

## HOW TO READ THE CATALOGUE

# Section index

MAIN INDEX

**INDEXABLE**

- Turning .A1
- Threading .B1
- Grooving .C1
- Milling .D1
- Drilling .E1
- Accessories .F1
- Spare parts .G1

**SOLID**

- Carbide drills .H1
- HSS drills .I1
- Carbide end mills .J1
- HSS end mills .K1
- Carbide burrs .L1

**Workpiece materials .M1**

General index .N1

**G2 General purpose - Ball nose**

### G2CSB2

- Cylindrical shank
- 2 flutes ball nose

P M K N S H

DC	DC IN	RE	RE IN	DCIN	TZDCIN	APMX	LF	ZEP	EEP no.	Stock
1	0/-0.020	0.5	+0.015	3	H6	3	50	2	G2CSB2010503	●
1	0/-0.020	0.5	+0.015	4	H6	2	50	2	G2CSB2010	●
1.5	0/-0.020	0.75	+0.015	3	H6	5	50	2	G2CSB201503	●
1.5	0/-0.020	0.75	+0.015	4	H6	3	50	2	G2CSB2015	●
2	0/-0.020	1	+0.015	3	H6	7	50	2	G2CSB202003	●
2	0/-0.020	1	+0.015	4	H6	4	50	2	G2CSB2020	●
2.5	0/-0.020	1.25	+0.015	3	H6	8	50	2	G2CSB202503	▲
2.5	0/-0.020	1.25	+0.015	4	H6	5	50	2	G2CSB2025	●
3	0/-0.020	1.5	+0.015	3	H6	9	50	2	G2CSB203003	●
3	0/-0.020	1.5	+0.015	4	H6	6	50	2	G2CSB2030	●
3.5	0/-0.020	1.75	+0.015	4	H6	7	50	2	G2CSB2035	●
4	0/-0.020	2	+0.015	4	H6	8	50	2	G2CSB2040	●
4.5	0/-0.020	2.25	+0.015	6	H6	9	50	2	G2CSB2045	●
5	0/-0.020	2.5	+0.015	5	H6	10	50	2	G2CSB205003	●
5	0/-0.020	2.5	+0.015	6	H6	10	50	2	G2CSB2050	●
5.5	0/-0.020	2.75	+0.015	6	H6	11	50	2	G2CSB2055	●
6	0/-0.020	3	+0.015	6	H6	12	50	2	G2CSB2060	●
6.5	0/-0.025	3.25	+0.015	8	H6	13	60	2	G2CSB2065	●
7	0/-0.025	3.5	+0.015	8	H6	14	60	2	G2CSB2070	●
8	0/-0.025	4	+0.015	8	H6	16	60	2	G2CSB2080	●
9	0/-0.025	4.5	+0.015	10	H6	18	75	2	G2CSB2090	●
10	0/-0.025	5	+0.015	10	H6	20	75	2	G2CSB2100	●
12	0/-0.025	6	+0.015	12	H6	24	75	2	G2CSB2120	●
16	0/-0.030	8	+0.015	16	H6	30	92	2	G2CSB2160	●
20	0/-0.030	10	+0.015	20	H6	30	100	2	G2CSB2200	●

● 1st choice, ○ suitable, ● stock standard, ● non-stock standard (no MOQ), ○ non-stock standard (MOQ), ▲ upcoming product, ∇ stock exhaustion

OSAWA | SORMA CUTTING SOLUTIONS
J75

**MAIN AND THUMB INDEX**  
if product series (e.g. carbide endmills) is known, check main index at page 5 or follow the thumb index.

**INDICE PRINCIPALE E RUBRICATURA**  
conoscendo la serie prodotto (es. carbide endmills), consultare l'indice principale a pag. 5 o seguire la rubricatura.

**INDEX UND DAUMEN INDEX**  
wenn die produktgruppe bekannt ist (z.b carbide endmills), schlagen sie im index -Seite 5- nach, oder folgend sie dem daumen index.

**INDEX ET RUBRIQUE**  
En connaissant la référence du produit (ex. carbide endmills), consulter l'index général à la page 5 ou suivre la rubrique.

