB204					MHMB206					
						★										★
						★										★
						★										★
D	R	d(h6)	I	L	EDP No.	€	d(h6)	I	L	EDP No.	€					
0.2	0.10	4	0.2	50	MHMB200204	90,10										
0.3	0.15	4	0.3	50	MHMB200304	80,79										
0.4	0.20	4	0.4	50	MHMB200404	74,59	6	0.4	50	MHMB200406	96,89					
0.5	0.25	4	0.4	50	MHMB200504	68,38	6	0.5	50	MHMB200506	89,58					
0.6	0.30	4	0.5	50	MHMB200604	66,80	6	0.6	50	MHMB200606	87,53					
0.7	0.35	4	0.6	50	MHMB200704	70,42										
0.8	0.40	4	0.6	50	MHMB200804	62,12	6	0.8	50	MHMB200806	81,96					
0.9	0.45	4	0.8	50	MHMB200904	70,42										
1	0.50	4	0.8	50	MHMB201004	54,62										
1.5	0.75	4	1.35	50	MHMB201504	58,55										
2	1.00	4	1.7	50	MHMB202004	62,94										

MEXCSB2 - catalogue page 559

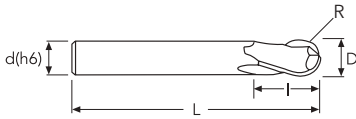


OSAWA
NORM

MEX

UMG
ENDLESS
ORANGE

<55
HRC



MEXCSB2

P	M	K	N	S	H	MEXCSB2					
						★					
						★					
						★					
D	R	d(h6)	I	L	EDP No.	€					
1	0.50	3	3	38	MEXCSB2010	61,76					
1.5	0.75	3	3	38	MEXCSB2015	61,76					
2	1.00	6	3	50	MEXCSB2020	61,54					
2.5	1.25	4	4	50	MEXCSB202550	60,34					
3	1.50	6	4	50	MEXCSB2030	61,54					
4	2.00	6	5	54	MEXCSB2040	63,74					
5	2.50	6	6	54	MEXCSB2050	63,74					
6	3.00	6	12	60	MEXCSB2060	64,89					
8	4.00	8	14	60	MEXCSB2080	101,37					
10	5.00	10	18	70	MEXCSB2100	162,34					
12	6.00	12	22	80	MEXCSB2120	200,20					
14	7.00	14	32	90	MEXCSB2140	247,68					
16	8.00	16	32	90	MEXCSB2160	293,34					
18	9.00	18	38	100	MEXCSB2180	423,65					
20	10.00	20	38	100	MEXCSB2200	508,39					



MEXCLSB2 - catalogue page 561



OSAWA NORM
MEX
UMG ENDLESS ORANGE
<55 HRC
30°
BALL NOSE
Z2 BALL

MEX253 - catalogue page 563



OSAWA NORM
MEX
UMG ENDLESS ORANGE
<55 HRC
30°
BALL NOSE
Z2 BALL

MEXCLSB2						MEX253						MEX253											
P	M	K	N	S	H																		
D	R	d(h6)	l	L	EDP No.	€	d(h6)	l	L	EDP No.	€	d(h6)	l	L	EDP No.	€							
1	0.50	4	2.5	50	MEXCLSB2010	66,47	4	3	75	MEX25301075	53,52	4	3	100	MEX253010100	66,90							
1.2	0.60	4	3	50	MEXCLSB2012	65,35																	
1.5	0.75	4	4	50	MEXCLSB2015	66,47	4	3	75	MEX25301575	53,52	4	3	100	MEX253015100	66,90							
2	1.00	6	5	50	MEXCLSB2020	63,15	4	4	75	MEX25302075	53,52	4	4	100	MEX253020100	66,90							
2.5	1.25	6	6	60	MEXCLSB2025	63,15																	
3	1.50	6	8	60	MEXCLSB2030	63,15	6	5	75	MEX25303075	60,17	6	5	100	MEX253030	88,35							
4	2.00	6	8	70	MEXCLSB2040	66,03	6	8	100	MEX253040	88,35												
5	2.50	6	10	80	MEXCLSB2050	68,32	6	9	100	MEX253050100	86,25												
6	3.00	6	12	90	MEXCLSB2060	73,91	6	10	150	MEX253060150	107,03												
8	4.00	8	14	100	MEXCLSB2080	115,48	8	12	150	MEX253080	146,39												
10	5.00	10	18	100	MEXCLSB2100	176,22	10	14	150	MEX25310150	212,98												
12	6.00	12	22	110	MEXCLSB2120	224,65	12	16	150	MEX25312150	236,48												
14	7.00	14	32	125	MEXCLSB2140	266,76																	
16	8.00	16	32	150	MEXCLSB2160	368,15	16	32	200	MEX253160	490,80												
20	10.00	20	38	150	MEXCLSB2200	591,41	20	38	200	MEX253200	782,68												

MHCRB2 - catalogue page 557/621



OSAWA NORM
MH
NMG MH COAT
<70 HRC
30°
BALL NOSE
Z2 BALL

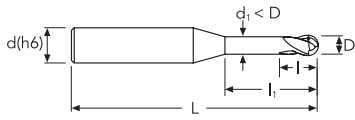
MHCRB2										MHCRB2																					
P	M	K	N	S	H											P	M	K	N	S	H										
D	R	d(h6)	l	l1	d1	L	EDP No.	€	D	R	d(h6)	l	l1	d1	L	EDP No.	€														
0.5	0.25	6	0.5	2	0.45	50	MHCRB20050206	105,12	1.2	0.60	6	1.2	8	1.1	50	MHCRB20120806	79,27														
0.5	0.25	6	0.5	4	0.45	50	MHCRB20050406	105,12	1.2	0.60	6	1.2	10	1.1	50	MHCRB20121006	79,27														
0.6	0.30	6	0.5	2	0.55	50	MHCRB20060206	102,67	1.5	0.75	6	1.5	4	1.4	50	MHCRB20150406	90,54														
0.6	0.30	6	0.5	4	0.55	50	MHCRB20060406	102,67	1.5	0.75	6	1.5	8	1.4	50	MHCRB20150806	92,79														
0.6	0.30	6	0.5	6	0.55	50	MHCRB20060606	102,67	1.5	0.75	6	1.5	10	1.4	50	MHCRB20151006	92,79														
0.8	0.40	6	0.8	2	0.75	50	MHCRB20080206	85,37	1.5	0.75	6	1.5	12	1.4	50	MHCRB20151206	92,79														
0.8	0.40	6	0.8	4	0.75	50	MHCRB20080406	85,37	1.5	0.75	6	1.5	16	1.4	50	MHCRB20151606	92,79														
0.8	0.40	6	0.8	6	0.75	50	MHCRB20080606	85,37	2	1.00	6	3	6	1.9	50	MHCRB20200606	76,95														
1	0.50	6	1	3	0.9	50	MHCRB20100306	87,82	2	1.00	6	3	8	1.9	50	MHCRB20200806	76,95														
1	0.50	6	1	6	0.9	50	MHCRB20100606	87,82	2	1.00	6	3	10	1.9	50	MHCRB20201006	78,34														
1	0.50	6	1	8	0.9	50	MHCRB20100806	87,82	2	1.00	6	3	12	1.9	50	MHCRB20201206	78,34														
1	0.50	6	1	10	0.9	50	MHCRB20101006	87,82	2	1.00	6	3	16	1.9	50	MHCRB20201606	83,84														
1.2	0.60	6	1.2	6	1.1	50	MHCRB20120606	79,27	2	1.00	6	3	20	1.9	50	MHCRB20202006	83,84														



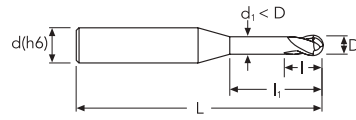
MHLNB2 - catalogue page 552/616



d-4



MHLNB2



MHLNB2

P	M	K	N	S	H	★	P	M	K	N	S	H	★				
D	R	d(h6)	l	l1	d1	L	EDP No.	€	D	R	d(h6)	l	l1	d1	L	EDP No.	€
0.2	0.10	4	0.2	0.5	0.17	50	MHLNB2002005	109,04	1.8	0.90	4	1.4	8	1.7	50	MHLNB201808	65,07
0.2	0.10	4	0.2	1	0.17	50	MHLNB200201	109,04	1.8	0.90	4	1.4	12	1.7	50	MHLNB201812	65,07
0.2	0.10	4	0.2	1.5	0.17	50	MHLNB2002015	109,04	1.8	0.90	4	1.4	16	1.7	50	MHLNB201816	65,07
0.3	0.15	4	0.3	1	0.27	50	MHLNB200301	98,49	1.8	0.90	4	1.4	20	1.7	60	MHLNB201820	65,07
0.3	0.15	4	0.3	2	0.27	50	MHLNB200302	98,49	2	1.00	4	1.6	4	1.9	50	MHLNB202004	63,31
0.3	0.15	4	0.3	3	0.27	50	MHLNB200303	98,49	2	1.00	4	1.6	6	1.9	50	MHLNB202006	63,31
0.4	0.20	4	0.4	1	0.37	50	MHLNB200401	91,45	2	1.00	4	1.6	8	1.9	50	MHLNB202008	63,31
0.4	0.20	4	0.4	2	0.37	50	MHLNB200402	91,45	2	1.00	4	1.6	10	1.9	50	MHLNB202010	63,31
0.4	0.20	4	0.4	3	0.37	50	MHLNB200403	91,45	2	1.00	4	1.6	12	1.9	50	MHLNB202012	63,31
0.4	0.20	4	0.4	4	0.37	50	MHLNB200404	91,45	2	1.00	4	1.6	14	1.9	50	MHLNB202014	63,31
0.4	0.20	4	0.4	5	0.37	50	MHLNB200405	91,45	2	1.00	4	1.6	16	1.9	50	MHLNB202016	63,31
0.5	0.25	4	0.4	2	0.45	50	MHLNB200502	84,42	2	1.00	4	1.6	18	1.9	60	MHLNB202018	65,07
0.5	0.25	4	0.4	3	0.45	50	MHLNB200503	84,42	2	1.00	4	1.6	20	1.9	60	MHLNB202020	65,07
0.5	0.25	4	0.4	4	0.45	50	MHLNB200504	84,42	2	1.00	4	1.6	22	1.9	60	MHLNB202022	65,07
0.5	0.25	4	0.4	5	0.45	50	MHLNB200505	84,42	2	1.00	4	1.6	25	1.9	75	MHLNB202025	71,22
0.5	0.25	4	0.4	6	0.45	50	MHLNB200506	84,42	2	1.00	4	1.6	30	1.9	75	MHLNB202030	73,87
0.5	0.25	4	0.4	8	0.45	50	MHLNB200508	84,42	3	1.50	6	2.4	8	2.8	50	MHLNB203008	84,42
0.6	0.30	4	0.5	2	0.55	50	MHLNB200602	80,90	3	1.50	6	2.4	10	2.8	50	MHLNB203010	84,42
0.6	0.30	4	0.5	3	0.55	50	MHLNB200603	80,90	3	1.50	6	2.4	12	2.85	50	MHLNB203012	86,47
0.6	0.30	4	0.5	4	0.55	50	MHLNB200604	80,90	3	1.50	6	2.4	16	2.8	60	MHLNB203016	89,57
0.6	0.30	4	0.5	5	0.55	50	MHLNB200605	80,90	3	1.50	6	2.4	20	2.8	60	MHLNB203020	93,06
0.6	0.30	4	0.5	6	0.55	50	MHLNB200606	80,90	3	1.50	6	2.4	25	2.8	75	MHLNB203025	98,49
0.6	0.30	4	0.5	8	0.55	50	MHLNB200608	80,90	3	1.50	6	2.4	30	2.8	75	MHLNB203030	98,49
0.8	0.40	4	0.6	2	0.75	50	MHLNB200802	77,38	3	1.50	6	2.4	35	2.8	75	MHLNB203035	98,49
0.8	0.40	4	0.6	4	0.75	50	MHLNB200804	77,38	4	2.00	6	3.2	10	3.7	50	MHLNB204010	84,42
0.8	0.40	4	0.6	5	0.75	50	MHLNB200805	77,38	4	2.00	6	3.2	16	3.7	60	MHLNB204016	84,42
0.8	0.40	4	0.6	6	0.75	50	MHLNB200806	77,38	4	2.00	6	3.2	20	3.7	60	MHLNB204020	84,42
0.8	0.40	4	0.6	7	0.75	50	MHLNB200807	77,38	4	2.00	6	3.2	25	3.7	75	MHLNB204025	98,49
0.8	0.40	4	0.6	8	0.75	50	MHLNB200808	77,38	4	2.00	6	3.2	30	3.7	75	MHLNB204030	98,49
0.8	0.40	4	0.6	10	0.75	50	MHLNB200810	77,38	4	2.00	6	3.2	35	3.7	75	MHLNB204035	98,49
1	0.50	4	0.8	3	0.9	50	MHLNB201003	65,07	4	2.00	6	3.2	40	3.7	100	MHLNB204040	105,52
1	0.50	4	0.8	4	0.9	50	MHLNB201004	65,07	4	2.00	6	3.2	45	3.7	100	MHLNB204045	105,52
1	0.50	4	0.8	5	0.9	50	MHLNB201005	65,07	4	2.00	6	3.2	50	3.7	100	MHLNB204050	105,52
1	0.50	4	0.8	6	0.9	50	MHLNB201006	65,07									
1	0.50	4	0.8	7	0.9	50	MHLNB201007	65,07									
1	0.50	4	0.8	8	0.9	50	MHLNB201008	65,07									
1	0.50	4	0.8	9	0.9	50	MHLNB201009	65,07									
1	0.50	4	0.8	10	0.9	50	MHLNB201010	65,07									
1	0.50	4	0.8	12	0.9	50	MHLNB201012	65,07									
1	0.50	4	0.8	14	0.9	50	MHLNB201014	65,07									
1	0.50	4	0.8	16	0.9	50	MHLNB201016	65,07									
1	0.50	4	0.8	20	0.9	60	MHLNB201020	65,07									
1.2	0.60	4	1.0	6	1.1	50	MHLNB201206	65,07									
1.2	0.60	4	1.0	8	1.1	50	MHLNB201208	65,07									
1.2	0.60	4	1.0	10	1.1	50	MHLNB201210	65,07									
1.2	0.60	4	1.0	12	1.1	50	MHLNB201212	65,07									
1.4	0.70	4	1.1	8	1.3	50	MHLNB201408	65,07									
1.4	0.70	4	1.1	12	1.3	50	MHLNB201412	65,07									
1.4	0.70	4	1.1	16	1.3	50	MHLNB201416	65,07									
1.5	0.75	4	1.2	8	1.4	50	MHLNB201508	65,07									
1.5	0.75	4	1.2	12	1.4	50	MHLNB201512	67,70									
1.5	0.75	4	1.2	16	1.4	50	MHLNB201516	65,07									
1.5	0.75	4	1.2	18	1.4	60	MHLNB201518	65,07									
1.5	0.75	6	2.4	12	1.4	50	MHLNB201520	66,86									
1.6	0.80	4	1.3	8	1.5	50	MHLNB201608	65,07									
1.6	0.80	4	1.3	12	1.5	50	MHLNB201612	65,07									
1.6	0.80	4	1.3	16	1.5	50	MHLNB201616	65,07									
1.6	0.80	4	1.3	20	1.5	60	MHLNB201620	65,07									



PARAMETERS

★ 1st choice ☆ suitable



UH AND MH

STEEL AND HARDENED STEEL
< 70 HRC (UH) AND 30÷70 HRC (MH)

✚ Nano micrograin and UH RED and MH, TiSi base coating for high performance milling on hardened steel up to 70 HRC. High reliability and long life in dry milling operation adopting high speed or high feed strategy. The cutting geometry has been specifically designed to obtain high precision and high quality surface finishing.

