DOUBLE3GON

Double ended trigonal shoulder milling system

Application

- Shoulder milling
- Shoulder milling withhigh precision multi-passes (max. 7mm with WNEX08 insert)
- Long overhang shoulder milling

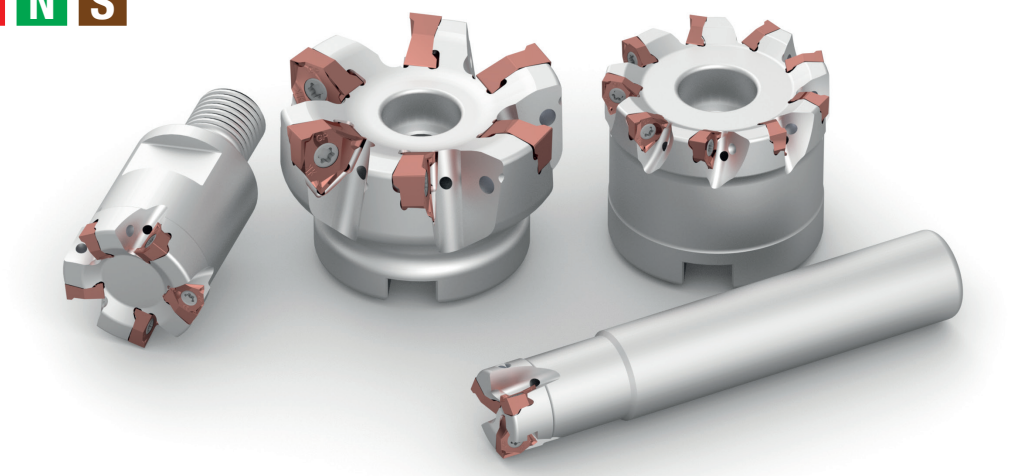
- Eckfräser
- Bund mit wiederholten Arbeitsgängen
- Bund mit großen Überständen

- Fresatura di spallamento
- Spallamento preciso multi passata (max. 7mm con inserto WNEX08)
- Spallamento con sporgenze elevate

- Surfaçage Dressage
- Passes multiples de haute précision (max 7mm)
- Usinage avec longs porte à faux

Application range - ISO 513

P M K N S



Features and benefits

- High precision 90° side milling.
- Reduced cost per edge compared with conventional shoulder milling systems.
- Very strong system thanks to the negative trigonal and reliable installation.
- Full range of carbide geometries, radii and grades.
- High performance holders with special surface treatment to ensure longer life.

- Hohe Genauigkeit beim 90°-Seitenfräsen.
- Geringere Kosten pro Schneidkante im Vergleich zu herkömmlichen Eckfrässystemen.
- Sehr robustes System durch negative Trigon-Wendeschneidplatten und zuverlässige Installation.
- Komplettes Sortiment an Hartmetallgeometrien, Radien und Qualitäten.
- Ultrapräzise Fräskörper mit spezieller Oberflächenbehandlung, die eine lange Standzeit gewährleistet.

- Elevata precisione nella fresatura laterale a 90°.
- Ridotto costo per tagliente rispetto ai convenzionali sistemi di fresatura di spallamento.
- Sistema molto robusto grazie ai trigoni negativi e “al posizionamento in sede.
- Gamma completa di geometrie in metallo duro, raggi e gradi.
- Corpi fresa ad alte prestazioni con speciale trattamento superficiale che assicura lunga durata.

- Usinage de Haute précision à 90°
- Coût à l’arête réduit par rapport aux fraises à surfacer dresser standard.
- Système très robuste grâce à des plaquettes trigones négatives et à un montage fiable.
- Large gamme de géométries, rayons et nuances.
- Corps de fraises « ultra précis » avec traitement de surface spécial assurant leur longue durée de vie.

SORMA DIAMOND & CUTTING TOOLS

DOUBLE3GON

Double ended trigonal shoulder milling system

Milling holders

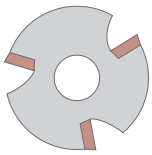
- Shell mill type
- Cylindrical shank type
- Screw-on type
- Extension arbors (steel/carbide 10xD)
- From D20 to D160

- Hülsenaufnahme
- Aufnahme zylindrisch
- Gewindeaufnahme
- Erweiterungshülsen (Stahl/Hartmetall 10xD)
- D20 bis D160

- Attacco a manicotto
- Attacco cilindrico
- Attacco filettato
- Prolunghe (acciaio/metallo duro 10xD)
- Da D20 a D160