## Product search

### GENERAL INDEX Indexable



DESIGNATION			☐
07IR...	Threading	Indexable - INTERNAL	B16
111L...	Threading	Indexable - INTERNAL	B20
111R...	Threading	Indexable - INTERNAL	B18
16EL...	Threading	Indexable - EXTERNAL	B7
16ER...	Threading	Indexable - EXTERNAL	B7
16L...	Threading	Indexable - INTERNAL	B20
16IR...	Threading	Indexable - INTERNAL	B20
22ER...	Threading	Indexable - EXTERNAL	B6
22IR...	Threading	Indexable - INTERNAL	B18
A DCLN...	Turning	HOLDERS	A293
A DDUN...	Turning	HOLDERS	A313
A DTFN...	Turning	HOLDERS	A345
A DWLN...	Turning	HOLDERS	A373
A PCLN...	Turning	HOLDERS	A294
A PWLN...	Turning	HOLDERS	A374
A SCLC...	Turning	HOLDERS	A281
A SDUC...	Turning	HOLDERS	A302
A STFC...	Turning	HOLDERS	A338
A16K SCLC...	Turning	HOLDERS	A282
APKT...	Milling	ISO Shouldering	D50
BGF-HLD...	Grooving and Parting	BGF	C19
BGFL...	Grooving and Parting	BGF	C18
BGFR...	Grooving and Parting	BGF	C18
CCET...	Turning	CARBIDE	A69
CCGT...	Turning	CARBIDE	A69
CCGT...	Turning	DIAMOND	A194
CCGW...	Turning	CERAMIC	A234
CCGW...	Turning	DIAMOND	A194
CCGW...	Turning	PCBN	A144

DESIGNATION			☐
DCMT...	Turning	CARBIDE	A76
DDJN...	Turning	HOLDERS	A310
DEX...	Drilling	DEX drills	E37
DNGA...	Turning	CERAMIC	A237
DNGA...	Turning	DIAMOND	A199
DNGA...	Turning	PCBN	A153
DNGG...	Turning	CARBIDE	A79
DNGM...	Turning	DIAMOND	A199
DNGN...	Turning	CERAMIC	A238
DNMA...	Turning	CARBIDE	A81
DNMA...	Turning	CERAMIC	A237
DNMG...	Turning	CARBIDE	A78
DNMX...	Turning	CARBIDE	A80
DRSP...	Drilling	DRS pilot	E29
DTGN...	Turning	HOLDERS	A342
DTJN...	Turning	HOLDERS	A343
DVJN...	Turning	HOLDERS	A362
DVNN...	Turning	HOLDERS	A363
DWLN...	Turning	HOLDERS	A370
DXP...	Drilling	DXP drills	E72
E MCC...	Turning	HOLDERS	A315
E SCLC...	Turning	HOLDERS	A283
E SDUC...	Turning	HOLDERS	A303
E STFC...	Turning	HOLDERS	A339
EX MCN...	Turning	HOLDERS	A317
EX MDN...	Turning	HOLDERS	A319
HNEN...	Milling	DoubleHex	D83
HNEX...	Milling	DoubleHex	D83
HNMX...	Milling	DoubleHex	D83

#### ALPHANUMERIC INDEX

If product code (e.g. ITEM No. 118N) is known, check the alphanumeric general index at page N1.

#### INDICE ALFANUMERICO

Conoscendo il codice prodotto (es. ITEM No. 118N), consultare l'indice generale a pag. N1.

#### ALPHANUMERISCHER INDEX

Wenn Sie die Art.Nr kennen (z.B. ART.Nr 118N), können Sie die entsprechende Seite durch den Alphanumerischen Index – Seite N1 - finden.

#### INDEX ALPHANUMÉRIQUE

En connaissant le code produit (ex. ITEM No. 118N), consulter l'index alphanumérique à la page N1.