🇮🇹 Nano micrograna e rivestimento UH RED e MH, a base TiSi per la fresatura di materiali temprati sino a 70 HRC. Grande affidabilità e durata nell'utilizzo di strategie di lavorazione ad alta velocità o alto avanzamento e con la possibilità di evitare l'utilizzo del refrigerante. Le geometrie di taglio specifiche garantiscono elevata precisione ed eccellente finitura della superficie lavorata.

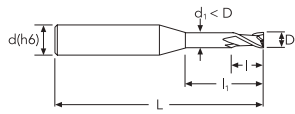
🇩🇪 Nano-Mikrokörnung und Beschichtung UH RED und MH auf TiSi-Basis für das Fräsen von gehärteten Materialien bis zu 70 HRC. Hohe Zuverlässigkeit und lange Standzeit auch bei Bearbeitungsverfahren mit hoher Geschwindigkeit und großem Vorschub und mit der Möglichkeit, ohne Kühlmittel zu arbeiten. Die spezifischen Schnittgeometrien gewährleisten eine hohe Präzision und eine hervorragende Endbearbeitung der bearbeiteten Fläche.

🇫🇷 Nano micrograin et revêtement UH RED et MH à base TiSi pour le fraisage de matériaux trempés jusqu'à 70 HRC. Grande fiabilité et durée dans l'utilisation stratégique d'usinage à haute vitesse ou avancement élevé et avec la possibilité d'éviter l'utilisation de lubrifiant. Les géométries de coupe spécifiques garantissent une précision élevée et une excellente finition de la surface usinée.

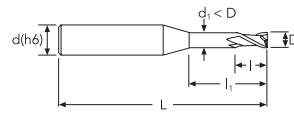
🇪🇸 Nano micrograno y revestimiento UH RED e MH a base de TiSi para el fresado de materiales templados hasta 70 HRC. Gran fiabilidad y duración en la utilización de estrategias de elaboración a alta velocidad o alto avance con la posibilidad de evitar la utilización del refrigerante. Las geometrías de corte específicas garantizan una elevada precisión y excelente acabado de la superficie trabajada.

🇷🇺 Нано-микрoзернистoсть и покрытие UH RED и MH на основе TiSi для фрезерования материалов с твердостью до 70 HRC. Высокая надежность и долговечность при использовании стратегий обработки с высокой скоростью или высокой подачей и с возможностью без использования СОЖ. Особая геометрия резания гарантирует высокую точность и отличное качество обработанной поверхности.

UHLN2 - catalogue page 568



UHLN2



UHLN2

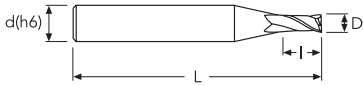
UHLN2							UHLN2								
P	M	K	N	S	H	☆	P	M	K	N	S	H	☆		
D	d(h6)	l	l1	d1	L	EDP No.	D	d(h6)	l	l1	d1	L	EDP No.		
0.2	4	0.3	0.5	0.16	50	UHLN2002005	91,08	1.6	4	2.4	8	1.55	50	UHLN201608	56,05
0.2	4	0.3	1	0.16	50	UHLN200201	91,08	1.6	4	2.4	10	1.55	50	UHLN201610	56,05
0.2	4	0.3	1.5	0.16	50	UHLN2002015	91,08	1.6	4	2.4	12	1.55	50	UHLN201612	56,05
0.3	4	0.4	1	0.26	50	UHLN200301	84,07	1.6	4	2.4	14	1.55	50	UHLN201614	56,05
0.3	4	0.4	2	0.26	50	UHLN200302	84,07	1.6	4	2.4	16	1.55	50	UHLN201616	56,05
0.3	4	0.4	3	0.26	50	UHLN200303	84,07	1.6	4	2.4	18	1.55	60	UHLN201618	56,05
0.4	4	0.6	2	0.37	50	UHLN200402	77,07	1.6	4	2.4	20	1.55	60	UHLN201620	56,05
0.4	4	0.6	3	0.37	50	UHLN200403	77,07	1.8	4	2.7	6	1.75	50	UHLN201806	56,05
0.4	4	0.6	4	0.37	50	UHLN200404	77,07	1.8	4	2.7	8	1.75	50	UHLN201808	56,05
0.4	4	0.6	5	0.37	50	UHLN200405	77,07	1.8	4	2.7	10	1.75	50	UHLN201810	56,05
0.5	4	0.7	2	0.45	50	UHLN200502	70,06	1.8	4	2.7	12	1.75	50	UHLN201812	56,05
0.5	4	0.7	4	0.45	50	UHLN200504	70,06	1.8	4	2.7	14	1.75	50	UHLN201814	56,05
0.5	4	0.7	6	0.45	50	UHLN200506	70,06	1.8	4	2.7	16	1.75	50	UHLN201816	56,05
0.5	4	0.7	8	0.45	50	UHLN200508	70,06	1.8	4	2.7	18	1.75	60	UHLN201818	56,05
0.6	4	0.9	2	0.55	50	UHLN200602	70,06	1.8	4	2.7	20	1.75	60	UHLN201820	56,05
0.6	4	0.9	4	0.55	50	UHLN200604	70,06	2	4	3	6	1.95	50	UHLN202006	52,55
0.6	4	0.9	6	0.55	50	UHLN200606	70,06	2	4	3	8	1.95	50	UHLN202008	52,55
0.6	4	0.9	8	0.55	50	UHLN200608	70,06	2	4	3	10	1.95	50	UHLN202010	52,55
0.6	4	0.9	10	0.55	50	UHLN200610	70,06	2	4	3	12	1.95	50	UHLN202012	52,55
0.7	4	1.0	2	0.65	50	UHLN200702	70,06	2	4	3	14	1.95	50	UHLN202014	52,55
0.7	4	1.0	4	0.65	50	UHLN200704	70,06	2	4	3	16	1.95	50	UHLN202016	52,55
0.7	4	1.0	6	0.65	50	UHLN200706	70,06	2	4	3	18	1.95	60	UHLN202018	56,05
0.7	4	1.0	8	0.65	50	UHLN200708	70,06	2	4	3	20	1.95	60	UHLN202020	56,05
0.7	4	1.0	10	0.65	50	UHLN200710	70,06	2	4	3	25	1.95	75	UHLN202025	56,05
0.8	4	1.2	4	0.75	50	UHLN200804	70,06	2	4	3	30	1.95	75	UHLN202030	56,05
0.8	4	1.2	6	0.75	50	UHLN200806	70,06	2.5	4	3.7	8	2.4	50	UHLN202508	56,05
0.8	4	1.2	8	0.75	50	UHLN200808	70,06	2.5	4	3.7	10	2.4	50	UHLN202510	56,05
0.8	4	1.2	10	0.75	50	UHLN200810	70,06	2.5	4	3.7	12	2.4	50	UHLN202512	56,05
0.8	4	1.2	12	0.75	50	UHLN200812	70,06	2.5	4	3.7	14	2.4	50	UHLN202514	56,05
0.9	4	1.4	6	0.85	50	UHLN200906	70,06	2.5	4	3.7	16	2.4	50	UHLN202516	56,05
0.9	4	1.4	8	0.85	50	UHLN200908	70,06	2.5	4	3.7	18	2.4	60	UHLN202518	56,05
0.9	4	1.4	10	0.85	50	UHLN200910	70,06	2.5	4	3.7	20	2.4	60	UHLN202520	56,05
0.9	4	1.4	15	0.85	50	UHLN200915	70,06	2.5	4	3.7	25	2.4	75	UHLN202525	63,06
1	4	1.5	6	0.95	50	UHLN201006	56,05	2.5	4	3.7	30	2.4	75	UHLN202530	63,06
1	4	1.5	8	0.95	50	UHLN201008	56,05	3	6	4.5	8	2.85	50	UHLN203008	77,07
1	4	1.5	10	0.95	50	UHLN201010	56,05	3	6	4.5	10	2.85	50	UHLN203010	77,07
1	4	1.5	12	0.95	50	UHLN201012	56,05	3	6	4.5	12	2.85	50	UHLN203012	77,07
1	4	1.5	14	0.95	50	UHLN201014	56,05	3	6	4.5	14	2.85	50	UHLN203014	77,07
1	4	1.5	16	0.95	50	UHLN201016	56,05	3	6	4.5	16	2.85	60	UHLN203016	77,07
1.2	4	1.8	6	1.15	50	UHLN201206	56,05	3	6	4.5	18	2.85	60	UHLN203018	77,07
1.2	4	1.8	8	1.15	50	UHLN201208	56,05	3	6	4.5	20	2.85	60	UHLN203020	77,07
1.2	4	1.8	10	1.15	50	UHLN201210	56,05	3	6	4.5	25	2.85	75	UHLN203025	84,07
1.2	4	1.8	12	1.15	50	UHLN201212	56,05	4	6	4.5	10	3.85	60	UHLN204010	77,07
1.4	4	2.1	6	1.35	50	UHLN201406	56,05	4	6	4.5	15	3.85	60	UHLN204015	77,07
1.4	4	2.1	8	1.35	50	UHLN201408	56,05	4	6	4.5	20	3.85	60	UHLN204020	77,07
1.4	4	2.1	10	1.35	50	UHLN201410	56,05	4	6	4.5	25	3.85	75	UHLN204025	84,07
1.4	4	2.1	12	1.35	50	UHLN201412	56,05	4	6	4.5	30	3.85	75	UHLN204030	84,07
1.4	4	2.1	14	1.35	50	UHLN201414	56,05	4	6	4.5	40	3.85	75	UHLN204040	84,07
1.4	4	2.1	16	1.35	50	UHLN201416	56,05								
1.5	4	2.3	6	1.45	50	UHLN201506	56,05								
1.5	4	2.3	8	1.45	50	UHLN201508	56,05								
1.5	4	2.3	10	1.45	50	UHLN201510	56,05								
1.5	4	2.3	12	1.45	50	UHLN201512	56,05								
1.5	4	2.3	14	1.45	50	UHLN201514	56,05								
1.5	4	2.3	16	1.45	50	UHLN201516	56,05								
1.5	4	2.3	18	1.45	60	UHLN201518	56,05								
1.5	4	2.3	20	1.45	60	UHLN201520	56,05								
1.6	4	2.4	6	1.55	50	UHLN201606	56,05								



UHM204 - catalogue page 566



OSAWA NORM
UH
NMG UH RED
<70 HRC
40°
SQUARE
Z2



UHM204

P							☆
M							
K							☆
N							
S							
H							★
D	d(h6)	l	L	EDP No.			€
0.1	4	0.2	40	UHM200104			106,14
0.2	4	0.3	50	UHM200204			91,99
0.3	4	0.4	50	UHM200304			84,91
0.4	4	0.6	50	UHM200404			77,84
0.5	4	0.7	50	UHM200504			70,76
0.6	4	0.9	50	UHM200604			70,76
0.7	4	1	50	UHM200704			70,78
0.8	4	1.2	50	UHM200804			70,76
0.9	4	1.4	50	UHM200904			70,76

UH600 - catalogue page 573

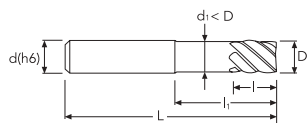


OSAWA NORM
UH
NMG UH RED
<70 HRC
50°
SQUARE
Z6-Z8

UH612 - catalogue page 575



OSAWA NORM
UH
NMG UH RED
<70 HRC
50°
SQUARE
Z6-Z8



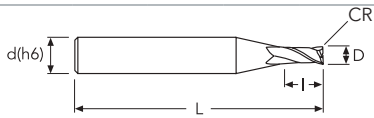
UH600

UH612

P																☆	
M																	
K																	☆
N																	
S																	
H																	★
D	d(h6)		l	L	z	EDP No.	€	l	l1	d1	L	z	EDP No.	€			
3	6		8	50	6	UH600030	71,90	19	30	2.80	75	6	UH612030	98,82			
4	6		11	50	6	UH600040	71,90	19	32	3.70	75	6	UH612040	98,82			
5	6		13	50	6	UH600050	71,90	19	32	4.60	75	6	UH612050	98,82			
6	6		20	60	6	UH600060	71,90	38	60	5.50	100	6	UH612060	125,19			
8	8		20	64	6	UH600080	100,65	41	60	7.40	100	6	UH612080	171,29			
10	10		22	70	6	UH600100	143,79	57	85	9.20	125	6	UH612100	250,37			
12	12		25	75	6	UH600120	201,24	75	110	11.00	150	6	UH612120	329,46			
14	14		30	90	6	UH600140	265,98										
16	16		30	90	8	UH600160	329,46	75	110	15.00	150	8	UH612160	500,75			
20	20		38	100	8	UH600200	500,75	75	110	19.00	150	8	UH612200	636,65			



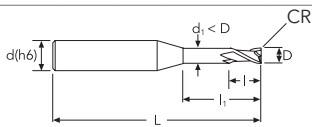
UHM206 - catalogue page 577



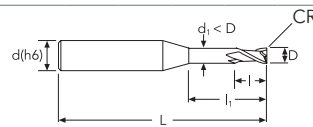
UHM206

P											☆
M											
K											☆
N											
S											
H											★
D	CR	d(h6)	I	L	EDP No.						€
0.3		6	0.45	50	UHM200306						95,82
0.4		6	0.6	50	UHM200406						89,93
0.5	0.05	6	0.7	50	UHM200506						78,36
0.6	0.05	6	0.9	50	UHM200606						75,25
0.8	0.05	6	1.2	50	UHM200806						69,43
1	0.10	6	1.5	50	UHM201006						65,17
1.5	0.15	6	2.2	50	UHM201506						65,17
2	0.15	6	2.2	50	UHM202006						65,17

