

# DOUBLE4FACE

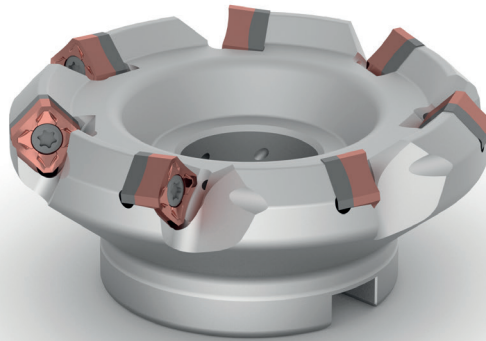
Double sided face milling system

## Application

- Face milling system with double sided 8-cutting-edge inserts.
- Affective even for irregular hard skin removal
- General face milling, even on irregular surfaces
- Schlichtfräsen/Schrippschlichtfräsen/Schrupfräsen
- Entfernung von Verkrustungen
- Allgemeines Fräsen von unterbrochenen Flächen
- Sistema per spianatura con inserti bilaterali a 8 taglienti
- Efficace anche nella rimozione della crosta superficiale
- Spianatura anche di superfici irregolari
- Surfaçage
- Fiable même en conditions d'usinage instables
- Applications générales, même en coupes interrompues

## Application range - ISO 513

**P M K N S**



## Advantages and features

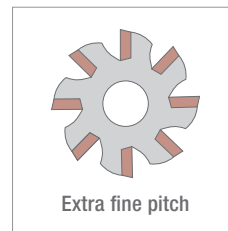
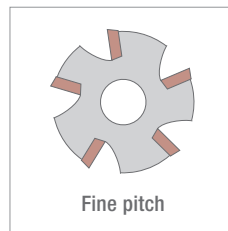
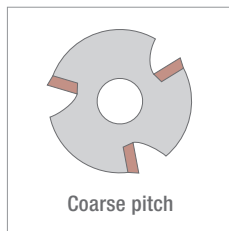
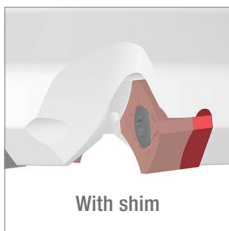
- Curved geometry generates low cutting force and smooth cutting process.
- Shim style cutter in the entire range guarantees stable machining and operational.
- Complete range covering ISO P, M, K, N, S materials (with both PVD and CVD coating).
- Inserts available in E tolerance for high precision machining and M tolerance for general machining
- Die gekrümmte Geometrie erzeugt geringe Schnittkräfte und gleichmäßige Schnitte.
- Der verdickte Körper in der gesamten Serie gewährleistet eine hohe operative Stabilität.
- Komplettes Angebot an Qualitäten für die Bearbeitung von Materialien der ISO-Gruppen P, M, K, N, S (mit PVD- und CVD-Beschichtung).
- Präzise Wendschneidplatten mit E-Toleranz oder geformte Wendschneidplatten mit M-Toleranz - beide mit hoher Genauigkeit und extrem kosteneffizienten Lösungen erhältlich.
- La geometria ricurva genera bassi sforzi di taglio.
- I corpi con sottopiacchetta assicurano elevata stabilità del processo.
- Gamma completa di gradi che copre le lavorazioni su materiali dei gruppi ISO P, M, K, N, S (con rivestimento PVD e CVD).
- Inserti disponibili in classe E per lavorazioni precise e classe M per lavorazioni generiche.
- La géométrie incurvée génère de faibles efforts de coupe et des coupes douces.
- Le corps avec assises sur toute la gamme assure un usinage stable.
- Gamme complète de nuances couvrant l'usinage de matériaux des groupes ISO P, M, K, N, S (avec revêtement PVD et CVD).
- Plaquettes disponibles en tolérance E pour un usinage de haute précision et en tolérance M pour les applications générales

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Double sided face milling system