1	<ul style="list-style-type: none"> <li>Chapter</li> <li>Capitolo</li> </ul>	<ul style="list-style-type: none"> <li>Kapitel</li> <li>Chapitre</li> </ul>
2	<ul style="list-style-type: none"> <li>Section</li> <li>Sezione</li> </ul>	<ul style="list-style-type: none"> <li>Abschnitt</li> <li>Section</li> </ul>
3	<ul style="list-style-type: none"> <li>Sub-chapter</li> <li>Sottocapitolo</li> </ul>	<ul style="list-style-type: none"> <li>Unterkapitel</li> <li>Sous-chapitre</li> </ul>
4	<ul style="list-style-type: none"> <li>ISO shape</li> <li>Geometria ISO</li> </ul>	<ul style="list-style-type: none"> <li>ISO-Geometrie</li> <li>Géométrie ISO</li> </ul>
5	<ul style="list-style-type: none"> <li>Insert composition according to ISO 513.</li> <li>Composizione dell'inserto secondo ISO 513.</li> </ul>	<ul style="list-style-type: none"> <li>Zusammensetzung der Wendeschneidplatte nach ISO 513.</li> <li>Composition de la plaquette conformément à l'ISO 513.</li> </ul>
6	<ul style="list-style-type: none"> <li>Suggested applications based on the main features of each grade.</li> <li>Applicazioni consigliate sulla base delle caratteristiche principali di ogni grado.</li> </ul>	<ul style="list-style-type: none"> <li>Empfohlene Anwendungen auf Basis der wesentlichen Eigenschaften der einzelnen Sorten.</li> <li>Applications recommandées en fonction des principales caractéristiques de chaque nuance.</li> </ul>
7	<ul style="list-style-type: none"> <li>Main features</li> <li>Principali caratteristiche</li> </ul>	<ul style="list-style-type: none"> <li>Wesentliche Eigenschaften</li> <li>Principales caractéristiques</li> </ul>
8	<ul style="list-style-type: none"> <li>Suggested cutting speed for different workpiece materials. For ease of reading, values are shown only for the most common materials in each group.</li> </ul>	<ul style="list-style-type: none"> <li>Empfohlene Schnittgeschwindigkeit für die verschiedenen Materialien. Zur besseren Lesbarkeit sind nur die häufigsten Materialien jeder Gruppe aufgeführt.</li> </ul>
	<p> <span style="background-color: #0070C0; color: white; padding: 2px;">P</span> ▶ P1     <span style="background-color: #800080; color: white; padding: 2px;">K</span> ▶ K1     <span style="background-color: #800000; color: white; padding: 2px;">S</span> ▶ S1  <span style="background-color: #FFA500; color: white; padding: 2px;">M</span> ▶ M1     <span style="background-color: #008000; color: white; padding: 2px;">N</span> ▶ N1     <span style="background-color: #800080; color: white; padding: 2px;">H</span> ▶ H1                 </p>	<p> <span style="background-color: #0070C0; color: white; padding: 2px;">P</span> ▶ P1     <span style="background-color: #800080; color: white; padding: 2px;">K</span> ▶ K1     <span style="background-color: #800000; color: white; padding: 2px;">S</span> ▶ S1  <span style="background-color: #FFA500; color: white; padding: 2px;">M</span> ▶ M1     <span style="background-color: #008000; color: white; padding: 2px;">N</span> ▶ N1     <span style="background-color: #800080; color: white; padding: 2px;">H</span> ▶ H1                 </p>
	<p>More accurate indications are listed at the end of every sub-chapter.</p> <p>Velocità di taglio suggerita per differenti materiali. Per facilitare la lettura, di ogni gruppo vengono mostrati solo i materiali più comuni.</p>	<p>Genauere Angaben sind am Ende eines jeden Unterkapitels zu finden.</p> <p>Vitesse de coupe recommandée pour différentes matières. Pour faciliter la lecture, seules les matières les plus courantes de chaque groupe sont présentées.</p>
	<p> <span style="background-color: #0070C0; color: white; padding: 2px;">P</span> ▶ P1     <span style="background-color: #800080; color: white; padding: 2px;">K</span> ▶ K1     <span style="background-color: #800000; color: white; padding: 2px;">S</span> ▶ S1  <span style="background-color: #FFA500; color: white; padding: 2px;">M</span> ▶ M1     <span style="background-color: #008000; color: white; padding: 2px;">N</span> ▶ N1     <span style="background-color: #800080; color: white; padding: 2px;">H</span> ▶ H1                 </p>	<p> <span style="background-color: #0070C0; color: white; padding: 2px;">P</span> ▶ P1     <span style="background-color: #800080; color: white; padding: 2px;">K</span> ▶ K1     <span style="background-color: #800000; color: white; padding: 2px;">S</span> ▶ S1  <span style="background-color: #FFA500; color: white; padding: 2px;">M</span> ▶ M1     <span style="background-color: #008000; color: white; padding: 2px;">N</span> ▶ N1     <span style="background-color: #800080; color: white; padding: 2px;">H</span> ▶ H1                 </p>
	<p>Indicazioni più accurate sono fornite alla fine di ogni sub-capitolo.</p>	<p>Des informations plus précises sont fournies à la fin de chaque sous-chapitre.</p>
9	<ul style="list-style-type: none"> <li>Geometry designation and main material application.</li> <li>Designazione della geometria e principali materiali lavorabili.</li> </ul>	<ul style="list-style-type: none"> <li>Geometrische Bezeichnung und wichtigste bearbeitbare Materialien.</li> <li>Géométries et applications matières.</li> </ul>
10	<ul style="list-style-type: none"> <li>Stock status. This value may be updated without prior notice.</li> <li>Disponibilità stock. Questa informazione può essere variata senza una precedente comunicazione.</li> </ul>	<ul style="list-style-type: none"> <li>Lagerbestand. Die Angaben können ohne vorherige Ankündigung geändert werden.</li> <li>Disponibilité des stocks. Les informations peuvent subir des modifications sans avis préalable.</li> </ul>
11	<ul style="list-style-type: none"> <li>Application and main geometry features.</li> <li>Applicazione e caratteristiche principali.</li> </ul>	<ul style="list-style-type: none"> <li>Anwendungen und wesentliche Eigenschaften.</li> <li>Application et principales caractéristiques.</li> </ul>
12	<ul style="list-style-type: none"> <li>General indication about the application range of each product. More detailed suggestions can be found at the end of every sub-chapter.</li> <li>Indicazioni generali relative all'intervallo applicativo di ogni prodotto. Indicazioni più dettagliate sono fornite alla fine di ogni sub-capitolo.</li> </ul>	<ul style="list-style-type: none"> <li>Allgemeine Angaben zu den Anwendungsbereichen der einzelnen Produkte. Detaillierte Angaben sind am Ende eines jeden Unterkapitels zu finden.</li> <li>Indications générales relatives à la gamme d'application de chaque produit. Des informations plus détaillées sont fournies à la fin de chaque sous-chapitre.</li> </ul>
13	<ul style="list-style-type: none"> <li>Shortcut to the most import section of every chapter or to directly related products (insert ▶ holders).</li> <li>Accesso rapido alla sezione principale di ogni capitolo o ai prodotti direttamente correlati (inserti ▶ portautensili).</li> </ul>	<ul style="list-style-type: none"> <li>Schnellzugriff auf den wichtigsten Abschnitt jedes Kapitels oder auf direkt zugehörige Produkte (Wendepatient ▶ Halter).</li> <li>Accès rapide à la section principale de chaque chapitre ou aux produits directement associés (plaquettes ▶ porte-outils).</li> </ul>