UH211 - catalogue page 579



UH211



UH211

P												☆
M												
K												☆
N												
S												
H												★
D	CR	d(h6)	I	I1	d1	L	EDP No.					€
1	0.10	4	2	4	0.95	50	UH2110100104					77,39
1	0.10	4	2	6	0.95	50	UH2110100106					77,39
1	0.10	4	2	8	0.90	50	UH2110100108					78,37
1	0.20	4	2	4	0.95	50	UH2110100204					77,39
1	0.20	4	2	8	0.95	50	UH2110100208					80,62
1	0.30	4	2	4	0.90	50	UH2110100304					75,24
1	0.30	4	2	8	0.95	50	UH2110100308					80,62
1.5	0.10	4	2.5	6	1.45	50	UH2110150106					77,39
1.5	0.10	4	2.5	10	1.45	50	UH2110150110					80,62
1.5	0.20	4	2.5	8	1.45	50	UH2110150208					77,39
1.5	0.20	4	2.5	12	1.45	50	UH2110150212					80,62
2	0.10	4	3	6	1.95	50	UH2110200106					77,39
2	0.10	4	3	12	1.95	50	UH2110200112					77,39
2	0.20	4	3	6	1.95	50	UH2110200206					77,39
2	0.20	4	3	12	1.95	50	UH2110200212					77,39
2	0.30	4	3	8	1.95	50	UH2110200308					77,39
2	0.30	4	3	12	1.95	50	UH2110200312					77,39
D	CR	d(h6)	I	I1	d1	L	EDP No.					€
2	0.30	4	3	16	1.95	50	UH2110200316					80,62
2	0.50	4	3	6	1.95	50	UH2110200506					77,39
2	0.50	4	3	12	1.95	50	UH2110200512					77,39
3	0.30	6	4.5	10	2.80	55	UH2110300310					78,58
3	0.30	6	4.5	16	2.85	55	UH2110300316					80,84
3	0.50	6	4.5	10	2.85	55	UH2110300510					80,84
3	0.50	6	4.5	16	2.85	55	UH2110300516					80,84
4	0.20	6	6	20	3.85	60	UH2110400220					80,84
4	0.30	6	6	12	3.85	55	UH2110400312					80,84
4	0.30	6	6	20	3.85	60	UH2110400320					80,84
4	0.50	6	6	12	3.85	55	UH2110400512					80,84
4	0.50	6	6	20	3.85	60	UH2110400520					80,84
4	1.00	6	6	16	3.85	55	UH2110401016					80,84
6	0.50	6	9	15	5.85	60	UH2110600520					80,84
6	1.00	6	9	15	5.85	60	UH2110601020					80,84
6	2.00	6	9	15	5.85	60	UH2110602020					80,84

UH212 - catalogue page 581



OSAWA NORM UH NMG <70 HRC 40° RADIUS Z2

UH212									UH212												
P	M	K	N	S	H					☆	P	M	K	N	S	H					☆
D	CR	d(h6)	l	l1	d1	L	EDP No.		€	D	CR	d(h6)	l	l1	d1	L	EDP No.		€		
0.2	0.02	4	0.3	0.5	0.16	50	UH21200202005		91,51	1.0	0.10	4	1.5	12	0.95	50	UH2120100112		61,03		
0.2	0.02	4	0.3	1	0.16	50	UH2120020201		91,51	1.0	0.10	4	1.5	14	0.95	50	UH2120100114		61,03		
0.2	0.02	4	0.3	1.5	0.16	50	UH21200202015		91,51	1.0	0.10	4	1.5	16	0.95	50	UH2120100116		61,03		
0.3	0.05	4	0.4	1	0.26	50	UH21200300501●		84,50	1.2	0.10	4	1.8	6	1.15	50	UH2120120106		61,03		
0.3	0.03	4	0.4	2	0.26	50	UH21200300302▽		84,50	1.2	0.10	4	1.8	8	1.15	50	UH2120120108		61,03		
0.3	0.05	4	0.4	2	0.26	50	UH21200300502●		84,50	1.2	0.10	4	1.8	10	1.15	50	UH2120120110		61,03		
0.3	0.03	4	0.4	3	0.26	50	UH21200300303▽		84,50	1.2	0.10	4	1.8	12	1.15	50	UH2120120112		61,03		
0.3	0.05	4	0.4	3	0.26	50	UH21200300503●		84,50	1.4	0.15	4	2.1	6	1.35	50	UH21201401506▽		61,03		
0.4	0.03	4	0.6	2	0.37	50	UH21200400302▽		84,50	1.4	0.10	4	2.1	6	1.35	50	UH21201401006●		61,03		
0.4	0.05	4	0.6	2	0.37	50	UH21200400502●		84,50	1.4	0.15	4	2.1	8	1.35	50	UH21201401508▽		61,03		
0.4	0.03	4	0.6	3	0.37	50	UH21200400303▽		84,50	1.4	0.10	4	2.1	8	1.35	50	UH21201401008●		61,03		
0.4	0.05	4	0.6	3	0.37	50	UH21200400503●		84,50	1.4	0.15	4	2.1	10	1.35	50	UH21201401510▽		61,03		
0.4	0.03	4	0.6	4	0.37	50	UH21200400304▽		84,50	1.4	0.10	4	2.1	10	1.35	50	UH21201401010●		61,03		
0.4	0.05	4	0.6	4	0.37	50	UH21200400504●		84,50	1.4	0.15	4	2.1	12	1.35	50	UH21201401512▽		61,03		
0.4	0.03	4	0.6	5	0.37	50	UH21200400305▽		84,50	1.4	0.10	4	2.1	12	1.35	50	UH21201401012●		61,03		
0.4	0.05	4	0.6	5	0.37	50	UH21200400505●		84,50	1.4	0.15	4	2.1	14	1.35	50	UH21201401514▽		61,03		
0.5	0.05	4	0.7	2	0.45	50	UH21200500502		76,29	1.4	0.10	4	2.1	14	1.35	50	UH21201401014●		61,03		
0.5	0.05	4	0.7	4	0.45	50	UH21200500504		76,29	1.4	0.15	4	2.1	16	1.35	50	UH21201401516▽		61,03		
0.5	0.05	4	0.7	6	0.45	50	UH21200500506		76,29	1.4	0.10	4	2.1	16	1.35	50	UH21201401016●		61,03		
0.5	0.05	4	0.7	8	0.45	50	UH21200500508		76,29	1.5	0.15	4	2.3	6	1.45	50	UH21201501506		61,03		
0.6	0.05	4	0.9	2	0.55	50	UH21200600502		76,29	1.5	0.15	4	2.3	8	1.45	50	UH21201501508		61,03		
0.6	0.05	4	0.9	4	0.55	50	UH21200600504		76,29	1.5	0.15	4	2.3	10	1.45	50	UH21201501510		61,03		
0.6	0.05	4	0.9	6	0.55	50	UH21200600506		76,29	1.5	0.15	4	2.3	12	1.45	50	UH21201501512		61,03		
0.6	0.05	4	0.9	8	0.55	50	UH21200600508		76,29	1.5	0.15	4	2.3	14	1.45	50	UH21201501514		61,03		
0.6	0.05	4	0.9	10	0.55	50	UH21200600510		76,29	1.5	0.15	4	2.3	16	1.45	50	UH21201501516		61,03		
0.7	0.08	4	1.0	2	0.65	50	UH21200700802▽		76,29	1.5	0.15	4	2.3	18	1.45	60	UH21201501518		61,03		
0.7	0.10	4	1.0	2	0.65	50	UH21200701002●		76,29	1.5	0.15	4	2.3	20	1.45	60	UH21201501520		61,03		
0.7	0.08	4	1.0	4	0.65	50	UH21200700804▽		76,29	1.6	0.15	4	2.4	6	1.55	50	UH21201601506▽		61,03		
0.7	0.10	4	1.0	4	0.65	50	UH21200701004●		76,29	1.6	0.20	4	2.4	6	1.55	50	UH21201602006●		61,03		
0.7	0.08	4	1.0	6	0.65	50	UH21200700806▽		76,29	1.6	0.15	4	2.4	8	1.55	50	UH21201601508▽		61,03		
0.7	0.10	4	1.0	6	0.65	50	UH21200701006●		76,29	1.6	0.20	4	2.4	8	1.55	50	UH21201602008●		61,03		
0.7	0.08	4	1.0	8	0.65	50	UH21200700808▽		76,29	1.6	0.15	4	2.4	10	1.55	50	UH21201601510▽		61,03		
0.7	0.10	4	1.0	8	0.65	50	UH21200701008●		76,29	1.6	0.20	4	2.4	10	1.55	50	UH21201602010●		61,03		
0.7	0.08	4	1.0	10	0.65	50	UH21200700810▽		76,29	1.6	0.15	4	2.4	12	1.55	50	UH21201601512▽		61,03		
0.7	0.10	4	1.0	10	0.65	50	UH21200701010●		76,29	1.6	0.20	4	2.4	12	1.55	50	UH21201602012●		61,03		
0.8	0.08	4	1.2	4	0.75	50	UH21200800804▽		76,29	1.6	0.15	4	2.4	14	1.55	50	UH21201601514▽		61,03		
0.8	0.10	4	1.2	4	0.75	50	UH21200801004●		76,29	1.6	0.20	4	2.4	14	1.55	50	UH21201602014●		61,03		
0.8	0.08	4	1.2	6	0.75	50	UH21200800806▽		76,29	1.6	0.15	4	2.4	16	1.55	50	UH21201601516▽		61,03		
0.8	0.10	4	1.2	6	0.75	50	UH21200801006●		76,29	1.6	0.20	4	2.4	16	1.55	50	UH21201602016●		61,03		
0.8	0.08	4	1.2	8	0.75	50	UH21200800808▽		76,29	1.6	0.15	4	2.4	18	1.55	60	UH21201601518▽		61,03		
0.8	0.10	4	1.2	8	0.75	50	UH21200801008●		76,29	1.6	0.20	4	2.4	18	1.55	60	UH21201602018●		61,03		
0.8	0.08	4	1.2	10	0.75	50	UH21200800810▽		76,29	1.6	0.15	4	2.4	20	1.55	60	UH21201601520▽		61,03		
0.8	0.10	4	1.2	10	0.75	50	UH21200801010●		76,29	1.6	0.20	4	2.4	20	1.55	60	UH21201602020●		61,03		
0.8	0.08	4	1.2	12	0.75	50	UH21200800812▽		76,29	1.8	0.20	4	2.7	6	1.75	50	UH2120180206		61,03		
0.8	0.10	4	1.2	12	0.75	50	UH21200801012●		76,29	1.8	0.20	4	2.7	8	1.75	50	UH2120180208		61,03		
0.9	0.08	4	1.4	6	0.85	50	UH21200900806▽		76,29	1.8	0.20	4	2.7	10	1.75	50	UH2120180210		61,03		
0.9	0.10	4	1.4	6	0.85	50	UH21200901006●		76,29	1.8	0.20	4	2.7	12	1.75	50	UH2120180212		61,03		
0.9	0.08	4	1.4	8	0.85	50	UH21200900808▽		76,29	1.8	0.20	4	2.7	14	1.75	50	UH2120180214		61,03		
0.9	0.10	4	1.4	8	0.85	50	UH21200901008●		76,29	1.8	0.20	4	2.7	16	1.75	50	UH2120180216		61,03		
0.9	0.08	4	1.4	10	0.85	50	UH21200900810▽		76,29	1.8	0.20	4	2.7	18	1.75	60	UH2120180218		61,03		
0.9	0.10	4	1.4	10	0.85	50	UH21200901010●		76,29	1.8	0.20	4	2.7	20	1.75	60	UH2120180220		61,03		
0.9	0.08	4	1.4	15	0.85	50	UH21200900815▽		76,29	2	0.20	4	3	6	1.95	50	UH2120200206		61,03		
0.9	0.10	4	1.4	15	0.85	50	UH21200901015●		76,29	2	0.20	4	3	8	1.95	50	UH2120200208		61,03		
1.0	0.10	4	1.5	6	0.95	50	UH2120100106		61,03	2	0.20	4	3	10	1.95	50	UH2120200210		61,03		
1.0	0.10	4	1.5	8	0.95	50	UH2120100108		61,03	2	0.20	4	3	12	1.95	50	UH2120200212		61,03		
1.0	0.10	4	1.5	10	0.95	50	UH2120100110		61,03	2	0.20	4	3	14	1.95	50	UH2120200214		61,03		

● stock standard ▽ stock exhaustion



PARAMETERS

★ 1st choice ☆ suitable

UH212 - catalogue page 581



OSAWA NORM **UH** NMG UH RED <70 HRC 40° RADIUS Z2

UH212									UH212																					
P	M	K	N	S	H	D	CR	d(h6)	I	I1	d1	L	EDP No.	€	P	M	K	N	S	H	D	CR	d(h6)	I	I1	d1	L	EDP No.	€	
					★	2	0.20	4	3	16	1.95	50	UH2120200216	61,03						★	3	0.30	6	4.5	10	2.85	50	UH2120300310	68,62	
					☆	2	0.20	4	3	18	1.95	60	UH2120200218	61,03						☆	3	0.30	6	4.5	12	2.85	50	UH2120300312	68,62	
					☆	2	0.20	4	3	20	1.95	60	UH2120200220	61,03						☆	3	0.30	6	4.5	14	2.85	50	UH2120300314	68,62	
						2	0.20	4	3	25	1.95	75	UH2120200225	68,62							3	0.30	6	4.5	16	2.85	60	UH2120300316	68,62	
						2	0.20	4	3	30	1.95	75	UH2120200230	68,62							3	0.30	6	4.5	18	2.85	60	UH2120300318	68,62	
						2.5	0.30	4	3.7	8	2.40	50	UH2120250308	61,03							3	0.30	6	4.5	20	2.85	60	UH2120300320	68,62	
						2.5	0.30	4	3.7	10	2.40	50	UH2120250310	61,03							3	0.30	6	4.5	25	2.85	75	UH2120300325	76,29	
						2.5	0.30	4	3.7	12	2.40	50	UH2120250312	61,03							4	0.40	6	4.5	10	3.85	60	UH2120400410	68,62	
						2.5	0.30	4	3.7	14	2.40	50	UH2120250314	61,06							4	0.40	6	4.5	15	3.85	60	UH2120400415	68,62	
						2.5	0.30	4	3.7	16	2.40	50	UH2120250316	61,03							4	0.40	6	4.5	20	3.85	60	UH2120400420	68,62	
						2.5	0.30	4	3.7	18	2.40	60	UH2120250318	61,03							4	0.40	6	4.5	25	3.85	75	UH2120400425	76,29	
						2.5	0.30	4	3.7	20	2.40	60	UH2120250320	61,03							4	0.40	6	4.5	30	3.85	75	UH2120400430	76,29	
						2.5	0.30	4	3.7	25	2.40	60	UH2120250325	68,62							4	0.40	6	4.5	40	3.85	75	UH2120400440	76,29	
						2.5	0.30	4	3.7	30	2.40	75	UH2120250330	68,62							4	0.40	6	4.5	40	3.85	75	UH2120400440	74,42	
						3	0.30	6	4.5	8	2.85	50	UH2120300308	68,62																