- type mandrin
- queue cylindrique
- embout vissé
- rallonge (acier/carbure 10xD)
- Du D20 à D160

Extension arbors



Coarse pitch

Fine pitch

Inserts

- 6 cutting edges
- Edge length 04 and 08
- Complete insert range with more geometries and carbide grades for excellent performances on several workpiece materials.
- Geometries: SC, GP, TE, AL

- 6 Schneidkanten
- Länge der Schneidkante 04 und 08
- CVD- und PVD-beschichtete Hartmetallqualitäten
- Geometrien: SC, GP, TE, AL

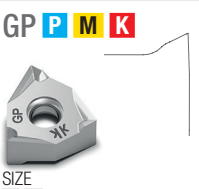
- 6 taglienti
- Lunghezza del tagliente 04 e 08
- Gamma inserti completa con più geometrie e qualità di metallo duro per poter lavorare più materiali.
- Geometrie: SC, GP, TE, AL

- 6 arêtes de coupe
- Taille de plaquette 04 et 08
- Nuances carbure revêtues CVD et PVD
- Géométries : SC, GP, TE, AL

SC P M S

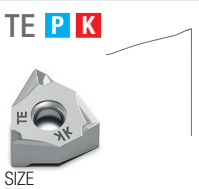
SIZE
08

GP P M K



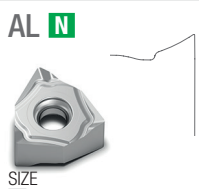
SIZE
04 08

TE P K



SIZE
08

AL N



SIZE
08

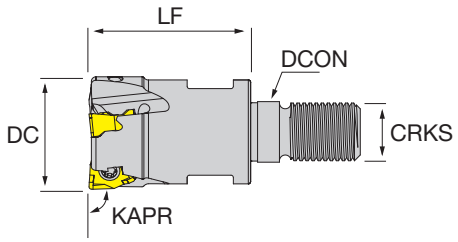
SORMA DIAMOND & CUTTING TOOLS

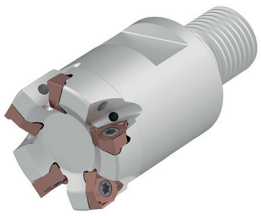
NT-WX

Double3Gon

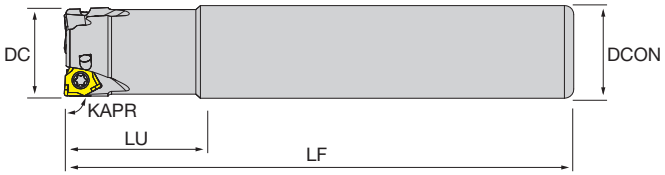
- Double sided trigonal type shoulder milling system, with coolant through
- Tolerance of tool diameter (with Nikko inserts installed) 0/-0.2
- Steel and carbide arbors available for screw-in type holders
- Reliable machining process guaranteed by high quality Swiss screws

