

**DRILLING**

## Drilling Overview

### Drilling Grades

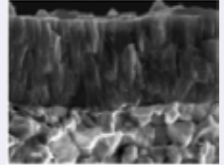
Drilling Grades	P Steel				M Stainless Steel				K Cast Iron			
	P05	P15	P25	P35	M05	M15	M25	M35	K05	K15	K25	K35
PVD	602				602				602			

**YG602**

P20 - P35   M20 - M40

K20 - K40   S15 - S25



PVD - TiAlN





**Universal grade for General Drilling Application**

- Ultra Dense PVD Coating with optimal thermal resistance & strength
- Sub-Micron substrate designed for demanding application

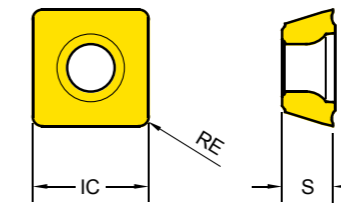
### Universal Drilling Inserts

	4 Corner	SPMX Series	SPMX	05, 06, 07, 09, 11, 14
	ISO 3 Corner	WCMX Series	WCMX	04, 05, 06, 08

### Drilling Chipbreakers

P	M	K		
	M		<b>-ST</b>	 <ul style="list-style-type: none"> <li>• Sharp Geometry</li> <li>• Sticky Material, Stainless Steel</li> </ul>
P	M	K	<b>General Inserts</b> (No Description)	 <ul style="list-style-type: none"> <li>• First Choice for General Application</li> </ul>

## Drilling - Inserts Drilling Inserts (SPMX)



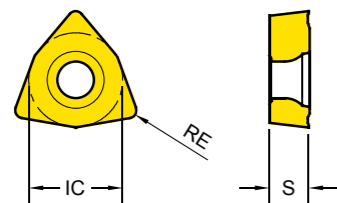
Series	IC	S
SPMX 050204	5.00	2.38
SPMX 060204	6.00	2.41
SPMX 07T308	7.94	3.97
SPMX 090408	9.80	4.30
SPMX 110408	11.50	4.90
SPMX 140512	14.30	5.30

SPMX	Designation	Fn (mm/rev.)	YG602
SPMX General	SPMX 050204	0.07~0.14	●
	SPMX 060204	0.08~0.14	●
	SPMX 07T308	0.08~0.16	●
	SPMX 090408	0.08~0.16	●
	SPMX 110408	0.1~0.18	●
	SPMX 140512	0.1~0.2	●
-ST Stainless Steel	SPMX 050204 - ST	0.03~0.1	●
	SPMX 060204 - ST	0.04~0.11	●
	SPMX 07T308 - ST	0.04~0.11	●
	SPMX 090408 - ST	0.05~0.12	●

Cutting Speed			Vc (m/min.)	
ISO	VDI	Sub Group	YG602	
			Min.	Max.
P	1~5	Non Alloy Steel	140	240
	6~9	Low Alloy Steel	120	220
	10~11	High Alloy Steel	70	150
M	12~13	Ferritic & Martensitic	120	200
	14	Austenitic Stainless Steel	140	250
K	15~16	Grey Cast Iron	140	220
	17~18	Nodular Cast Iron	150	240

## Drilling - Inserts

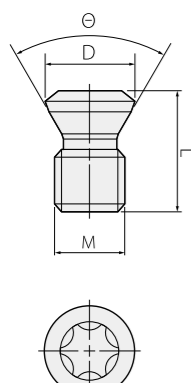
### Drilling Inserts (WCMX)