● stock standard ▽ stock exhaustion

UHF4LN - catalogue page 589



UHF4LN										UHF4LN											
P										☆	P										☆
M											M										
K										☆	K										☆
N											N										
S											S										
H										★	H										★
D	CR	d(h6)	l	l1	d1	L	EDP No.	€	D	CR	d(h6)	l	l1	d1	L	EDP No.	€				
1	0.10	4	1	4	0.90	50	UHF4LN0100104	52,95	2.5	0.30	4	2.5	12	2.40	50	UHF4LN0250312	56,77				
1	0.10	4	1	6	0.90	50	UHF4LN0100106	52,95	2.5	0.30	4	2.5	14	2.40	50	UHF4LN0250314	56,77				
1	0.10	4	1	8	0.90	50	UHF4LN0100108	52,95	2.5	0.30	4	2.5	16	2.40	50	UHF4LN0250316	56,77				
1	0.10	4	1	10	0.90	50	UHF4LN0100110	52,95	2.5	0.30	4	2.5	18	2.40	60	UHF4LN0250318	56,84				
1	0.10	4	1	12	0.90	50	UHF4LN0100112	54,81	2.5	0.30	4	2.5	20	2.40	60	UHF4LN0250320	56,84				
1	0.10	4	1	14	0.90	50	UHF4LN0100114	54,81	2.5	0.30	4	2.5	25	2.40	60	UHF4LN0250325	56,92				
1	0.10	4	1	16	0.90	50	UHF4LN0100116	54,81	2.5	0.30	4	2.5	30	2.40	75	UHF4LN0250330	60,67				
1	0.10	4	1	20	0.90	75	UHF4LN0100120	64,29	2.5	0.50	4	2.5	8	2.40	50	UHF4LN0250508	59,55				
1	0.20	4	1	4	0.90	50	UHF4LN0100204	54,84	2.5	0.50	4	2.5	12	2.40	50	UHF4LN0250512	60,11				
1	0.20	4	1	6	0.90	50	UHF4LN0100206	54,84	2.5	0.50	4	2.5	16	2.40	50	UHF4LN0250516	60,11				
1	0.20	4	1	8	0.90	50	UHF4LN0100208	54,84	2.5	0.50	4	2.5	20	2.40	60	UHF4LN0250520	63,94				
1	0.20	4	1	10	0.90	50	UHF4LN0100210	54,84	2.5	0.50	4	2.5	25	2.40	60	UHF4LN0250525	68,45				
1	0.20	4	1	12	0.90	50	UHF4LN0100212	55,94	2.5	0.50	4	2.5	30	2.40	75	UHF4LN0250530	69,53				
1	0.20	4	1	14	0.90	50	UHF4LN0100214	55,94	3	0.20	6	3	8	2.80	50	UHF4LN0300208	68,37				
1	0.20	4	1	16	0.90	50	UHF4LN0100216	55,94	3	0.20	6	3	10	2.80	50	UHF4LN0300210	69,05				
1	0.20	4	1	20	0.90	60	UHF4LN0100220	59,30	3	0.20	6	3	12	2.80	50	UHF4LN0300212	69,69				
1	0.30	4	1	6	0.90	50	UHF4LN0100306	54,84	3	0.20	6	3	14	2.80	50	UHF4LN0300214	69,00				
1	0.30	4	1	10	0.90	50	UHF4LN0100310	54,84	3	0.20	6	3	16	2.80	60	UHF4LN0300216	69,31				
1	0.30	4	1	16	0.90	50	UHF4LN0100316	55,94	3	0.20	6	3	18	2.80	60	UHF4LN0300218	70,04				
1	0.30	4	1	20	0.90	60	UHF4LN0100320	59,30	3	0.20	6	3	20	2.80	60	UHF4LN0300220	69,31				
1.5	0.10	4	1.5	6	1.40	50	UHF4LN0150106	52,93	3	0.20	6	3	25	2.80	75	UHF4LN0300225	69,76				
1.5	0.10	4	1.5	8	1.40	50	UHF4LN0150108	52,93	3	0.30	6	3	8	2.80	50	UHF4LN0300308	69,00				
1.5	0.10	4	1.5	12	1.40	50	UHF4LN0150112	53,71	3	0.30	6	3	10	2.80	50	UHF4LN0300310	65,55				
1.5	0.10	4	1.5	16	1.40	50	UHF4LN0150116	53,71	3	0.30	6	3	12	2.80	50	UHF4LN0300312	69,00				
1.5	0.10	4	1.5	20	1.40	60	UHF4LN0150120	57,07	3	0.30	6	3	14	2.80	50	UHF4LN0300314	69,00				
1.5	0.20	4	1.5	6	1.40	50	UHF4LN0150206	54,53	3	0.30	6	3	16	2.80	60	UHF4LN0300316	72,96				
1.5	0.20	4	1.5	8	1.40	50	UHF4LN0150208	54,53	3	0.30	6	3	18	2.80	60	UHF4LN0300318	72,96				
1.5	0.20	4	1.5	10	1.40	50	UHF4LN0150210	54,53	3	0.30	6	3	20	2.80	60	UHF4LN0300320	73,69				
1.5	0.20	4	1.5	12	1.40	50	UHF4LN0150212	55,24	3	0.30	6	3	30	2.80	75	UHF4LN0300330	72,78				
1.5	0.20	4	1.5	14	1.40	50	UHF4LN0150214	55,24	3	0.50	6	3	8	2.80	50	UHF4LN0300508	72,69				
1.5	0.20	4	1.5	16	1.40	50	UHF4LN0150216	55,24	3	0.50	6	3	10	2.80	50	UHF4LN0300510	69,90				
1.5	0.20	4	1.5	18	1.40	60	UHF4LN0150218	58,60	3	0.50	6	3	12	2.80	50	UHF4LN0300512	72,73				
1.5	0.20	4	1.5	20	1.40	60	UHF4LN0150220	58,60	3	0.50	6	3	14	2.80	50	UHF4LN0300514	72,69				
1.5	0.30	4	1.5	8	1.40	50	UHF4LN0150308	54,53	3	0.50	6	3	16	2.80	60	UHF4LN0300516	73,86				
1.5	0.30	4	1.5	16	1.40	50	UHF4LN0150316	55,24	3	0.50	6	3	18	2.80	60	UHF4LN0300518	82,72				
1.5	0.30	4	1.5	20	1.40	60	UHF4LN0150320	58,60	3	0.50	6	3	20	2.80	60	UHF4LN0300520	82,72				
2	0.20	4	2	6	1.90	50	UHF4LN0200206	56,24	3	0.50	6	3	30	2.80	75	UHF4LN0300530	83,60				
2	0.20	4	2	8	1.90	50	UHF4LN0200208	56,24	4	0.30	6	4	10	3.70	60	UHF4LN0400310	72,82				
2	0.20	4	2	10	1.90	50	UHF4LN0200210	56,24	4	0.30	6	4	15	3.70	60	UHF4LN0400315	75,73				
2	0.20	4	2	12	1.90	50	UHF4LN0200212	56,77	4	0.30	6	4	20	3.70	60	UHF4LN0400320	72,82				
2	0.20	4	2	14	1.90	50	UHF4LN0200214	56,77	4	0.30	6	4	25	3.70	75	UHF4LN0400325	75,26				
2	0.20	4	2	16	1.90	50	UHF4LN0200216	56,77	4	0.30	6	4	32	3.70	75	UHF4LN0400332	72,78				
2	0.20	4	2	18	1.90	60	UHF4LN0200218	60,14	4	0.30	6	4	40	3.70	75	UHF4LN0400340	75,26				
2	0.20	4	2	20	1.90	60	UHF4LN0200220	60,14	4	0.50	6	4	10	3.70	60	UHF4LN0400510	82,62				
2	0.20	4	2	25	1.90	75	UHF4LN0200225	64,15	4	0.50	6	4	15	3.70	60	UHF4LN0400515	84,13				
2	0.20	4	2	30	1.90	75	UHF4LN0200230	64,15	4	0.50	6	4	20	3.70	60	UHF4LN0400520	82,62				
2	0.30	4	2	8	1.90	50	UHF4LN0200308	56,24	4	0.50	6	4	25	3.70	75	UHF4LN0400525	84,23				
2	0.30	4	2	16	1.90	50	UHF4LN0200316	56,77	4	0.50	6	4	32	3.70	75	UHF4LN0400532	82,54				
2	0.30	4	2	20	1.90	60	UHF4LN0200320	60,14	4	0.50	6	4	40	3.70	75	UHF4LN0400540	84,23				
2	0.50	4	2	6	1.90	50	UHF4LN0200506	59,75													
2	0.50	4	2	8	1.90	50	UHF4LN0200508	59,75													
2	0.50	4	2	12	1.90	50	UHF4LN0200512	60,11													
2	0.50	4	2	16	1.90	50	UHF4LN0200516	63,45													
2	0.50	4	2	20	1.90	60	UHF4LN0200520	67,21													
2	0.50	4	2	25	1.90	75	UHF4LN0200525	68,16													
2	0.50	4	2	30	1.90	75	UHF4LN0200530	68,16													
2.5	0.30	4	2.5	8	2.40	50	UHF4LN0250308	56,24													
2.5	0.30	4	2.5	10	2.40	50	UHF4LN0250310	56,24													



UHCS2 - catalogue page 587

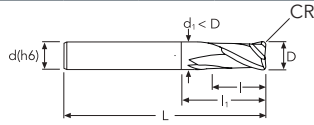


OSAWA NORM
UH
NMG UH RED
<70 HRC
40°
RADIUS
Z2

UHCS4 - catalogue page 597



OSAWA NORM
UH
NMG UH RED
<70 HRC
40°
RADIUS
Z4

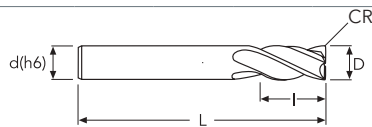
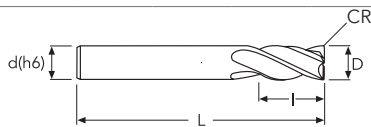


							UHCS2	UHCS4		
P								☆	☆	
M										
K								☆	☆	
N										
S										
H								★	★	
D	CR	d(h6)	l	l1	d1	L	EDP No.	€	EDP No.	€
1	0.10	4	2	3	0.95	50	UHCS2010	66,62	UHCS4010	66,62
1.5	0.10	4	2.5	4	1.45	50	UHCS2015	66,62	UHCS4015	66,62
2	0.10	4	3	6	1.95	50	UHCS2020	66,62	UHCS4020	66,62
3	0.10	6	4.5	8	2.85	55	UHCS2030	72,92	UHCS4030	72,92
4	0.10	6	6	10	3.85	55	UHCS2040	72,92	UHCS4040	72,92
5	0.20	6	6	11	4.85	50	UHCS2050	72,92	UHCS4050	72,92
6	0.20	6	9	15	5.85	60	UHCS2060	72,92	UHCS4060	72,92
8	0.20	8	12	20	7.70	70	UHCS2080	92,33	UHCS4080	92,33
10	0.20	10	15	25	9.70	70	UHCS2100	138,27	UHCS4100	138,27
12	0.30	12	18	30	11.70	80	UHCS2120	190,83	UHCS4120	190,83

UH410 - catalogue page 599



OSAWA NORM
UH
NMG UH RED
<70 HRC
40°
RADIUS
Z4



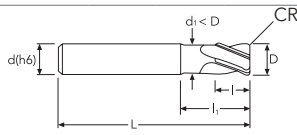
						UH410							UH410		
P							☆	P							☆
M								M							
K							☆	K							☆
N								N							
S								S							
H							★	H							★
D	CR	d(h6)	l	L	EDP No.	€	D	CR	d(h6)	l	L	EDP No.	€		
1	0.20	6	3	50	UH41001002	63,55	10	2.00	10	22	70	UH41010020	117,58		
1.5	0.20	6	4.5	50	UH41001502	63,55	12	0.30	12	25	75	UH41012003	155,41		
2	0.30	6	6.5	50	UH41002003	63,55	12	0.50	12	25	75	UH41012005	155,41		
2.5	0.30	6	6.5	50	UH41002503	63,55	12	1.00	12	25	75	UH41012010	155,41		
2.5	0.50	6	6.5	50	UH41002505	63,55	12	1.50	12	25	75	UH41012015	155,41		
3	0.20	6	9	50	UH41003002	61,76	12	2.00	12	25	75	UH41012020	155,41		
3	0.30	6	9	50	UH41003003	61,76	12	3.00	12	25	75	UH41012030	155,41		
3	0.50	6	9	50	UH41003005	61,76	14	0.50	14	32	90	UH41014005	236,08		
4	0.30	6	12	50	UH41004003	63,18	14	1.00	14	32	90	UH41014010	236,08		
4	0.50	6	12	50	UH41004005	63,18	16	0.50	16	32	90	UH41016005	287,65		
4	1.00	6	12	50	UH41004010	65,38	16	1.00	16	32	90	UH41016010	287,65		
5	0.30	6	15	50	UH41005003	62,73	16	2.00	16	32	90	UH41016020	287,65		
5	0.50	6	15	50	UH41005005	62,73	18	1.00	18	38	100	UH41018010	378,35		
5	1.00	6	15	50	UH41005010	64,92	20	0.50	20	38	100	UH41020005	468,54		
6	0.30	6	16	50	UH41006003	65,28	20	1.00	20	38	100	UH41020010	468,54		
6	0.50	6	16	50	UH41006005	65,28	20	2.00	20	38	100	UH41020020	468,54		
6	1.00	6	16	50	UH41006010	65,28									
8	0.30	8	20	64	UH41008003	83,13									
8	0.50	8	20	64	UH41008005	83,13									
8	1.00	8	20	64	UH41008010	83,13									
8	1.50	8	20	64	UH41008015	83,13									
8	2.00	8	20	64	UH41008020	83,13									
10	0.30	10	22	70	UH41010003	122,96									
10	0.50	10	22	70	UH41010005	117,58									
10	1.00	10	22	70	UH41010010	117,58									
10	1.50	10	22	70	UH41010015	117,58									



UH411 - catalogue page 602



OSAWA NORM
UH
NMG UH RED
<70 HRC
40°
RADIUS
Z4



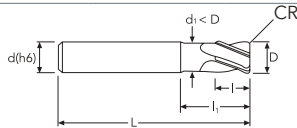
UH411

P							☆
M							
K							☆
N							
S							
H							★
DxCR	d(h6)	l	l1	d1	L	EDP No.	€
3x0.30	6	4	12	2.85	55	UH4110300312	80,84
3x0.30	6	4	20	2.85	60	UH4110300320	80,84
3x0.50	6	4	10	2.85	55	UH4110300510	80,84
3x0.50	6	4	20	2.85	60	UH4110300520	80,84
4x0.30	6	6	12	3.85	55	UH4110400312	80,84
4x0.30	6	6	20	3.85	60	UH4110400320	80,84
4x0.50	6	6	12	3.85	55	UH4110400512	80,84
4x0.50	6	6	20	3.85	60	UH4110400520	80,84
4x1.00	6	6	12	3.85	55	UH4110401012	80,84
6x0.50	6	9	15	5.85	60	UH4110600520	80,84
6x1.00	6	9	15	5.85	60	UH4110601020	80,84
8x0.50	8	12	20	7.70	70	UH4110800525	99,25
8x1.00	8	12	20	7.70	70	UH4110801025	99,25
8x2.00	8	12	20	7.70	70	UH4110802025	99,25
10x0.50	10	15	25	9.70	70	UH4111000532	148,63
10x1.00	10	15	25	9.70	70	UH4111001032	148,63
10x2.00	10	15	25	9.70	70	UH4111002032	148,63
12x0.50	12	18	30	11.70	80	UH4111200538	205,13
12x1.00	12	18	30	11.70	80	UH4111201038	205,13
12x2.00	12	18	30	11.70	80	UH4111202038	205,13