# HOLDERS tables

## TURNING Holders - EXTERNAL



INDEXABLE

A - TURNING

B - THREADING

C - GROOVING

D - MILLING

E - DRILLING

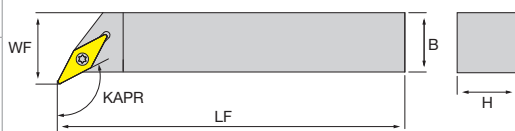
F - ACCESSORIES

G - SPARE PARTS

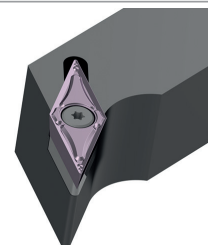
### SVPC

#### ISO VC - Positive

- External turning (KAPR 117.5°)
- Holds VC-style inserts, tightened by screw



Right-hand shown



Designation	H	B	WF	LF	KAPR	MID					Stock
<b>LEFT-HAND</b>											
NT-SVPC <sup>1</sup> L1010H11	10	10	14.5	100	117.5°	VC∞1103					●
NT-SVPC <sup>1</sup> L1212H11	12	12	16.5	100	117.5°	VC∞1103					●
NT-SVPC <sup>1</sup> L1616H11	16	16	20.5	100	117.5°	VC∞1103					●
NT-SVPC <sup>1</sup> L2020K16	20	20	25	125	117.5°	VC∞1604					●
NT-SVPC <sup>1</sup> L2525M16	25	25	32	150	117.5°	VC∞1604					●
<b>RIGHT-HAND</b>											
NT-SVPC <sup>1</sup> R1010H11	10	10	14.5	100	117.5°	VC∞1103					●
NT-SVPC <sup>1</sup> R1212H11	12	12	16.5	100	117.5°	VC∞1103					●
NT-SVPC <sup>1</sup> R1616H11	16	16	20.5	100	117.5°	VC∞1103					●
NT-SVPC <sup>1</sup> R2020K16	20	20	25	125	117.5°	VC∞1604					●
NT-SVPC <sup>1</sup> R2525M16	25	25	32	150	117.5°	VC∞1604					●