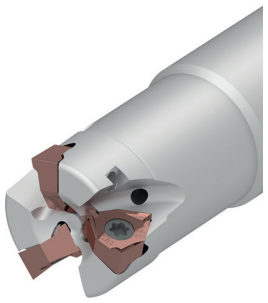
Screw-in



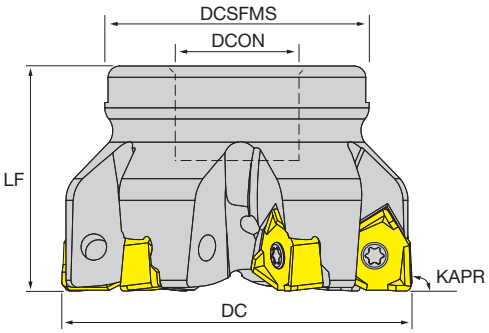


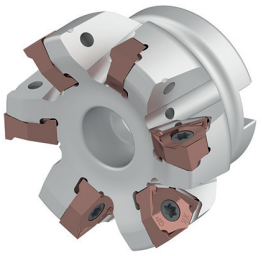
Cylindrical





Arbor





90° KAPR | INTERNAL COOLANT | MEDIUM | ROUGHING | SIDE MILLING | SLOTTING | FACING | MULTIPLE

Designation	DC	CICT	DCON	LF	LU	DCSFMS	CRKS	WT	MIID		Stock
SCREW-IN											
NT-WX04H D020-M10-Z03	20	3	10.5	28	-	-	M10	0.05	WNEX0403		●
NT-WX04H D025-M12-Z03	25	3	12.5	30	-	-	M12	-	WNEX0403		○
NT-WX04H D025-M12-Z04	25	4	12.5	30	-	-	M12	0.09	WNEX0403		●
NT-WX04H D032-M16-Z04	32	4	17	40	-	-	M16	-	WNEX0403		○
NT-WX04H D032-M16-Z05	32	5	17	40	-	-	M16	0.2	WNEX0403		◉
CYLINDRICAL SHANK											
NT-WX04H D020-S16-Z03	20	3	16	110	20	-	-	0.16	WNEX0403		◉
NT-WX04H D020-S20-Z03	20	3	20	110	28	-	-	0.23	WNEX0403		●
NT-WX04H D025-S20-Z04	25	4	20	120	22	-	-	0.27	WNEX0403		●
NT-WX04H D025-S25-Z04	25	4	25	120	30	-	-	0.4	WNEX0403		●
NT-WX04H D032-S25-Z05	32	5	25	130	25	-	-	0.47	WNEX0403		◉
NT-WX04H D032-S32-Z05	32	5	32	130	40	-	-	0.72	WNEX0403		●
ARBOR MOUNTING											
NT-WX04H D040-F16-Z05	40	5	16	40	-	35	-	-	WNEX0403		○
NT-WX04H D040-F16-Z07	40	7	16	40	-	35	-	0.22	WNEX0403		●
NT-WX04H D050-F22-Z06	50	6	22	40	-	47	-	-	WNEX0403		○
NT-WX04H D050-F22-Z09	50	9	22	40	-	47	-	0.38	WNEX0403		●
NT-WX04H D063-F22-Z08	63	8	22	40	-	47	-	-	WNEX0403		○
NT-WX04H D063-F22-Z10	63	10	22	40	-	47	-	-	WNEX0403		○
NT-WX08H D050-F22-Z04	50	4	22	40	-	47	-	0.31	WNEX0806		●
NT-WX08H D050-F22-Z05	50	5	22	40	-	47	-	0.33	WNEX0806		●
NT-WX08H D063-F22-Z06	63	6	22	40	-	47	-	0.43	WNEX0806		●

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

Designation	DC	CICT	DCON	LF	LU	DCSFMS	CRKS	WT	MIID		Stock
NT-WX08H D063-F27-Z06	63	6	27	40	-	47	-	0.63	WNEX0806		●
NT-WX08H D063-F22-Z07	63	7	22	40	-	47	-	0.42	WNEX0806		●
NT-WX08H D080-F27-Z07	80	7	27	50	-	62	-	0.99	WNEX0806		●
NT-WX08H D080-F27-Z09	80	9	27	50	-	62	-	0.96	WNEX0806		●
NT-WX08H D100-F32-Z08	100	8	32	50	-	77	-	-	WNEX0806		●
NT-WX08H D100-F32-Z11	100	11	32	50	-	77	-	1.45	WNEX0806		●
NT-WX08H D125-F40-Z11	125	11	40	63	-	80	-	2.38	WNEX0806		●
NT-WX08H D160-F40-Z12	160	12	40	63	-	85	-	3.86	WNEX0806		◉

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

Spare parts	Insert screw	Flag wrench
		
NT-WX04H Dooo-ooo-Zoo	NT-ST25056T08HQ	NT-FTB08
NT-WX08H Dooo-ooo-Zoo	NT-ST40110T15HQ	NT-FTB15

SORMA DIAMOND & CUTTING TOOLS

WN

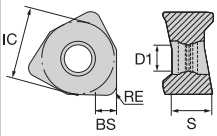
Double3Gon

- Double-sided trigonal inserts offering 6 edges!
- Stable sitting in the pocket guarantees more reliability in machining
- Available in several grades covering wide application range

HC: Coated tungstein carbide
HF: Micrograin tungstein carbide
CVD: Chemical vapor deposition
PVD: Physical vapor deposition

		HC CVD	HC CVD	HC CVD	HF PVD	HF PVD	HF PVD	HF PVD	HF PVD	HF PVD	HF
		JC7515	JC8520	JC9540	JP5530	JP5540	JP7525	JP8725	JP9525	JP9535	JU6520
Stable machining, light cut	● 1st choice ○ suitable	●	●					○	○		●
General machining, medium cut	● 1st choice ○ suitable	●	○	●	●	○	●	●	○	●	●
Unstable machining, heavy cut	✱ 1st choice ✲ suitable			✱	✲	✱	✱			✱	