UH412 - catalogue page 604



OSAWA NORM
UH
NMG UH RED
<70 HRC
40°
RADIUS
Z4

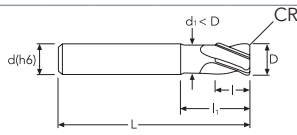


UH412

P							☆
M							
K							☆
N							
S							
H							★
DxCR	d(h6)	l	l1	d1	L	EDP No.	€
2x0.30	6	4	30	1.90	75	UH4120200330	83,88
2x0.30	6	4	60	1.90	100	UH4120200360	99,13
3x0.30	6	5	30	2.80	75	UH4120300330	83,88
3x0.30	6	5	60	2.80	100	UH4120300360	99,13
3x0.50	6	5	30	2.80	75	UH4120300530	83,88
3x0.50	6	5	60	2.80	100	UH4120300560	99,13
4x0.30	6	8	32	3.70	75	UH4120400332	83,88
4x0.30	6	8	60	3.70	100	UH4120400360	99,13
4x0.50	6	8	32	3.70	75	UH4120400532	83,88
4x0.50	6	8	60	3.70	100	UH4120400560	99,13
6x0.50	6	9	20	5.85	90	UH4120600520	93,75
6x1.00	6	9	20	5.85	90	UH4120601020	93,75
8x0.50	8	12	25	7.70	100	UH4120800525	121,82
8x1.00	8	12	25	7.70	100	UH4120801025	121,82
10x0.50	10	15	32	9.70	100	UH4121000532	169,03
10x1.00	10	15	32	9.70	100	UH4121001032	169,03
10x2.00	10	15	32	9.70	100	UH4121002032	169,03
12x0.50	12	18	38	11.70	110	UH4121200538	259,34
12x1.00	12	18	38	11.70	110	UH4121201038	259,34
12x2.00	12	18	38	11.70	110	UH4121202038	259,34



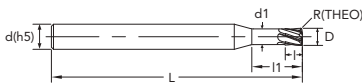
UH413 - catalogue page 606



UH413

P								☆
M								
K								☆
N								
S								
H								★
DxCR	d(h6)	l	l1	d1	L	EDP No.	€	
6x0.30	6	10	60	5.50	125	UH4130600360	98,78	
6x0.50	6	10	60	5.50	125	UH4130600560	98,78	
6x1.00	6	10	60	5.50	125	UH4130601060	98,78	
8x0.30	8	12	60	7.40	125	UH4130800360	128,41	
8x0.50	8	12	60	7.40	125	UH4130800560	128,41	
8x1.00	8	12	60	7.40	125	UH4130801060	128,41	
8x2.00	8	12	60	7.40	125	UH4130802060	128,41	
10x0.30	10	14	85	9.20	125	UH4131000385	172,87	
10x0.50	10	14	85	9.20	125	UH4131000585	172,87	
10x1.00	10	14	85	9.20	125	UH4131001085	172,87	
10x2.00	10	14	85	9.20	125	UH4131002085	172,87	
12x0.50	12	16	110	11.00	150	UH41312005110	276,59	
12x1.00	12	16	110	11.00	150	UH41312010110	276,59	
12x2.00	12	16	110	11.00	150	UH41312020110	276,59	
16x0.50	16	22	110	15.00	150	UH41316005110	459,00	
16x1.00	16	22	110	15.00	150	UH41316010110	459,00	

UHF-RT - catalogue page 593



UHF470RT

UHF670RT

P									☆	☆
M										
K										
N										
S										
H									★	★
D	R(THEO)	d(h5)	l	l1	d1	L	Z	EDP No.	€	€
2	0.13	6	2	6	1.9	50	4	UHF470RT020	106,50	
3	0.19	6	3	9	2.9	60	4	UHF470RT030	106,50	
4	0.25	6	4	12	3.9	60	6	UHF670RT040		119,25
5	0.31	6	5	15	4.7	60	6	UHF670RT050		119,25
6	0.38	6	5	18	5.5	60	6	UHF670RT060		119,25
8	0.50	8	7	24	7.5	75	6	UHF670RT080		138,31
10	0.63	10	8	30	9.5	90	6	UHF670RT100		186,18
12	0.75	12	10	36	11.5	100	6	UHF670RT120		222,20

UH610R - catalogue page 608

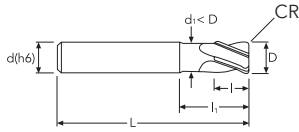


OSAWA NORM	UH	NMG UH RED	<70 HRC	50°	RADIUS	Z6
---------------	----	---------------	------------	-----	--------	----

UH611R - catalogue page 610



OSAWA NORM	UH	NMG UH RED	<70 HRC	50°	RADIUS	Z6
---------------	----	---------------	------------	-----	--------	----



									UH610R					UH611R	
P	M	K	N	S	H					☆					☆
D	CR	d(h6)	l	l1	d1	L	EDP No.	€	l	L	EDP No.	€			
6	0.50	6	6	15	5.80	50	UH610R05060	92,52	15	90	UH611R05060	98,96			
8	0.50	8	8	25	7.80	60	UH610R05080	110,46	20	100	UH611R05080	124,16			
10	0.50	10							25	100	UH611R05100	187,29			
10	1.00	10	10	30	9.80	70	UH610R10100	172,53	25	100	UH611R10100	187,29			
12	0.50	12							30	110	UH611R05120	255,54			
12	1.00	12	12	30	11.80	75	UH610R10120	206,18	30	110	UH611R10120	255,54			
16	1.00	16							32	130	UH611R10160	420,10			
20	1.00	20							38	140	UH611R10200	614,98			
20	2.00	20							38	140	UH611R20200	616,43			



MHMB204 - catalogue page 548/612

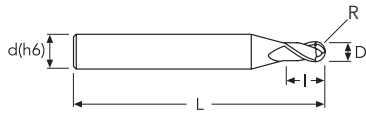


OSAWA NORM	MH	NMG MH COAT	<70 HRC	30°	BALL NOSE	Z2 BALL
------------	----	----------------	---------	-----	-----------	---------

MHMB206 - catalogue page 550/614



OSAWA NORM	MH	NMG MH COAT	<70 HRC	30°	BALL NOSE	Z2 BALL
------------	----	----------------	---------	-----	-----------	---------

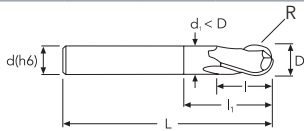


											MHMB204	MHMB206
P											★	★
M												
K											★	★
N												
S												
H											★	★
D	R	d(h6)	I	L	EDP No.	€	d(h6)	I	L	EDP No.	€	
0.2	0.10	4	0.2	50	MHMB200204	90,10						
0.3	0.15	4	0.3	50	MHMB200304	80,79						
0.4	0.20	4	0.4	50	MHMB200404	74,59	6	0.4	50	MHMB200406	96,89	
0.5	0.25	4	0.4	50	MHMB200504	68,38	6	0.5	50	MHMB200506	89,58	
0.6	0.30	4	0.5	50	MHMB200604	66,80	6	0.6	50	MHMB200606	87,53	
0.7	0.35	4	0.6	50	MHMB200704	70,42						
0.8	0.40	4	0.6	50	MHMB200804	62,12	6	0.8	50	MHMB200806	81,96	
0.9	0.45	4	0.8	50	MHMB200904	70,42						
1	0.50	4	0.8	50	MHMB201004	54,62						
1.5	0.75	4	1.35	50	MHMB201504	58,55						
2	1.00	4	1.7	50	MHMB202004	62,94						

UHCSB2 - catalogue page 623



OSAWA NORM	UH	NMG UH RED	<70 HRC	30°	BALL NOSE	Z2 BALL
------------	----	---------------	---------	-----	-----------	---------



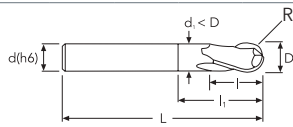
											UHCSB2
P											☆
M											
K											☆
N											
S											
H											★
D	R	d(h6)	I	L	EDP No.	€					
1	0.50	6	1.5	40	UHCSB2010	81,45					
1.5	0.75	6	2.5	40	UHCSB2015	81,45					
2	1.00	6	3	40	UHCSB2020	73,83					
2.5	1.25	6	3	50	UHCSB2025	81,16					
3	1.50	6	4.5	50	UHCSB2030	83,52					
4	2.00	6	6	50	UHCSB2040	83,52					
5	2.50	6	7.5	50	UHCSB2050	89,86					
6	3.00	6	9	50	UHCSB2060	89,86					
8	4.00	8	12	50	UHCSB2080	129,67					
10	5.00	10	15	60	UHCSB2100	195,04					
12	6.00	12	18	60	UHCSB2120	234,69					
14	7.00	14	32	90	UHCSB2140	316,25					
16	8.00	16	32	90	UHCSB2160	361,43					
18	9.00	18	38	100	UHCSB2180	516,33					
20	10.00	20	38	100	UHCSB2200	638,96					



UH250 - catalogue page 625



OSAWA NORM
UH
NMG UH RED
<70 HRC
30°
BALL NOSE
Z2 BALL



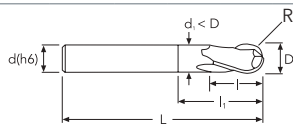
UH250

P								☆
M								
K								☆
N								
S								
H								★
D	R	d(h6)	l	l1	d1	L	EDP No.	€
1	0.50	4	1	2.2	0.95	50	UH250010	100,73
1.5	0.75	4	1.5	3	1.45	50	UH250015	100,73
2	1.00	6	2	4	1.95	50	UH250020	95,66
2.5	1.25	6	4	10	2.40	50	UH250025	89,11
3	1.50	6	3	6	2.85	60	UH250030	95,66
4	2.00	6	4	8	3.85	70	UH250040	100,02
5	2.50	6	5	10	4.85	80	UH250050	101,70
6	3.00	6	6	12	5.85	90	UH250060	105,02
8	4.00	8	8	16	7.70	100	UH250080	133,63
10	5.00	10	10	20	9.70	100	UH250100	198,25
12	6.00	12	12	24	11.70	110	UH250120	256,78
14	7.00	14	32	80	13.00	125	UH250140	378,02
16	8.00	16	32	80	15.00	125	UH250160	432,03
18	9.00	18	38	80	17.00	125	UH250180	612,06
20	10.00	20	38	80	19.00	125	UH250200	726,05

UH253 - catalogue page 627



OSAWA NORM
UH
NMG UH RED
<70 HRC
30°
BALL NOSE
Z2 BALL



UH253

UH253

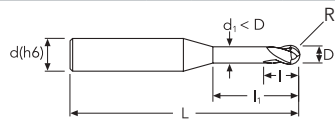
P								☆								☆
M																
K								☆								☆
N																
S																
H								★								★
D	R	d(h6)		l	l1	d1	L	EDP No.	€	d(h6)	l	l1	d1	L	EDP No.	€
1	0.50	6	3	7	0.90	75	75	UH25301075	82,39	6	3	10	0.90	100	UH253010100	96,12
1.5	0.75	6	3	10	1.40	75	75	UH25301575	82,39	6	3	15	1.40	100	UH253015100	96,12
2	1.00	6	4	14	1.90	75	75	UH25302075	82,39	6	4	20	1.90	100	UH253020100	96,12
2.5	1.25	6	4	18	2.40	75	75	UH25302575	82,39							
3	1.50	6	5	21	2.80	75	75	UH25303075	82,39	6	5	30	2.80	100	UH253030100	96,12
4	2.00	6	8	28	3.70	75	75	UH25304075	82,39	6	8	40	3.70	100	UH253040100	96,12
5	2.50	6	9	50	4.60	100	100	UH253050100	96,12							
6	3.00	6	10	60	5.50	100	100	UH253060100	96,12	6	10	60	5.50	150	UH253060150	120,41
8	4.00	8	12	60	7.40	100	100	UH253080100	133,79	8	12	80	7.40	150	UH253080150	173,87
10	5.00	10	14	85	9.20	125	125	UH253100125	234,10	10	14	100	9.20	150	UH253100150	280,90
12	6.00	12	16	85	11.00	125	125	UH253120125	287,62	12	16	110	11.00	150	UH253120150	321,04
14	7.00	14	32	110	13.00	150	150	UH253140150	446,34	14	32	150	13.00	200	UH253140200	577,27
16	8.00	16	32	110	15.00	150	150	UH253160150	446,34	16	32	150	15.00	200	UH253160200	577,27
20	10.00	20	38	110	19.00	150	150	UH253200150	702,24	20	38	150	19.00	200	UH253200200	904,58



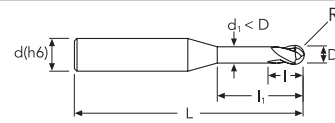
MHCRB2 - catalogue page 557/621



OSAWA NORM	MH	NMG MH COAT	<70 HRC	30°	BALL NOSE	Z2 BALL
---------------	----	----------------	------------	-----	-----------	---------



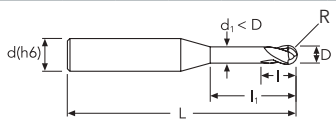
MHCRB2



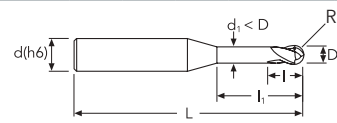
MHCRB2

P	M	K	N	S	H		★	P	M	K	N	S	H		★		
D	R	d(h6)	l	l1	d1	L	EDP No.	€	D	R	d(h6)	l	l1	d1	L	EDP No.	€
0.5	0.25	6	0.5	2	0.45	50	MHCRB20050206	105,12	1.2	0.60	6	1.2	8	1.1	50	MHCRB20120806	79,27
0.5	0.25	6	0.5	4	0.45	50	MHCRB20050406	105,12	1.2	0.60	6	1.2	10	1.1	50	MHCRB20121006	79,27
0.6	0.30	6	0.5	2	0.55	50	MHCRB20060206	102,67	1.5	0.75	6	1.5	4	1.4	50	MHCRB20150406	90,54
0.6	0.30	6	0.5	4	0.55	50	MHCRB20060406	102,67	1.5	0.75	6	1.5	8	1.4	50	MHCRB20150806	92,79
0.6	0.30	6	0.5	6	0.55	50	MHCRB20060606	102,67	1.5	0.75	6	1.5	10	1.4	50	MHCRB20151006	92,79
0.8	0.40	6	0.8	2	0.75	50	MHCRB20080206	85,37	1.5	0.75	6	1.5	12	1.4	50	MHCRB20151206	92,79
0.8	0.40	6	0.8	4	0.75	50	MHCRB20080406	85,37	1.5	0.75	6	1.5	16	1.4	50	MHCRB20151606	92,79
0.8	0.40	6	0.8	6	0.75	50	MHCRB20080606	85,37	2	1.00	6	3	6	1.9	50	MHCRB20200606	76,95
1.0	0.50	6	1	3	0.9	50	MHCRB20100306	87,82	2	1.00	6	3	8	1.9	50	MHCRB20200806	76,95
1.0	0.50	6	1	6	0.9	50	MHCRB20100606	87,82	2	1.00	6	3	10	1.9	50	MHCRB20201006	78,34
1.0	0.50	6	1	8	0.9	50	MHCRB20100806	87,82	2	1.00	6	3	12	1.9	50	MHCRB20201206	78,34
1.0	0.50	6	1	10	0.9	50	MHCRB20101006	87,82	2	1.00	6	3	16	1.9	50	MHCRB20201606	83,84
1.2	0.60	6	1.2	6	1.1	50	MHCRB20120606	79,27	2	1.00	6	3	20	1.9	50	MHCRB20202006	83,84