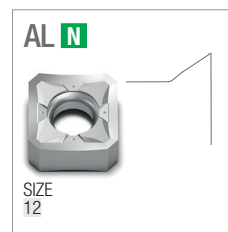
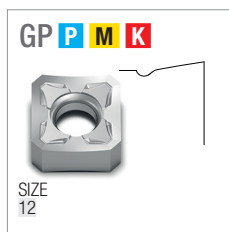
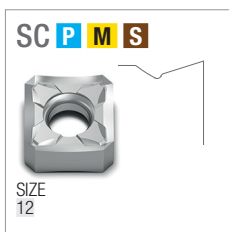
## Milling holders

- Shell mill type with shim  
• From D50 to D160
- Hülsenaufnahme mit Ausgleichsscheibe  
• D50 bis D160
- Attacco a manicotto con sottopiacchetta  
• Da D50 a D160
- Type mandrin avec assises  
• Du D50 à D160



## Inserts

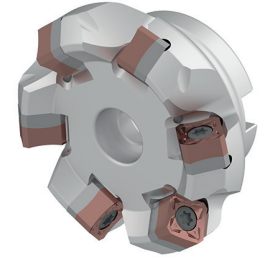
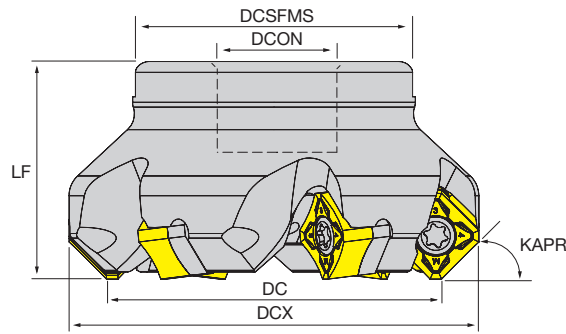
- 8 cutting edges  
• Edge length 12 with APMX = 3 mm  
• CVD and PVD coated and uncoated carbide grades  
• Geometries: SC, GP, TE, AL, WU wiper
- 8 Schneidkanten  
• Länge der Schneidkante 12 mit APMX = 3 mm  
• CVD- und PVD-beschichtete Hartmetallqualitäten  
• Geometrien: SC, GP, TE, AL, WU wiper
- 8 taglienti  
• Lunghezza del tagliente 12 con APMX = 3 mm  
• Gradi in metallo duro nudo e rivestito CVD e PVD  
• Geometrie: SC, GP, TE, AL, WU wiper
- 8 arêtes de coupe  
• Taille plaquette 12 avec APMX = 3 mm  
• Nuances en carbure revêtues CVD et PVD  
• Géométries : SC, GP, TE, AL, WU wiper



## NT-SX

### Double4Face

- Double-sided face milling cutters, Kapr 45°
- With shims to protect the insert seats
- For double-sided square inserts with 8 cutting edges
- With coolant through



Designation	DC	CICT	DCON	LF	DCSFMS	DCX	WT				Stock
<b>ARBOR MOUNTING</b>											
NT-SX12H D050-F22-Z04	50	4	22	40	48	64	0.48				●
NT-SX12H D050-F22-Z05	50	5	22	40	48	64	0.46				●
NT-SX12H D063-F22-Z05	63	5	22	50	52	77	0.69				●
NT-SX12H D063-F22-Z06	63	6	22	50	52	77	0.67				●
NT-SX12H D080-F27-Z06	80	6	27	50	60	94	1.29				●
NT-SX12H D080-F27-Z07	80	7	27	50	60	94	1.27				●
NT-SX12H D080-F27-Z08	80	8	27	50	60	94	1.25				●
NT-SX12H D100-F32-Z07	100	7	32	50	70	114	1.64				●
NT-SX12H D100-F32-Z08	100	8	32	50	70	114	1.62				●
NT-SX12H D100-F32-Z09	100	9	32	50	70	114	1.59				●
NT-SX12H D125-F40-Z10	125	10	40	63	80	139	2.92				●
NT-SX12H D160-F40-Z12	160	12	40	63	85	174	4.36				●