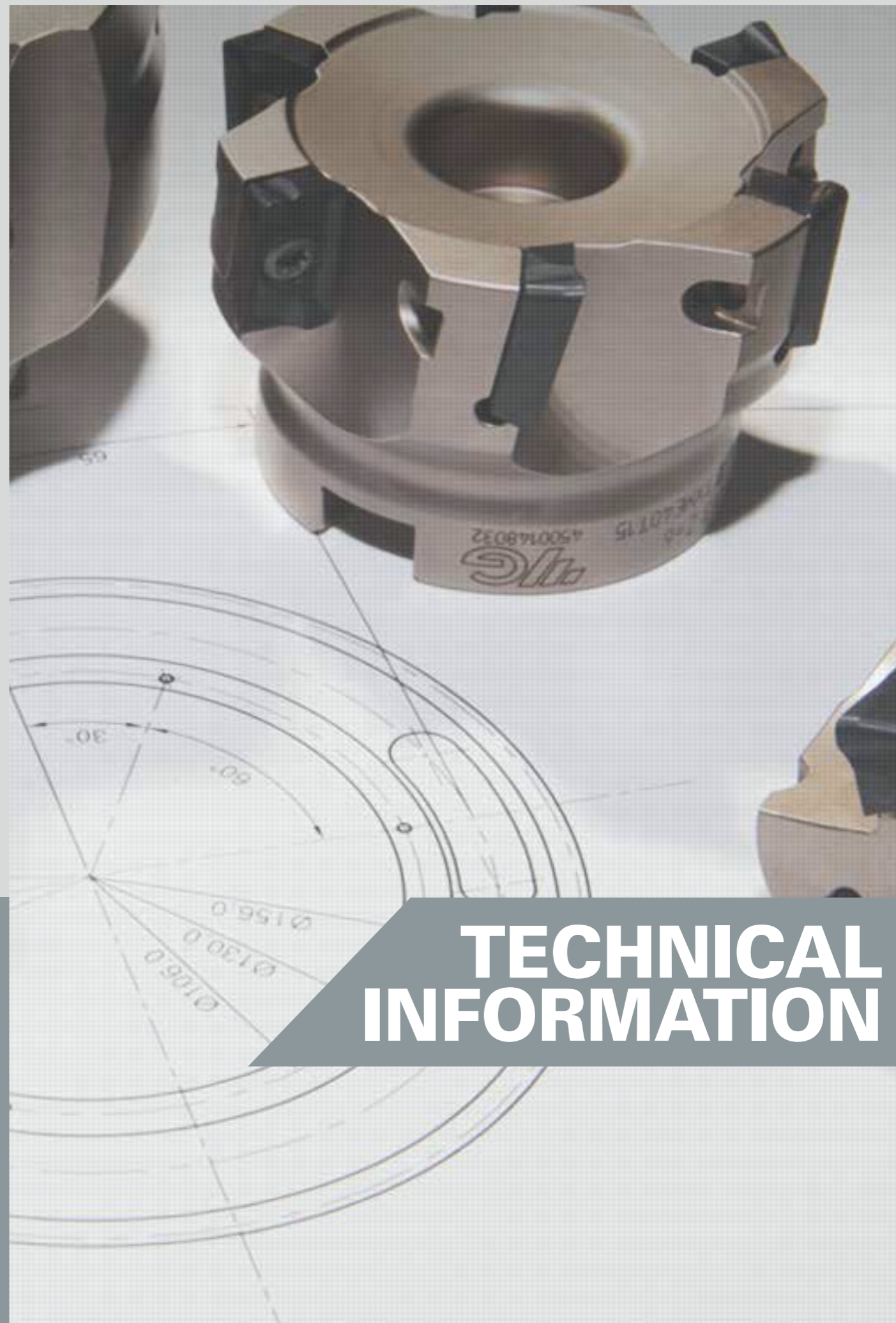
Series	IC	S
WCMX 040208	6.35	2.38
WCMX 050308	7.94	3.18
WCMX 06T308	9.53	3.97
WCMX 080412	12.70	4.76

WCMX	Designation	Fn (mm/rev.)	YG602
<b>WCMX</b> General 	WCMX 040208	0.05~0.11	●
	WCMX 050308	0.06~0.14	●
	WCMX 06T308	0.08~0.14	●
	WCMX 080412	0.08~0.14	●

### Compatible Screw for WCMX

Screw Image	Insert	Thread M	Length L	Head Diameter D	Head Angle θ	Torx Screw
	WCMX 06	M3.5	7.4	4.8	60	Torx Plus 15
	WCMX 08	M4	9.4	5.6	60	Torx Plus 15

Cutting Speed			Vc (m/min.)	
ISO	VDI	Sub Group	YG602	
			Min.	Max.
P	1~5	Non Alloy Steel	140	240
	6~9	Low Alloy Steel	120	220
	10~11	High Alloy Steel	70	150
M	12~13	Ferritic & Martensitic	120	200
	14	Austenitic Stainless Steel	140	250
K	15~16	Grey Cast Iron	140	220
	17~18	Nodular Cast Iron	150	240