MHLNB2 - catalogue page 552/616



MHLNB2



MHLNB2

P	★	P	★
M		M	
K	★	K	★
N		N	
S		S	
H	★	H	★

D	R	d(h6)	l	l1	d1	L	EDP No.	€	D	R	d(h6)	l	l1	d1	L	EDP No.	€
0.2	0.10	4	0.2	0.5	0.17	50	MHLNB2002005	109,04	1.6	0.80	4	1.3	8	1.5	50	MHLNB201608	65,07
0.2	0.10	4	0.2	1	0.17	50	MHLNB200201	109,04	1.6	0.80	4	1.3	12	1.5	50	MHLNB201612	65,07
0.2	0.10	4	0.2	1.5	0.17	50	MHLNB2002015	109,04	1.6	0.80	4	1.3	16	1.5	50	MHLNB201616	65,07
0.3	0.15	4	0.3	1	0.27	50	MHLNB200301	98,49	1.6	0.80	4	1.3	20	1.5	60	MHLNB201620	65,07
0.3	0.15	4	0.3	2	0.27	50	MHLNB200302	98,49	1.8	0.90	4	1.4	8	1.7	50	MHLNB201808	65,07
0.3	0.15	4	0.3	3	0.27	50	MHLNB200303	98,49	1.8	0.90	4	1.4	12	1.7	50	MHLNB201812	65,07
0.4	0.20	4	0.4	1	0.37	50	MHLNB200401	91,45	1.8	0.90	4	1.4	16	1.7	50	MHLNB201816	65,07
0.4	0.20	4	0.4	2	0.37	50	MHLNB200402	91,45	1.8	0.90	4	1.4	20	1.7	60	MHLNB201820	65,07
0.4	0.20	4	0.4	3	0.37	50	MHLNB200403	91,45	2	1.00	4	1.6	4	1.9	50	MHLNB202004	63,31
0.4	0.20	4	0.4	4	0.37	50	MHLNB200404	91,45	2	1.00	4	1.6	6	1.9	50	MHLNB202006	63,31
0.4	0.20	4	0.4	5	0.37	50	MHLNB200405	91,45	2	1.00	4	1.6	8	1.9	50	MHLNB202008	63,31
0.5	0.25	4	0.4	2	0.45	50	MHLNB200502	84,42	2	1.00	4	1.6	10	1.9	50	MHLNB202010	63,31
0.5	0.25	4	0.4	3	0.45	50	MHLNB200503	84,42	2	1.00	4	1.6	12	1.9	50	MHLNB202012	63,31
0.5	0.25	4	0.4	4	0.45	50	MHLNB200504	84,42	2	1.00	4	1.6	14	1.9	50	MHLNB202014	63,31
0.5	0.25	4	0.4	5	0.45	50	MHLNB200505	84,42	2	1.00	4	1.6	16	1.9	50	MHLNB202016	63,31
0.5	0.25	4	0.4	6	0.45	50	MHLNB200506	84,42	2	1.00	4	1.6	18	1.9	60	MHLNB202018	65,07
0.5	0.25	4	0.4	8	0.45	50	MHLNB200508	84,42	2	1.00	4	1.6	20	1.9	60	MHLNB202020	65,07
0.6	0.30	4	0.5	2	0.55	50	MHLNB200602	80,90	2	1.00	4	1.6	22	1.9	60	MHLNB202022	65,07
0.6	0.30	4	0.5	3	0.55	50	MHLNB200603	80,90	2	1.00	4	1.6	25	1.9	75	MHLNB202025	71,22
0.6	0.30	4	0.5	4	0.55	50	MHLNB200604	80,90	2	1.00	4	1.6	30	1.9	75	MHLNB202030	73,87
0.6	0.30	4	0.5	5	0.55	50	MHLNB200605	80,90	3	1.50	6	2.4	8	2.8	50	MHLNB203008	84,42
0.6	0.30	4	0.5	6	0.55	50	MHLNB200606	80,90	3	1.50	6	2.4	10	2.8	50	MHLNB203010	84,42
0.6	0.30	4	0.5	8	0.55	50	MHLNB200608	80,90	3	1.50	6	2.4	12	2.85	50	MHLNB203012	86,47
0.8	0.40	4	0.6	2	0.75	50	MHLNB200802	77,38	3	1.50	6	2.4	16	2.8	60	MHLNB203016	89,57
0.8	0.40	4	0.6	4	0.75	50	MHLNB200804	77,38	3	1.50	6	2.4	20	2.8	60	MHLNB203020	93,06
0.8	0.40	4	0.6	5	0.75	50	MHLNB200805	77,38	3	1.50	6	2.4	25	2.8	75	MHLNB203025	98,49
0.8	0.40	4	0.6	6	0.75	50	MHLNB200806	77,38	3	1.50	6	2.4	30	2.8	75	MHLNB203030	98,49
0.8	0.40	4	0.6	7	0.75	50	MHLNB200807	77,38	3	1.50	6	2.4	35	2.8	75	MHLNB203035	98,49
0.8	0.40	4	0.6	8	0.75	50	MHLNB200808	77,38	4	2.00	6	3.2	10	3.7	50	MHLNB204010	84,42
0.8	0.40	4	0.6	10	0.75	50	MHLNB200810	77,38	4	2.00	6	3.2	16	3.7	60	MHLNB204016	84,42
1.0	0.50	4	0.8	3	0.9	50	MHLNB201003	65,07	4	2.00	6	3.2	20	3.7	60	MHLNB204020	84,42
1.0	0.50	4	0.8	4	0.9	50	MHLNB201004	65,07	4	2.00	6	3.2	25	3.7	75	MHLNB204025	98,49
1.0	0.50	4	0.8	5	0.9	50	MHLNB201005	65,07	4	2.00	6	3.2	30	3.7	75	MHLNB204030	98,49
1.0	0.50	4	0.8	6	0.9	50	MHLNB201006	65,07	4	2.00	6	3.2	35	3.7	75	MHLNB204035	98,49
1.0	0.50	4	0.8	7	0.9	50	MHLNB201007	65,07	4	2.00	6	3.2	40	3.7	100	MHLNB204040	105,52
1.0	0.50	4	0.8	8	0.9	50	MHLNB201008	65,07	4	2.00	6	3.2	45	3.7	100	MHLNB204045	105,52
1.0	0.50	4	0.8	9	0.9	50	MHLNB201009	65,07	4	2.00	6	3.2	50	3.7	100	MHLNB204050	105,52
1.0	0.50	4	0.8	10	0.9	50	MHLNB201010	65,07									
1.0	0.50	4	0.8	12	0.9	50	MHLNB201012	65,07									
1.0	0.50	4	0.8	14	0.9	50	MHLNB201014	65,07									
1.0	0.50	4	0.8	16	0.9	50	MHLNB201016	65,07									
1.0	0.50	4	0.8	20	0.9	60	MHLNB201020	65,07									
1.2	0.60	4	1.0	6	1.1	50	MHLNB201206	65,07									
1.2	0.60	4	1.0	8	1.1	50	MHLNB201208	65,07									
1.2	0.60	4	1.0	10	1.1	50	MHLNB201210	65,07									
1.2	0.60	4	1.0	12	1.1	50	MHLNB201212	65,07									
1.4	0.70	4	1.1	8	1.3	50	MHLNB201408	65,07									
1.4	0.70	4	1.1	12	1.3	50	MHLNB201412	65,07									
1.4	0.70	4	1.1	16	1.3	50	MHLNB201416	65,07									
1.5	0.75	4	1.2	8	1.4	50	MHLNB201508	65,07									
1.5	0.75	4	1.2	12	1.4	50	MHLNB201512	67,70									
1.5	0.75	4	1.2	16	1.4	50	MHLNB201516	65,07									
1.5	0.75	4	1.2	18	1.4	60	MHLNB201518	65,07									
1.5	0.75	6	2.4	12	1.4	50	MHLNB201520	66,86									



PARAMETERS

★ 1st choice ☆ suitable



HSS/CO - HSSP

GENERAL PURPOSE

🇺🇸 The Osawa catalogue includes a wide range of HSS/Co - HSSP end mills, both coated and uncoated.

🇮🇹 Il catalogo Osawa include un'ampia scelta di frese in HSS/Co - HSSP nudo e rivestito.

🇩🇪 Der Osawa Katalog umfasst eine große Auswahl an beschichteten und unbeschichteten Fräsern aus HSS/Co - HSSP.

🇫🇷 Le catalogue Osawa inclut une large gamme de fraises en HSS/Co - HSSP, soit revêtues, soit non revêtues.

🇪🇸 El catálogo Osawa incluye una amplia variedad de fresas de HSS/Co - HSSP con o sin recubrimiento.

🇷🇺 В каталоге Osawa также представлена широкая гамма концевых фрез изготовленных из HSS/Co - HSSP с покрытием и без покрытия.

WS2 - catalogue page 642

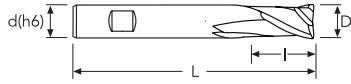


DIN 327	N	HSS/Co BR	30°	SQUARE	Z2
---------	---	--------------	-----	--------	----

TAWS2 - catalogue page 642



DIN 327	N	HSS/Co PV200	30°	SQUARE	Z2
---------	---	-----------------	-----	--------	----



					WS2		TAWS2
P	M	K	N	S	H		
						★	★
						☆	☆
						★	★
						☆	☆
D(e8)	d(h6)	l	L	EDP No.	€	EDP No.	€
1	6	2.5	47	WS2010	20,03	TAWS2010	27,75
1.5	6	3	47	WS2015	19,02	TAWS2015	26,74
2	6	4	48	WS2020	16,52	TAWS2020	24,44
2.5	6	5	49	WS2025	16,52	TAWS2025	24,40
3	6	5	49	WS2030	16,52	TAWS2030	24,44
3.5	6	6	50	WS2035	16,52	TAWS2035	24,44
4	6	7	51	WS2040	16,52	TAWS2040	24,44
4.5	6	7	51	WS2045	16,52	TAWS2045	24,44
5	6	8	52	WS2050	16,52	TAWS2050	24,44
5.5	6	8	52	WS2055	16,52	TAWS2055	24,44
6	6	8	52	WS2060	16,52	TAWS2060	24,44
6.5	10	10	60	WS2065	23,69	TAWS2065	37,93
7	10	10	60	WS2070	23,69	TAWS2070	37,51
7.5	10	10	60	WS2075	23,69	TAWS2075	37,93
8	10	11	61	WS2080	23,69	TAWS2080	37,51
8.5	10	11	61	WS2085	23,69	TAWS2085	39,77
9	10	11	61	WS2090	23,69	TAWS2090	38,77
9.5	10	11	61	WS2095	23,69	TAWS2095	39,29
10	10	13	63	WS2100	23,69	TAWS2100	38,77
10.5	12	13	70	WS2105	31,44	TAWS2105	48,16
11	12	13	70	WS2110	31,44	TAWS2110	48,16
11.5	12	13	70	WS2115	31,44	TAWS2115	48,16
12	12	16	73	WS2120	31,44	TAWS2120	47,57
12.5	12	16	73	WS2125	34,81	TAWS2125	51,36
13	12	16	73	WS2130	34,81	TAWS2130	51,64
13.5	12	16	73	WS2135	34,81	TAWS2135	51,64
14	12	16	73	WS2140	34,81	TAWS2140	51,50
15	12	16	73	WS2150	40,44	TAWS2150	58,11
16	16	19	79	WS2160	42,49	TAWS2160	61,70
17	16	19	79	WS2170	52,50	TAWS2170	74,73
18	16	19	79	WS2180	52,50	TAWS2180	75,45
19	16	19	79	WS2190	62,74	TAWS2190	91,85
20	20	22	88	WS2200	62,74	TAWS2200	99,03
22	20	22	88	WS2220	69,98	TAWS2220	109,54
24	25	26	102	WS2240	100,69		
25	25	26	102	WS2250	100,69	TAWS2250	145,27
26	25	26	102	WS2260	133,82		
28	25	26	102	WS2280	158,39		
30	25	26	102	WS2300	169,51		

WS3 - catalogue page 649



DIN 844	N	HSS/Co BR	30°	SQUARE	Z3
---------	---	--------------	-----	--------	----

TAWS3 - catalogue page 649

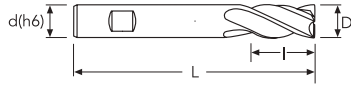


DIN 844	N	HSS/Co PV200	50°	SQUARE	Z3
---------	---	-----------------	-----	--------	----

TAWSH3 - catalogue page 653



DIN 844	N	HSS/Co PV200	50°	SQUARE	Z3
---------	---	-----------------	-----	--------	----



					WS3		TAWS3		TAWSH3
P					★		★		★
M					☆		☆		☆
K					★		★		★
N					☆		☆		☆
S									
H									
D(e8)	d(h6)	l	L	EDP No.	€	EDP No.	€	EDP No.	€
1	6	3	47	WS3010	22,09				
1.5	6	7	51	WS3015	22,09				
2	6	7	51	WS3020	20,69	TAWS3020	28,42		
2.5	6	8	52	WS3025	20,69	TAWS3025	28,42		
3	6	8	52	WS3030	20,69	TAWS3030	28,42		
3.5	6	10	54	WS3035	20,69	TAWS3035	28,42		
4	6	11	55	WS3040	20,69	TAWS3040	28,42		
4.5	6	11	55	WS3045	20,69	TAWS3045	28,42		
5	6	13	57	WS3050	20,69	TAWS3050	28,42		
5.5	6	13	57	WS3055	20,69	TAWS3055	28,42		
6	6	13	57	WS3060	20,69	TAWS3060	28,42	TAWSH3060	38,72
6.5	10	16	66	WS3065	27,93	TAWS3065	41,57		
7	10	16	66	WS3070	27,93	TAWS3070	41,57		
8	10	19	69	WS3080	27,93	TAWS3080	41,57	TAWSH3080	55,55
8.5	10	19	69	WS3085	27,93	TAWS3085	43,61		
9	10	19	69	WS3090	27,93	TAWS3090	42,91		
10	10	22	72	WS3100	27,93	TAWS3100	42,91	TAWSH3100	56,90
11	12	22	79	WS3110	37,29	TAWS3110	53,67		
12	12	26	83	WS3120	37,29	TAWS3120	53,67	TAWSH3120	72,10
13	12	26	83	WS3130	40,95	TAWS3130	57,82		
14	12	26	83	WS3140	40,95	TAWS3140	59,44	TAWSH3140	79,92
15	12	26	83	WS3150	47,75	TAWS3150	66,33		
16	16	32	92	WS3160	50,02	TAWS3160	69,70	TAWSH3160	94,76
18	16	32	92	WS3180	61,80	TAWS3180	85,53	TAWSH3180	116,43
20	20	38	104	WS3200	73,86	TAWS3200	111,14	TAWSH3200	148,26
22	20	38	104	WS3220	82,27	TAWS3220	122,05		
25	25	45	121	WS3250	118,46	TAWS3250	162,96		
30	25	45	121	WS3300	200,07				
32	32	53	133	WS3320	225,60				