\* 1st choice, ☆ suitable, ● stock standard, ◎ non-stock standard (no MOQ), ○ non-stock standard (MOQ), ▲ upcoming product, ▽ stock exhaustion

Spare parts	Insert screw	Flag wrench	Shim	Shim screw	L wrench
NT-SVPC <sup>1</sup> /r∞∞∞∞11	NT-ST25060T07B	NT-FT07			
NT-SVPC <sup>1</sup> /r∞∞∞∞16	NT-ST35115T15	NT-FT15	NT-SH050	NT-SR010	NT-WR035

<b>1</b>	<ul style="list-style-type: none"> <li> Chapter</li> <li> Capitolo</li> </ul>	<ul style="list-style-type: none"> <li> Kapitel</li> <li> Chapitre</li> </ul>
<b>2</b>	<ul style="list-style-type: none"> <li> Section</li> <li> Sezione</li> </ul>	<ul style="list-style-type: none"> <li> Abschnitt</li> <li> Section</li> </ul>
<b>3</b>	<ul style="list-style-type: none"> <li> Sub-chapter</li> <li> Sottocapitolo</li> </ul>	<ul style="list-style-type: none"> <li> Unterkapitel</li> <li> Sous-chapitre</li> </ul>
<b>4</b>	<ul style="list-style-type: none"> <li> ISO shape</li> <li> Geometria ISO</li> </ul>	<ul style="list-style-type: none"> <li> ISO-Geometrie</li> <li> Géométrie ISO</li> </ul>
<b>5</b>	<ul style="list-style-type: none"> <li> Insert shape</li> <li> Geometria dell'inserto</li> </ul>	<ul style="list-style-type: none"> <li> Geometrie der Wendschneidplatte</li> <li> Géométrie de la plaquette</li> </ul>
<b>6</b>	<ul style="list-style-type: none"> <li> Main features</li> <li> Principali caratteristiche</li> </ul>	<ul style="list-style-type: none"> <li> Wesentliche Eigenschaften</li> <li> Principales caractéristiques</li> </ul>
<b>7</b>	<ul style="list-style-type: none"> <li> Icons</li> <li> Icone</li> </ul>	<ul style="list-style-type: none"> <li> Symbole</li> <li> Icône</li> </ul>
<b>8</b>	<ul style="list-style-type: none"> <li> Stock status. This value may be updated without prior notice.</li> <li> Disponibilità stock. Questa informazione può essere variata senza una precedente comunicazione.</li> </ul>	<ul style="list-style-type: none"> <li> Lagerbestand. Die Angaben können ohne vorherige Ankündigung geändert werden.</li> <li> Disponibilité des stocks. Les informations peuvent subir des modifications sans avis préalable.</li> </ul>
<b>9</b>	<ul style="list-style-type: none"> <li> Spare parts</li> <li> Parti di ricambio</li> </ul>	<ul style="list-style-type: none"> <li> Ersatzteile</li> <li> Pièces de rechange</li> </ul>