**TECHNICAL INFORMATION**

## Technical Information - Comparison Chart Comparison Chart - Turning Grades

ISO	YG	Sandvik	Iscar	Kenna metal	Seco	Walter	Mitsu bishi	Kyocera	Tungaloy	Sumi tomo	Taegutec	Korloy	Duracarb
P10	YG3010	GC4305	IC8005	KCP05	TP0501	WPP01	UE6105	CA5505	T9105 T9115	AC8015P AC810P	TT8115	NC3010 NC3215	DC9015
		GC4205	IC428	KC9105	TP0500	WPP05S	MC6015	CA510					
		GC4315	IC8150	KCP10	TP1501	WPP10S	UE6110	CA515 CA5515					
P20	YG3020 YG801	GC4325	IC8250	KCP25	TP2501	WPP20S	MC6025	CA525	T9125	AC8025P AC820P	TT8125	NC3220 NC3225 NC3120	DC9025
		GC4225	IC9015	KC9125	TP2500		UE6020	CA5525					
P30	YG801 YG3030	GC4335	IC8350	KCP30	TP3501	WPP30S	MC6035	CA530	T9135	AC8035P AC830P AC630M	TT5100 TT8135	NC3030 NC5330 PC3545	DC9025 DC8035
		GC4235	IC8025	KC9140	TP3500		UE6035 VP15TF	CA5535 CR9025					
M10	YG211	GC2015	IC807	KCM15	TS2000	WSM10S	US7020	CA6515	T6120	AC610M AC6020M AC510U	TT9215 TT5080	NC9020 PC8110	DC610
		GC1105	IC8025	KC5510			US905	PR915					
M20	YG211	GC2025	IC808	KCM25	TT2501	WMP20S	US7020	CA6525	T6130	AC6020M AC6030M AC520U	TT9225 TT9080	PC5300 PC8115	
M30	YG3030	GC2035	IC830	KCM35	TP3500	WSM30S	UC735	PR1125	T6130	AC6030M AC6040M AC630M AC530U	TT9235 TT8020	NC9025 PC9030	DC8035
K05	YG1001	GC3205	IC5005	KCK05	TK1001	WKK10S	MC5005	CA4505	T5105	AC405K	TT7005	NC6205	DC820 DC610
K10	YG1001	GC3210	IC5010	KCK15	TK1001	WKK10S	MC5015	CA4515	T515	AC415K	TT7310 TT7015	NC6210	
K15	YG3010	GC3215	IC8150	KCK20	TK2001	WKK20S	UE6110	CA4120	T5125	AC420K	TT6300	NC6215	

## Technical Information - Comparison Chart Comparison Chart - Turning Chipbreakers

### Negative Inserts

Material	YG	Sandvik	Iscar	Kenna metal	Seco	Walter	Mitsu bishi	Kyocera	Tungaloy	Sumi tomo	Taegutec	Korloy	Duracarb
STEEL	UF	PF	F3P NF	FF FN	F1 MF2	FP5	FH LP	GP PP	TF	FL SP	FG FA	VF HU	41
	UL		PP NF			FP5	FY SY	CQ VF	TSF	LU	FC FT	HC	43
	UM		TF	MN	M3	MP3	MP	HS	TM	GU UX	MC PC	VM GM	46
	UG	PM	GN M3P	MN	M3 MR3	MP5	MP,MA	PS	TM	UG	MT PC	GR HR	45
	UC	PR	NR	MP RP	MR4	RP5	Standard	Standard	TH	UZ	MG-	B25	53
	UR	PR	NR R3P	UN RN MG-	MR3 MR6	RP7	RP MH RK	PT PH	THS	ME MU	RT	GR	
STAINLESS STEEL	MM	MM	M3M	MG-MP	MR3	NM4	MM	MS	SM	GU	EM ET	GS	42
CAST IRON	UC	PR	NR	MP RP	MR4	MK5	Standard	Standard	All Round	UZ	MG-	B25	53
	UR	PR	NR R3P	UN RN MG-	MR3 MR6	RK5 RK7	RP MH RK	PT PH	CH	ME MU	RT	GR	
	..MA			RP	MR7	..MA	MG-	C	CH	GZ	..MA		53

### Positive Inserts

Material	YG	Sandvik	Iscar	Kenna metal	Seco	Walter	Mitsu bishi	Kyocera	Tungaloy	Sumi tomo	Taegutec	Korloy	Duracarb
STEEL	UF	PF	PF	LF UF	MF2	PF2 FP4	FM LM LP	GQ PP	01 PSF	FP	FG	HFP	41
	UG	PM		MF	MF3	MP4 FP6	MP Standard MM MV	HQ	PS PM	MU	MT	C25	51
STAINLESS STEEL	UF	PF	PF	LF	MF2	MM4 PS5	FM LM LP	GQ PP	PM	FP	FG	HFP	41
CAST IRON	UG	PM		UF	MF3	MK4 RK4	MP Standard MM MV	HQ	CM	MU	MT	C25	51
ALUMINUM	AL		AS	MF	AL	PF2 PM2	AZ	CF CK	AL	AG	FL	AK	AU