WS4(6) - catalogue page 655

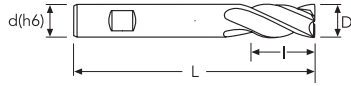


DIN 844	N	HSS/Co BR	30°	SQUARE	Z4-Z6
---------	---	--------------	-----	--------	-------

TAWS4(6) - catalogue page 655



DIN 844	N	HSS/Co PV200	30°	SQUARE	Z4-Z6
---------	---	-----------------	-----	--------	-------



					WS4(6)		TAWS4(6)	
P						★		★
M						☆		☆
K						★		★
N						☆		☆
S								
H								
D(e8)	d(h6)	l	L	Z	EDP No.	€	EDP No.	€
2	6	7	51	4	WS4020	20,69	TAWS4020	28,36
3	6	8	52	4	WS4030	20,69	TAWS4030	28,36
4	6	11	55	4	WS4040	20,69	TAWS4040	28,36
5	6	13	57	4	WS4050	20,69	TAWS4050	28,36
6	6	13	57	4	WS4060	20,69	TAWS4060	28,36
7	10	16	66	4	WS4070	27,93	TAWS4070	41,43
8	10	19	69	4	WS4080	27,93	TAWS4080	41,43
9	10	19	69	4	WS4090	27,93	TAWS4090	42,85
10	10	22	72	4	WS4100	27,93	TAWS4100	42,85
11	12	22	79	4	WS4110	38,90	TAWS4110	55,91
12	12	26	83	4	WS4120	38,90	TAWS4120	55,28
13	12	26	83	4	WS4130	43,00	TAWS4130	60,38
14	12	26	83	4	WS4140	43,00	TAWS4140	61,30
15	12	26	83	4	WS4150	50,02	TAWS4150	69,33
16	16	32	92	4	WS4160	52,50	TAWS4160	71,94
17	16	32	92	4			TAWS4170	87,59
18	16	32	92	4	WS4180	64,94	TAWS4180	88,16
19	16	32	92	4			TAWS4190	109,61
20	20	38	104	4	WS4200	77,51	TAWS4200	114,36
22	20	38	104	4	WS4220	86,44	TAWS4220	126,13
24	25	45	121	6	WS6240	124,24		
25	25	45	121	4	WS4250	124,24	TAWS4250	168,72
28	25	45	121	6	WS6280	196,34	TAWS6280	251,92
30	25	45	121	6	WS6300	210,02	TAWS6300	265,04
32	32	53	133	6			TAWS6320	291,82
36	32	53	133	6			TAWS6360	377,57
40	32*	63	143	6			TAWS6400	457,98

*TAWS4(6) ø40 = d - 40 mm

TAWSR - catalogue page 659



DIN 844	N	HSS/Co PV200	30°	HR COARSE	Z3-Z4
---------	---	-----------------	-----	--------------	-------

WSFR - catalogue page 661

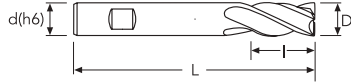


DIN 844	N	HSS/Co BR	30°	HR FINE	Z3-Z6
---------	---	--------------	-----	------------	-------

TAWSFR - catalogue page 661



DIN 844	N	HSS/Co PV200	30°	HR FINE	Z3-Z6
---------	---	-----------------	-----	------------	-------



						TAWSR		WSFR		TAWSFR
P						★		★		★
M						☆		☆		☆
K						★		★		★
N						☆		☆		☆
S										
H										
D(e8)	d(h6)	l	L	Z	EDP No.	€	EDP No.	€	EDP No.	€
6	6	13	57	3	TAWSR060	51,06	WSFR060	48,70	TAWSFR060	55,29
7	10	16	66	3	TAWSR070	59,82			TAWSFR070	64,44
8	10	19	69	3	TAWSR080	59,82	WSFR080	51,92	TAWSFR080	64,44
9	10	19	69	3	TAWSR090	61,24			TAWSFR090	65,86
10	10	22	72	4	TAWSR100	61,24	WSFR100	51,92	TAWSFR100	65,86
11	12	22	79	4	TAWSR110	68,98			TAWSFR110	74,23
12	12	26	83	4	TAWSR120	68,20	WSFR120	57,70	TAWSFR120	73,20
13	12	26	83	4	TAWSR130	83,33			TAWSFR130	90,01
14	12	26	83	4	TAWSR140	83,92	WSFR140	73,42	TAWSFR140	90,39
15	12	26	83	4	TAWSR150	90,22			TAWSFR150	97,54
16	16	32	92	4	TAWSR160	93,26	WSFR160	82,20	TAWSFR160	100,33
17	16	32	92	4	TAWSR170	100,88			TAWSFR170	102,51
18	16	32	92	4	TAWSR180	101,24	WSFR180	86,37	TAWSFR180	108,86
20	20	38	104	4	TAWSR200	126,75	WSFR200	99,53	TAWSFR200	135,45
22	20	38	104	5					TAWSFR220	166,81
25	25	45	121	5					TAWSFR250	197,06
28	25	45	121	6 CH*					TAWSFR280	285,07
30	25	45	121	6					TAWSFR300	285,07
32	32	53	133	6					TAWSFR320	306,03
36	32	53	133	6					TAWSFR360	452,29
40	32	63	143	6					TAWSFR400	494,92

*CH: center hole (no center cut)



WL4(6) - catalogue page 657



DIN 844	N	HSS/Co BR	30°	SQUARE	Z4-Z6
---------	---	--------------	-----	--------	-------

TAWL4(6) - catalogue page 657



DIN 844	N	HSS/Co PV200	30°	SQUARE	Z4-Z6
---------	---	-----------------	-----	--------	-------

WLFR - catalogue page 663

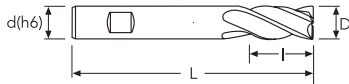


DIN 844	N	HSS/Co BR	30°	HR FINE	Z3-Z6
---------	---	--------------	-----	---------	-------

TAWLFR - catalogue page 663



DIN 844	N	HSS/Co PV200	30°	HR FINE	Z3-Z6
---------	---	-----------------	-----	---------	-------



				WL4(6)		TAWL4(6)		WLFR		TAWLFR				
P	M	K	N	S	H	★	☆	★	☆	★	☆			
D(e8)	d(h6)	l	L	Z	EDP No.	€	EDP No.	€	Z	EDP No.	€	EDP No.	€	
	3	6	12	56	4	WL4030	26,84	TAWL4030	36,95					
	4	6	19	63	4	WL4040	26,84	TAWL4040	36,95					
	5	6	24	68	4	WL4050	26,84	TAWL4050	36,95					
	6	6	24	68	4	WL4060	26,84	TAWL4060	35,69	3	WLFR060	62,96	TAWLFR060	71,74
	7	10	30	80	4	WL4070	37,73	TAWL4070	58,32					
	8	10	38	88	4	WL4080	37,73	TAWL4080	54,12	3	WLFR080	68,16	TAWLFR080	84,46
	9	10	38	88	4	WL4090	37,73	TAWL4090	57,70					
	10	10	45	95	4	WL4100	37,73	TAWL4100	54,34	4	WLFR100	68,16	TAWLFR100	84,75
	11	12	45	102	4	WL4110	52,65	TAWL4110	78,93					
	12	12	53	110	4	WL4120	52,65	TAWL4120	73,20	4	WLFR120	78,61	TAWLFR120	99,09
	13	12	53	110	4	WL4130	60,11	TAWL4130	93,41					
	14	12	53	110	4	WL4140	60,11	TAWL4140	81,76	4	WLFR140	109,98	TAWLFR140	131,56
	15	12	53	110	4	WL4150	69,98	TAWL4150	102,45					
	16	16	63	123	4	WL4160	73,49	TAWL4160	98,87	4	WLFR160	115,25	TAWLFR160	140,70
	17	16	63	123	4	WL4170	91,00	TAWL4170	121,60					
	18	16	63	123	4	WL4180	90,89	TAWL4180	122,85	4	WLFR180	130,90	TAWLFR180	162,71
	19	16	63	123	4	WL4190	108,45							
	20	20	75	141	4	WL4200	108,45	TAWL4200	158,91	4	WLFR200	144,06	TAWLFR200	194,37
	22	20	75	141	6			TAWL6220	172,34	5			TAWLFR220	249,12
	25	25	90	166	6	WL6250	174,04	TAWL6250	254,12	5			TAWLFR250	299,20
	30	25	90	166	6			TAWL6300	347,58	6			TAWLFR300	430,11
	32	32	106	186	6			TAWL6320	405,63	6			TAWLFR320	476,12
	36	32	106	186	6			TAWL6360	517,52	6			TAWLFR360	578,47
	40	40*	125	217	6			TAWL6400	690,61	6			TAWLFR400	727,62

*TAWL4(6) ø40 = d - 40 mm





CARBIDE BURRS

🇺🇸 Don't miss the Osawa quality on carbide rotary burrs, available in a wide variety of shapes and geometries.

🇮🇹 Ritrovate tutta la qualità Osawa anche nella gamma di lime rotative in metallo duro, disponibili in un'ampia scelta di forme e geometrie.

🇩🇪 Die Osawa- Qualität steht auch für Hartmetall-Rotierfräser. Diese sind in einer breiten Auswahl an Formen und Geometrien erhältlich.

🇫🇷 Retrouvez toute la qualité Osawa dans la gamme de limes rotatives carbure, disponibles dans une grande variété de formes et géométries.

🇪🇸 Toda la calidad Osawa también se propone en la gama de limas rotativas de metal duro, disponibles con una amplia variedad de formas y geometrías.

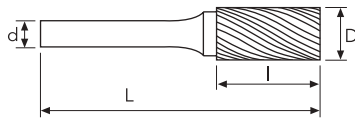
🇷🇺 Широкий выбор форм и геометрии в сочетании с высочайшим качеством характеризует линию твёрдосплавных борфрез Osawa.

SA - catalogue page 687



M

MPC



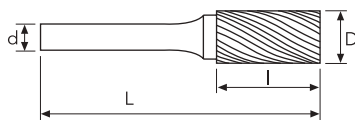
D	d (3)	d (6)	l	L	PACKAGING		SA (M)		SA (MPC)	
							€		€	
1.5	3		6	38	5	SA41M	15,42	SA41MPC	15,42	
2.5	3		11	38	5	SA42M	15,42	SA42MPC	15,42	
3.0	3		14	38	5	SA43M	15,42	SA43MPC	15,42	
3.0		6	12	50	5	SA11M	26,29			
4.0	3		12	38	5	SA52M	41,67	SA52MPC	41,67	
4.0		6	13	50	5	SA13M	26,29			
5.0	3		12.7	38	5	SA53M	37,03	SA53MPC	37,03	
5.0		6	16	50	5	SA14M	26,29			
6.0		6	18	50	5	SA1M	26,29			
6.3	3		12.7	45	5	SA51M	25,22	SA51MPC	25,22	
8.0		6	19	64	5	SA2M	34,36			
9.5		6	19	64	5	SA3M	37,03			
11.0		6	25	70	5	SA4M	53,55			
12.7		6	25	70	5	SA5M	57,76			
16.0		6	25	70	5	SA6M	72,74			
19.0		6	25	70	5	SA7M	108,31			
25.0		6	25	70	5	SA9M	151,48			

SB - catalogue page 688



M

MPC



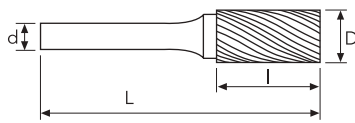
D	d (3)	d (6)	l	L	PACKAGING		SB (M)		SB (MPC)	
							€		€	
1.5	3		6	38	5	SB41M	16,61	SB41MPC	16,61	
2.5	3		11	38	5	SB42M	16,61	SB42MPC	16,61	
3.0	3		14	38	5	SB43M	16,61	SB43MPC	16,61	
3.0		6	12	50	5	SB11M	28,56			
4.0		6	13	50	5	SB13M	28,56			
5.0		6	16	50	5	SB14M	28,56			
6.0		6	18	50	5	SB1M	28,56			
6.3	3		4.7	37	5	SB51M	27,22	SB51MPC	27,22	
8.0		6	19	64	5	SB2M	37,86			
9.5		6	19	64	5	SB3M	40,65			
11.0		6	25	70	5	SB4M	59,21			
12.7		6	25	70	5	SB5M	63,56			
16.0		6	25	70	5	SB6M	81,54			

SC - catalogue page 689



M

MPC



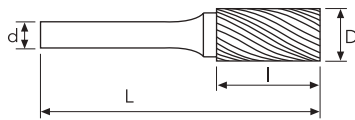
D	d (3)	d (6)	l	L	PACKAGING		SC (M)		SC (MPC)
						€		€	
2.5	3		11	38	5	SC41M	15,42	SC41MPC	15,42
3.0	3		14	38	5	SC42M	15,42	SC42MPC	15,42
3.0		6	12	50	5	SC11M	30,49		
4.0		6	14	50	5	SC13M	30,49		
5.0	3		12.7	38	5	SC53M	37,03	SC53MPC	37,03
5.0		6	16	50	5	SC14M	30,49		
6.0		6	18	50	5	SC1M	30,49		
6.3	3		12.7	45	5	SC51M	25,22	SC51MPC	26,03
8.0		6	19	63	5	SC2M	37,49		
9.5		6	19	63	5	SC3M	41,27		
11.0		6	25	70	5	SC4M	58,97		
12.7		6	25	70	5	SC5M	64,76		
16.0		6	25	70	5	SC6M	81,40		