# Selection guide

SELECTION GUIDE				SORMA	
SOLID	PU-HPU universal application 3xD - 5xD	ITEM NO.	PAGE	[Image]	
		353PU	H12	[Image]	
H-CORNER DRILLS	4HTA general purpose 4-margins 5xD	ITEM NO.	PAGE	[Image]	
		354HTA	H40	[Image]	
I-HSS END MILLS	GA-HGA general application 3xD - 5xD - 8xD	ITEM NO.	PAGE	[Image]	
		373GA	H48	[Image]	
		373GA	H52	[Image]	
		373GA	H56	[Image]	
		373GA	H60	[Image]	
J-CORNER DRILLS	CV general purpose 3xD	ITEM NO.	PAGE	[Image]	
		353CV	H22	[Image]	
K-HSS END MILLS	HHA stainless steel 3xD - 5xD	ITEM NO.	PAGE	[Image]	
		353HA	H78	[Image]	
L-CORNER DRILLS	ALH non-ferrous material 3xD - 5xD	ITEM NO.	PAGE	[Image]	
		353ALH	H82	[Image]	
K-HSS END MILLS	ALH non-ferrous material 3xD - 5xD	ITEM NO.	PAGE	[Image]	
		353ALH	H86	[Image]	
K-HSS END MILLS	HRC hardened steel 45-62 HRC 3xD	ITEM NO.	PAGE	[Image]	
		353HRC	H104	[Image]	
L-CORNER DRILLS	SUH MINI short, long and extra long 5xD ÷ 30xD	ITEM NO.	PAGE	[Image]	
		353SUH MINI	H114	[Image]	
		353SUH MINI	H118	[Image]	
		3512SUH MINI	H122	[Image]	
		3520SUH MINI	H126	[Image]	
L-CORNER DRILLS	HL long and extra long 12xD ÷ 30xD	ITEM NO.	PAGE	[Image]	
		3512HL	H146	[Image]	
		3515HL	H151	[Image]	
		3520HL	H156	[Image]	
		3525HL	H161	[Image]	
3530HL	H166	[Image]			

H4 OSAWA | SORMA CUTTING SOLUTIONS

SELECTION GUIDE														SORMA		
RANGE	DRILLING DEPTH	NORM	TYPE	MATERIAL / COATING	HRC	POINT ANGLE	HELIX ANGLE	CHAMFER	ISO P	ISO M	ISO K	ISO N	ISO S	ISO H	SOLID	
3-20	3xD	DN6537K	PU	MG PVD50		140°	30°	45°	*	*	*	*	*	*		
3-20	3xD	DN6537K	HPU	MG PVD50		140°	30°	45°	*	*	*	*	*	*		
3-20	5xD	DN6537L	PU	MG PVD50		140°	30°	45°	*	*	*	*	*	*		
3-20	5xD	DN6537L	HPU	MG PVD50		140°	30°	45°	*	*	*	*	*	*		
3-16	8xD	OSAWA	4HTA	MG PVD50		140°	30°		*	*	*	*	*	*		
3-20	3xD	DN6537K	GA	MG PVD30		140°	30°	45°	*	*	*	*	*	*		
3-20	3xD	DN6537K	HGA	MG PVD30		140°	30°	45°	*	*	*	*	*	*		
3-20	5xD	DN6537L	GA	MG PVD30		140°	30°	45°	*	*	*	*	*	*		
3-20	5xD	DN6537L	HGA	MG PVD30		140°	30°	45°	*	*	*	*	*	*		
3-20	8xD	OSAWA	HGA	MG PVD30		140°	30°	45°	*	*	*	*	*	*		
1-6	3xD	DN6537K	CV	MG PVD30		140°	30°		*	*	*	*	*	*		
3-20	3xD	DN6537K	HAR	MG PVD50		140°	30°		*	*	*	*	*	*		
3-20	5xD	DN6537L	HAR	MG PVD50		140°	30°		*	*	*	*	*	*		
3-20	3xD	DN6537K	ALH	MG POLISHED		130°	30°		*	*	*	*	*	*		
3-20	5xD	DN6537L	ALH	MG POLISHED		130°	30°		*	*	*	*	*	*		
2.6-14.2	3xD	DN6537K	HRC	MG PVD30	45-62	150°	15°	45°	*	*	*	*	*	*	*	
1-3	5xD	OSAWA	SUH MINI	MG PVD30		135°	30°		*	*	*	*	*	*		
1-3	8xD	OSAWA	SUH MINI	MG PVD30		135°	30°		*	*	*	*	*	*		
1-3	12xD	OSAWA	SUH MINI	MG PVD30		135°	30°		*	*	*	*	*	*		
1-3	20xD	OSAWA	SUH MINI	MG PVD30		135°	30°		*	*	*	*	*	*		
1-3	25xD	OSAWA	SUH MINI	MG PVD30		135°	30°		*	*	*	*	*	*		
1-3	30xD	OSAWA	SUH MINI	MG PVD30		135°	30°		*	*	*	*	*	*		
3.1-10	12xD	OSAWA	HL	MG PVD50		135°	30°		*	*	*	*	*	*		
3.1-10	15xD	OSAWA	HL	MG PVD50		135°	30°		*	*	*	*	*	*		
3.1-10	20xD	OSAWA	HL	MG PVD50		135°	30°		*	*	*	*	*	*		
3.1-9.5	25xD	OSAWA	HL	MG PVD50		135°	30°		*	*	*	*	*	*		
3.1-8	30xD	OSAWA	HL	MG PVD50		135°	30°		*	*	*	*	*	*		