Dimensions

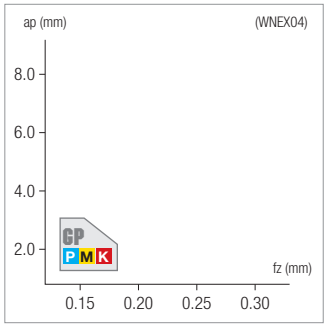


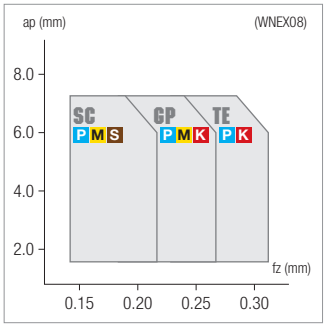
6 edges

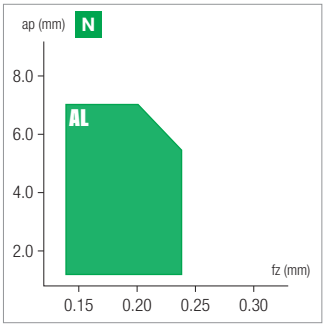
ISO	Vc(m/min) - suggested cutting speed range (bold: 1st choice)										
P		**130 300**		**100 260**	**80 220**		**100 280**				
M			**90 210**	60 180	**60 180**			**80 200**	**80 200**		
K	**180 360**	160 320				**140 300**					
N										**300 1100**	
S			**30 70**		**20 50**				**20 60**		
H											

	Designation		RE	IC	S	D1	BS	Stock									
GENERAL	GP P M K S	WNEX040304R-GP	0.40	6.7	3.3	3.1	0.9			●	●		●	●	▽	●	
		WNEX040308R-GP	0.80	6.7	3.3	3.1	0.9						●				
		WNEX080608R-GP	0.80	12.5	6.5	4.6	1.5	●	●	●	●		●	●		●	
LOW FORCE	SC M S	WNEX080608R-SC	0.80	12.5	6.5	4.6	1.5			●						●	
REINFORCED	TE P M K S	WNEX080608R-TE	0.80	12.5	6.5	4.6	1.5	●			●	●	●	●	▽	▲	
ALUMINUM	AL	WNEX080608R-AL	0.80	12.5	6.5	4.6	1.5										●