SD - catalogue page 690



M

MPC



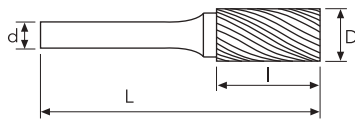
D	d (3)	d (6)	l	L	PACKAGING		SD (M)		SD (MPC)
						€		€	
2.5	3		2.3	38	5	SD41M	15,42	SD41MPC	15,42
3.0	3		2.5	38	5	SD42M	15,42	SD42MPC	15,42
3.0		6	2.5	50	5	SD11M	28,10		
5.0	3		4.7	38	5	SD53M	37,03	SD53MPC	37,03
5.0		6	4	50	5	SD14M	28,10		
6.0		6	4.7	50	5	SD1M	28,10		
6.3	3		5	38	5	SD51M	25,22	SD51MPC	25,22
8.0		6	6	52	5	SD2M	30,15		
9.5		6	8	54	5	SD3M	33,89		
11.0		6	9.5	55	5	SD4M	39,08		
12.7		6	11	56	5	SD5M	45,57		
16.0		6	14	60	5	SD6M	56,56		
19.0		6	16.5	62	5	SD7M	78,02		
25.0		6	22	68	5	SD9M	134,10		

SE - catalogue page 691



M

MPC



D	d (3)	d (6)	l	L	PACKAGING		SE (M)		SE (MPC)
						€		€	
3.0	3		5.5	38	5	SE41M	15,42	SE41MPC	15,42
6.0		6	10	50	5	SE1M	34,36		
5.0	3		7.1	38	5	SE53M	37,03	SE53MPC	37,05
6.3	3		9.5	42	5	SE51M	25,22	SE51MPC	25,22
9.5		6	16	60	5	SE3M	41,27		
12.7		6	22	67	5	SE5M	60,31		
16.0		6	25	70	5	SE6M	83,82		

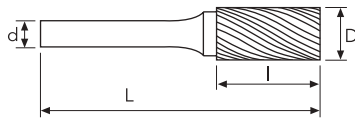
SF - catalogue page 692



OSAWA NORM

M

MPC



D	d (3)	d (6)	l	L	PACKAGING		SF (M)		SF (MPC)
						€		€	
3.0	3		6	38	5	SF41M	15,42	SF41MPC	15,42
3.0	3		14	38	5	SF42M	15,42	SF42MPC	15,42
3.0		6	12	50	5	SF11M	31,95		
5.0	3		12.7	38	5	SF53M	37,03	SF53MPC	37,03
6.0		6	18	50	5	SF1M	31,95		
6.3	3		12.7	45	5	SF51M	25,22	SF51MPC	25,22
9.6		6	19	64	5	SF3M	40,27		
11.0		6	25	70	5	SF4M	55,96		
12.7		6	25	70	5	SF5M	59,55		
16.0		6	25	70	5	SF6M	82,37		

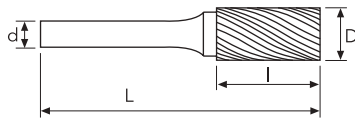
SG - catalogue page 693



OSAWA NORM

M

MPC



D	d (3)	d (6)	l	L	PACKAGING		SG (M)		SG (MPC)
						€		€	
3.0	3		6	38	5	SG41M	15,42	SG41MPC	15,42
3.0	3		10	38	5	SG43M	15,42	SG43MPC	15,42
3.0	3		14	38	5	SG44M	15,42	SG44MPC	15,42
5.0	3		12.7	38	5	SG53M	37,03	SG53MPC	37,03
6.0		6	18	50	5	SG1M	31,95		
6.3	3		12.7	45	5	SG51M	25,22	SG51MPC	25,22
8.0		6	19	64	5	SG2M	38,83		
9.5		6	19	64	5	SG3M	42,94		
12.7		6	25	70	5	SG5M	58,50		
16.0		6	25	70	5	SG6M	81,30		
19.0		6	25	70	5	SG7M	108,31		

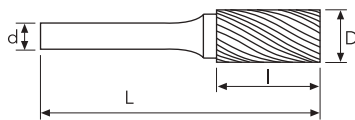
SH - catalogue page 694



OSAWA NORM

M

MPC



D	d (3)	d (6)	l	L	PACKAGING		SH (M)		SH (MPC)
						€		€	
3.0	3		6	38	5	SH41M	15,42	SH41MPC	15,42
5.0	3		9.5	38	5	SH53M	37,03	SH53MPC	37,03
8.0		6	19	64	5	SH2M	42,32		
12.7		6	32	77	5	SH5M	86,22		

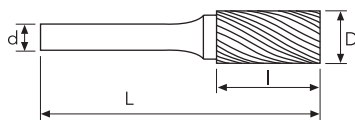
SJ - catalogue page 695



OSAWA NORM

M

MPC



D	d (3)	d (6)	l	L	ANGLE	PACKAGING		SJ (M)		SJ (MPC)
						€		€		€
3.0	3		2.5	38	60°	5	SJ42M	15,42	SJ42MPC	15,42
9.5		6	8	56	60°	5	SJ3M	36,77	SJ3MPC	
12.7		6	11	59	60°	5	SJ5M	44,76	SJ5MPC	

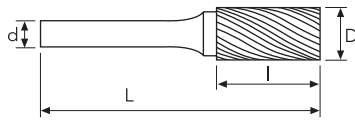
SK - catalogue page 696



OSAWA NORM

M

MPC



D	d (3)	d (6)	I	L	ANGLE	PACKAGING		SK (M)		SK (MPC)
							€		€	
3.0	3		1.5	38	90°	5	SK42M	15,42	SK42MPC	15,42
6.0		6	3	50	90°	5	SK1M	28,10		
9.5		6	4.7	53	90°	5	SK3M	36,77		
12.7		6	6.3	55	90°	5	SK5M	44,76		
16.0		6	8	57	90°	5	SK6M	59,55		

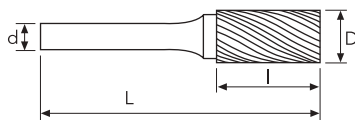
SL - catalogue page 697



OSAWA NORM

M

MPC



D	d (3)	d (6)	I	L	ANGLE	PACKAGING		SL (M)		SL (MPC)
							€		€	
3.0	3		10	38	10°	5	SL41M	15,42	SL41MPC	15,42
3.0	3		14	38	8°	5	SL42M	15,42	SL42MPC	15,42
5.0	3		12.7	38	14°	5	SL53M	37,03	SL53MPC	37,03
6.0		6	18	50	14°	5	SL1M	32,67		
8.0		6	25.4	70	14°	5	SL2M	42,80		
9.6		6	30.2	76	14°	5	SL3M	51,50		
12.7		6	32	77	14°	5	SL4M	62,94		
16.0		6	33.3	78	14°	5	SL5M	121,77		

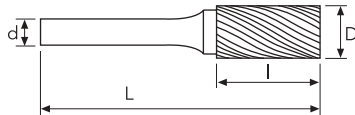
SM - catalogue page 698



OSAWA NORM

M

MPC



D	d (3)	d (6)	I	L	ANGLE	PACKAGING		SM (M)		SM (MPC)
							€		€	
3.0	3		8	38	18°	5	SM41M	15,42	SM41MPC	15,42
3.0	3		11	38	14°	5	SM42M	15,42	SM42MPC	15,42
3.0	3		15	38	10°	5	SM43M	15,42	SM43MPC	15,42
6.0		6	12.7	50	22°	5	SM1M	30,99		
6.0		6	20	50	14°	5	SM2M	32,67		
6.0		6	25	50	10°	5	SM3M	34,86		
6.3	3		12.7	51	22°	5	SM51M	26,03	SM51MPC	26,03
9.5		6	16	64	28°	5	SM4M	51,61		
12.7		6	22	71	28°	5	SM5M	64,76		
16.0		6	25	74	31°	5	SM6M	86,22		

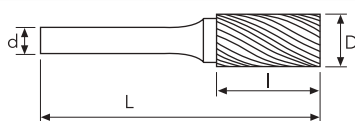
SN - catalogue page 699



OSAWA NORM

M

MPC



D	d (3)	d (6)	I	L	ANGLE	PACKAGING		SN (M)		SN (MPC)
							€		€	
3.0	3		4	38	10°	5	SN42M	15,42	SN42MPC	15,42
6.0		6	8	50	10°	5	SN1M	31,25		
9.5		6	9.5	55	13°	5	SN2M	45,57		
12.7		6	12.7	58	28°	5	SN4M	64,40		

GENERAL CONDITIONS OF SALE

These General Conditions of Sale apply to all orders accepted by SORMA S.p.A., with registered office in Via Don F. Tosatto no. 8, Mestre-Venice, Italy (hereinafter called "Seller") from any individual or body corporate having registered office or domicile in Italy or abroad and exercising its own commercial, business or professional activity (hereinafter called the "Purchaser") and govern all sales of goods specified in the catalogue of the Seller (hereinafter called the "Products"). Conditions differing from those contained herein will be effective only subject to written acceptance.

1. PRODUCTS

The Products subject of these sales are those specified in the catalogue of the Seller, with the specifications and drawings contained therein.

2. ORDERS

2.1 Orders, both direct and indirect, are always subject to acceptance by the Seller. The acknowledgement will describe the Products sold according to the catalogue code and will define the quantity of each product, the unit price, the delivery terms, and the transport and payment conditions. No order will be considered binding for the Seller until it has been accepted with acknowledgement issued by the latter.

2.2 Orders for non standard and/or special products and products to customer specifications shall be made in writing by the Purchaser and may under no circumstances be cancelled by the Purchaser once they have been accepted by the Seller.

2.3 The Seller reserves the right, at its discretion, to cancel the order if any further checks carried out on the customer's solvency suggest that it is expedient to do so.

3. PRICES, SHIPPING EXPENSES and PAYMENT CONDITIONS

3.1 The prices contained in the Seller's price list are binding if accepted by order acknowledgement of the Seller, unless said order acknowledgement specifies otherwise. The Purchaser shall immediately notify the Seller of all errors and omissions of any type in the payment conditions and in the prices contained in the acceptance document.

3.2 Prices do not include VAT and other taxes, customs duties or other charges that may be due on the Products in the country of the Purchaser and are expressed in the currency of the Seller's country unless agreed otherwise. The prices do not include shipping costs which will be sustained by the Purchaser.

3.3 The Seller also reserves the right to change the terms of payment of the Purchaser when, in its opinion, the financial conditions of the Purchaser and records of previous payments suggest that it is expedient to do so. The terms of payment are specified in the order acknowledgement. For all new customers, payment is by cash on delivery. The invoicing value date is essential for payments. For payments from abroad, expenses for the transfer of funds from the foreign bank to the Italian bank will be sustained entirely by the Purchaser.

4. DELIVERY TERMS AND PROCEDURES

4.1 The delivery terms specified in the order acknowledgement are binding, barring exemptions independent of the will of the Seller which will in any case be promptly notified to the Purchaser.

4.2 The Seller will make all efforts to observe the delivery dates or periods specified in the acknowledgement.

4.3 In the event of delayed delivery due to circumstances beyond the reasonable control of the Seller, such as (but not limited to) force majeure, strikes, unrest, accidents or conflicts, including any delay by the product manufacturing subcontractors or other, the Seller will have the right, as it chooses, either to extend the foreseen delivery period for a period equal to the duration of said cause or to cancel the sale, and in both cases will be exempt from all liability vis-à-vis the Purchaser in relation to the delayed or failed delivery.

Under no circumstances will the Seller be liable for delayed or failed delivery due to shortage of products.

4.4 The goods are sold ex works (ex works Incoterms 2010). The goods are shipped without insurance barring special provisions which will be agreed and charged to the Purchaser.

5. RISKS

All risks relating to the Products will be transferred from the Seller to the Purchaser at the place and time of delivery, described in the previous clause.

6. COMPLAINTS

6.1 The Purchaser will examine the Products immediately and with all due diligence and attention when they arrive at its premises and will inform the Seller without delay of any omission, defect or non-conformity encountered. Notification by the Purchaser of the omission, defect or non-conformity of the Products shall be made in writing by and no later than 10 days from receipt of the Products and shall contain a full description of the defects and omissions with reference to the transport documents relating to the Products. Once 10 days have elapsed from receipt of the Products by the Purchaser, as resulting from the transport documents, without the Purchaser having notified any lack or non-conformity of the Products, the latter will be considered definitively accepted by the Purchaser.

6.2 Further to the complaint, the Seller will provide, at its choice, either for replacement of the faulty Products or refund of the amount paid by the Purchaser for their purchase. The Seller is entitled to test the Products when they are returned and to charge the Purchaser for all costs sustained by the Seller in the event of the product turning out to be not faulty.

7. RETURNS

7.1 Any return will be accepted only if previously authorised and if sent carriage free. The Purchaser's transport document shall refer to the Seller's shipping documents. The Seller will not under any circumstances or for any reason credit goods supplied more than one year previously. The Seller only credits goods in their original packaging and under no circumstances if they are damaged. If goods are returned due to an error on the part of the Seller, return of the goods will be accepted carriage forward by post or by the Seller's regular forwarding agent. In the event of the above rules not being observed, no credit will be given and the goods will be rejected, charging the shipping expenses to the sender. The Seller is entitled to charge the Purchaser for the administration expenses of any returns not due to a fault in the product or in any case not due to the fault of the Seller.

7.2 The return of Products purchased via special offers or promotions, or as part of a "package" or "kit" of products may be subject to specific conditions, as described in the same or otherwise communicated to the Purchaser. No refund is permitted for individual products purchased as part of a "package" although the Seller may alternatively replace the individual product or request return of the entire "package" and refund the Purchaser the amounts paid for purchase of said "package".

8. WARRANTY

8.1 Within one year from the date of delivery and subject to the presentation of a complaint by the Purchaser according to the above "Complaints" clause, the product found to be faulty will be replaced free of charge by the Seller. In any case the Seller will not apply the warranty for the product found to be faulty due to incorrect or inappropriate use. In the event of a dispute, the manufacturer's technical report will prevail.

8.2 The Seller will be solely liable for damages caused to the Purchaser as an immediate and direct consequence of its own negligent or culpable non-fulfilment of the obligations under the contract.

8.3 Under no circumstances will the Seller be liable for indirect damages sustained by the Purchaser or third parties, for example, but not limited to, damage to image, loss of profit, production, contracts, penalties or refunds of any type, etc.

9. PACKAGING

Packaging is always invoiced at cost.

10. INVOICES

Invoicing is performed on the last working day of the month of shipment of the goods. The invoice, unless agreed otherwise, contains a summary of the transport documents for that month. For supplies abroad, the goods are shipped with accompanying invoice. It is the responsibility of the purchasing company to check that the general and fiscal particulars contained in the documents are correct.

11. JURISDICTION – COMPETENT COURT AND APPLICABLE LAW

11.1 All contractual or extra-contractual disputes concerning the interpretation, validity, effectiveness, execution or termination of this Contract will be referred exclusively to the Italian Judicial Authorities, Court of Venice.

11.2 This Contract will be interpreted and governed according to Italian law.

www.osawa.it



\$OSMARTPL