H5 OSAWA | SORMA CUTTING SOLUTIONS

- ✚ An easy graphic index with tool and application information is available at the beginning of each section.
- 🇮🇹 All'inizio di ogni macro sezione è disponibile un indice grafico con informazioni relative all'utensile e alle sue applicazioni.

- 🇩🇪 Am Anfang von jedem Hauptabschnitt ist ein grafischer Index, mit Infos bezüglich des Werkzeugs und seinem Anwendungsfeld, vorhanden.
- 🇫🇷 Un index graphique avec les informations relatives à l'outil et à ses applications est disponible au début de chaque chapitre.

## Product table

1
2
3

G2
General purpose - Square

4
G2CS2

5

- Cylindrical shank
- 2 flutes

P

M

K

N

S

H

6

OSAWA NORM

N

MG PV200

<45 HRC

FHA 30°

SQUARE

ZEFP 2

SLOTING

SIDE MILLING

DRILLING

7

DC	DC tol.	DCON	TDCON	APMX	LF	ZEFP	EDP no.	Stock
1	0/-0.020	4	h6	3	50	2	G2CS2010	8
1.5	0/-0.020	4	h6	4.5	50	2	G2CS2015	●
2	0/-0.020	2	h6	8	50	2	G2CS2020S02	●
2	0/-0.020	4	h6	6	50	2	G2CS2020	●
2.5	0/-0.020	4	h6	7	50	2	G2CS2025	●

 SOLID  
  
H - CARBIDE DRILLS  
  
HSS DRILLS
 

<span style="border: 1px solid red; border-radius: 50%; padding: 2px 5px; font-weight: bold; font-size: 1.2em;">1</span>	<ul style="list-style-type: none"> <li><span style="color: red;">✚</span> Chapter</li> <li><span style="color: green;">🇮🇹</span> Capitolo</li> </ul>	<ul style="list-style-type: none"> <li><span style="color: red;">🇩🇪</span> Kapitel</li> <li><span style="color: blue;">🇫🇷</span> Chapitre</li> </ul>
<span style="border: 1px solid red; border-radius: 50%; padding: 2px 5px; font-weight: bold; font-size: 1.2em;">2</span>	<ul style="list-style-type: none"> <li><span style="color: red;">✚</span> Section</li> <li><span style="color: green;">🇮🇹</span> Sezione</li> </ul>	<ul style="list-style-type: none"> <li><span style="color: red;">🇩🇪</span> Abschnitt</li> <li><span style="color: blue;">🇫🇷</span> Section</li> </ul>
<span style="border: 1px solid red; border-radius: 50%; padding: 2px 5px; font-weight: bold; font-size: 1.2em;">3</span>	<ul style="list-style-type: none"> <li><span style="color: red;">✚</span> Sub-chapter</li> <li><span style="color: green;">🇮🇹</span> Sottocapitolo</li> </ul>	<ul style="list-style-type: none"> <li><span style="color: red;">🇩🇪</span> Unterkapitel</li> <li><span style="color: blue;">🇫🇷</span> Sous-chapitre</li> </ul>
<span style="border: 1px solid red; border-radius: 50%; padding: 2px 5px; font-weight: bold; font-size: 1.2em;">4</span>	<ul style="list-style-type: none"> <li><span style="color: red;">✚</span> ISO shape</li> <li><span style="color: green;">🇮🇹</span> Geometria ISO</li> </ul>	<ul style="list-style-type: none"> <li><span style="color: red;">🇩🇪</span> ISO-Geometrie</li> <li><span style="color: blue;">🇫🇷</span> Géométrie ISO</li> </ul>
<span style="border: 1px solid red; border-radius: 50%; padding: 2px 5px; font-weight: bold; font-size: 1.2em;">5</span>	<ul style="list-style-type: none"> <li><span style="color: red;">✚</span> Main features</li> <li><span style="color: green;">🇮🇹</span> Principali caratteristiche</li> </ul>	<ul style="list-style-type: none"> <li><span style="color: red;">🇩🇪</span> Wesentliche Eigenschaften</li> <li><span style="color: blue;">🇫🇷</span> Principales caractéristiques</li> </ul>
<span style="border: 1px solid red; border-radius: 50%; padding: 2px 5px; font-weight: bold; font-size: 1.2em;">6</span>	<ul style="list-style-type: none"> <li><span style="color: red;">✚</span> ISO material</li> <li><span style="color: green;">🇮🇹</span> Materiali ISO</li> </ul>	<ul style="list-style-type: none"> <li><span style="color: red;">🇩🇪</span> ISO-Materialien</li> <li><span style="color: blue;">🇫🇷</span> Géométrie ISO</li> </ul>
<span style="border: 1px solid red; border-radius: 50%; padding: 2px 5px; font-weight: bold; font-size: 1.2em;">7</span>	<ul style="list-style-type: none"> <li><span style="color: red;">✚</span> Icons</li> <li><span style="color: green;">🇮🇹</span> Icone</li> </ul>	<ul style="list-style-type: none"> <li><span style="color: red;">🇩🇪</span> Symbole</li> <li><span style="color: blue;">🇫🇷</span> Icône</li> </ul>
<span style="border: 1px solid red; border-radius: 50%; padding: 2px 5px; font-weight: bold; font-size: 1.2em;">8</span>	<ul style="list-style-type: none"> <li><span style="color: red;">✚</span> Stock status. This value may be updated without prior notice.</li> <li><span style="color: green;">🇮🇹</span> Disponibilità stock. Questa informazione può essere variata senza una precedente comunicazione.</li> </ul>	<ul style="list-style-type: none"> <li><span style="color: red;">🇩🇪</span> Lagerbestand. Die Angaben können ohne vorherige Ankündigung geändert werden.</li> <li><span style="color: blue;">🇫🇷</span> Disponibilité des stocks. Les informations peuvent subir des modifications sans avis préalable.</li> </ul>