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







SORMA DIAMOND & CUTTING TOOLS

ISO 513	MATERIAL	HARDNESS HB	ae/DC	JC8520 min	JC8520 start	JC8520 max	JP5530 min	JP5530 start	JP5530 max	JP8725 min	JP8725 start	JP8725 max
P1 - P2	Free cutting steel and low carbon (ex. 1.0715/9 smn 28/avp, 1.0503/c45)	≤ 200	100%	130	**180**	230	100	**140**	180	100	**150**	200
			30%	200	**240**	280	160	**200**	240	160	**210**	260
			10%	260	**280**	300	220	**240**	260	220	**250**	280
P3 - P4	Medium and high alloy steel (ex. 1.7225/42 CrMo 4, 1.3505/100 Cr 6)	200 ÷ 300	100%	100	**140**	180	80	**120**	160	90	**130**	170
			30%	160	**200**	240	120	**160**	200	130	**170**	210
			10%	220	**240**	260	180	**200**	220	190	**210**	230
P5 - P6	High tensile strength and tool steel (ex. 1.2344/X 40 CrMoV 5 1/ORVAR, Hardox400®)	300 ÷ 400	100%	70	**100**	130	60	**90**	120	80	**110**	140
			30%	120	**160**	200	100	**130**	160	120	**150**	180
			10%	200	**220**	240	140	**170**	200	160	**190**	220
ISO 513	MATERIAL	HARDNESS HB	ae/DC	JC9540 min	JC9540 start	JC9540 max	JP5530 min	JP5530 start	JP5530 max			
P7	Ferritic and martensitic stainless steel (ex. 1.4021/X 20 Cr 13/AISI420)	≤ 200	100%	90	**130**	170	60	**100**	140			
			30%	110	**160**	210	80	**130**	180			
			10%	130	**190**	250	100	**160**	220			
P8	Precipitation hardening stainless steel (ex. 1.4548/X 5 CrNiCuNb 17 4/17-4-PH)	≤ 450	100%	70	**100**	130						
			30%	80	**110**	140						
			10%	90	**120**	150						
M1	Austenitic stainless steel (ex. 1.4305/X 10 CrNiS 18 9/AISI303)	> 200	100%	90	**120**	150	60	**90**	120			
			30%	110	**150**	190	80	**120**	160			
			10%	130	**170**	210	100	**140**	180			
M2 - M3	Austenitic and Duplex stainless steel (ex. 1.4401/X 5 CrNiMo 17 12 2/AISI316)		100%	80	**110**	140						
			30%	90	**120**	150						
				100	**130**	160						
ISO 513	MATERIAL	HARDNESS HB	ae/DC	JC7515 min	JC7515 start	JC7515 max	JC8520 min	JC8520 start	JC8520 max	JP7525 min	JP7525 start	JP7525 max
K1	Grey cast iron (ex. 0.6025/GG 25/EN-GJL-250)	150 ÷ 250	100%	180	**230**	280	160	**200**	240	140	**180**	220
			30%	200	**260**	320	180	**230**	280	160	**210**	260
			10%	220	**290**	360	200	**260**	320	180	**240**	300
K2	Nodular cast iron (ex. 0.7050/GGG 50/EN-GJS-500-7)	150 ÷ 350	100%	120	**180**	240	120	**160**	200	100	**140**	180
			30%	160	**220**	280	140	**190**	240	120	**170**	220
			10%	200	**260**	320	160	**220**	280	140	**200**	260
K3 - K4	Austenitic and ADI cast iron (ex. 0.6660/GGL-NiCr 20 2/Ni-Resist 2, GJS-1000-5/ ADI1000)	250 ÷ 500	100%	100	**140**	180	100	**130**	160	90	**120**	150
			30%	140	**180**	220	120	**160**	200	120	**150**	180
			10%	180	**220**	260	140	**190**	240	150	**180**	210
ISO 513	MATERIAL	HARDNESS HB	ae/DC	JU6520 min	JU6520 start	JU6520 max						
N1	Aluminium alloys ≤ Si 12% (ex. 3.4365/AlZn5.5MgCu/ERGAL)		100%	300	**400**	500						
			30%	400	**600**	800						
			10%	500	**800**	1100						
N2	Aluminium alloys Si > 12% (ex. 3.2382/G-AlSi12)		100%	200	**250**	300						
			30%	300	**350**	400						
			10%	400	**450**	500						
ISO 513	MATERIAL	HARDNESS HB	ae/DC	JC9540 min	JC9540 start	JC9540 max						
S1 - S2 - S3	Fe/Ni/Co based heat resistant alloys (ex. Hastelloy, Inconel 625, Inconel 718)		100%	30	**40**	50						
			30%	40	**50**	60						
			10%	50	**60**	70						
S4 - S5	Titanium alloys (ex. TiAl2Sn4Zr2MoSi)		100%									
			30%									
			10%									

ae: radial depth of cut; DC: milling cutter diameter

Complete workpiece materials p. **H**1.

DESIGNATION	ae/DC	DEPTH OF CUT			FEED RATE		
		ap (mm)			fz (mm)		
		min	start	max	min	start	max
WNEX0403ooR-GP	100%	0.60	**1.00**	1.40	0.05	**0.10**	0.15
	30%	0.60	**1.80**	3.00	0.06	**0.12**	0.18
	10%	0.60	**1.80**	3.00	0.07	**0.14**	0.20
WNEX0806ooR-GP	100%	1.00	**2.50**	4.00	0.11	**0.18**	0.21
	30%	1.00	**4.00**	7.00	0.14	**0.20**	0.26
	10%	1.00	**4.00**	7.00	0.16	**0.23**	0.30
WNEX0806ooR-SC	100%	1.00	**2.50**	4.00	0.08	**0.13**	0.18
	30%	1.00	**4.00**	7.00	0.10	**0.16**	0.22
	10%	1.00	**4.00**	7.00	0.12	**0.20**	0.26
WNEX0806ooR-TE	100%	1.00	**2.50**	4.00	0.13	**0.19**	0.25
	30%	1.00	**4.00**	7.00	0.16	**0.23**	0.30
	10%	1.00	**4.00**	7.00	0.20	**0.27**	0.34
WNEX080608R-AL	100%	1.00	**2.50**	4.00	0.08	**0.14**	0.20
	30%	1.00	**4.00**	7.00	0.10	**0.17**	0.24
	10%	1.00	**4.00**	7.00	0.12	**0.20**	0.28