# Parameters table

## G2 General purpose - Square



### Cutting Parameters

#### G2CS2

Material Group ISO 513	P1 P2 K1	P3 P4 P7 M1 K2	P5 M2 K3	N1 N2 N3 N4
	Hardness/Rm	≤700 N/mm <sup>2</sup>	600÷1000 N/mm <sup>2</sup>	≤35 HRC
ap x ae	0.5D x D	0.5D x D	0.5D x D	0.5D x D
Vc (m/min)	80÷100	50÷70	30÷50	100÷120
DC (mm)	fz (mm/z)	fz (mm/z)	fz (mm/z)	
1	0.004	0.003	0.003	0.005
2	0.008	0.007	0.006	0.010
3	0.012	0.010	0.009	0.016
4	0.016	0.014	0.012	0.021
5	0.020	0.017	0.015	0.026
6	0.025	0.021	0.019	0.033
8	0.032	0.027	0.024	0.042
10	0.038	0.032	0.029	0.049
12	0.045	0.038	0.034	0.059
14	0.052	0.044	0.039	0.068
16	0.060	0.051	0.045	0.078
18	0.070	0.060	0.053	0.091
20	0.080	0.068	0.060	0.104

< D3 mm: ap = 0.2D

Material Group ISO 513	P1 P2 K1	P3 P4 P7 M1 K2	P5 M2 K3	N1 N2 N3 N4
	Hardness/Rm	≤700 N/mm <sup>2</sup>	600÷1000 N/mm <sup>2</sup>	≤35 HRC
ap x ae	1.5D x 0.5D	1.5D x 0.5D	1.5D x 0.5D	1.5D x 0.5D
Vc (m/min)	80÷100	50÷70	30÷50	100÷120
DC	fz	fz	fz	fz

✚ Cutting parameters table is available next to each product page for easier and faster consultation.

🇮🇹 La tabella dei parametri di lavorazione è riportata di seguito ad ogni pagina prodotto per una consultazione più semplice e rapida.

🇩🇪 Die Tabelle der Parameter folgt nach jeder Seite der Produkte, um auf dieser Weise sofort griffbereit zu sein.

🇫🇷 Le tableau des paramètres d'usinage se trouve après chaque page produit pour une consultation plus facile et rapide.