★ 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-SX12H D <sub>000</sub> -F <sub>00</sub> -Z <sub>00</sub>	NT-ST40136T15	NT-FTB15	NT-SH009	NT-SR009	NT-WR040



INDEXABLE

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ISO 513	MATERIAL	HARDNESS HB	ae/DC	JC8520			JP5530			JP8725		
				min	start	max	min	start	max	min	start	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			JP5530			JP9535		
min	start	max	min	start	max	min	start	max	min	start	max	
P7	Ferritic and martensitic stainless steel (ex. 1.4021/X 20 Cr 13/AISI420)	≤ 200	100%	90	130	170	60	100	140	80	120	160
			30%	110	160	210	80	130	180	100	150	200
			10%	130	190	250	100	160	220	120	180	240
P8	Precipitation hardening stainless steel (ex. 1.4548/X 5 CrNiCuNb 17 4/17-4-PH)	≤ 450	100%	70	100	130				60	90	120
			30%	80	110	140				70	100	130
			10%	90	120	150				80	110	140
M1	Austenitic stainless steel (ex. 1.4305/X 10 CrNiS 18 9/AISI303)	> 200	100%	90	120	150	60	90	120	80	110	140
			30%	110	150	190	80	120	160	100	140	180
			10%	130	170	210	100	140	180	120	160	200
M2 - M3	Austenitic and Duplex stainless steel (ex. 1.4401/X 5 CrNiMo 17 12 2/AISI316)		100%	80	110	140				70	100	130
			30%	90	120	150				80	110	140
			10%	100	130	160				90	120	150
ISO 513	MATERIAL	HARDNESS HB	ae/DC	JC7515			JC8520			JP7525		
min	start	max	min	start	max	min	start	max	min	start	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	start	max	min	start	max							
N1	Aluminium alloys ≤ Si 12% (ex. 3.4365/AlZn5.5MgCu/ERGA)		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			JP9535					
min	start	max	min	start	max	min	start	max				
S1 - S2 - S3	Fe/Ni/Co based heat resistant alloys (ex. Hastelloy, Inconel 625, Inconel 718)		100%	30	40	50	20	30	40			
			30%	40	50	60	30	40	50			
			10%	50	60	70	40	50	60			
S4 - S5	Titanium alloys (ex. TiAl2Sn4Zr2MoSi)		100%				40	50	60			
			30%				50	60	70			
			10%				60	70	80			

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

Complete workpiece materials p. M1.

DESIGNATION	ae/DC	DEPTH OF CUT			FEED RATE		
		ap (mm)			fz (mm)		
		min	start	max	min	start	max
SNoX1205ANEN-GP	100%	1.00	<b>2.00</b>	3.00	0.13	<b>0.21</b>	0.29
	30%	1.00	<b>2.00</b>	3.00	0.16	<b>0.26</b>	0.36
	10%	1.00	<b>2.00</b>	3.00	0.20	<b>0.31</b>	0.42
SNEX1205ANEN-SC	100%	0.50	<b>1.50</b>	2.50	0.06	<b>0.12</b>	0.18
	30%	0.50	<b>1.50</b>	2.50	0.08	<b>0.15</b>	0.22
	10%	0.50	<b>1.50</b>	2.50	0.10	<b>0.18</b>	0.26
SNoX1205ANSN-TE	100%	1.00	<b>2.00</b>	3.00	0.16	<b>0.25</b>	0.34
	30%	1.00	<b>2.00</b>	3.00	0.20	<b>0.32</b>	0.44
	10%	1.00	<b>2.00</b>	3.00	0.24	<b>0.38</b>	0.52
SNEX1205ANFN-AL	100%	0.50	<b>1.50</b>	2.50	0.10	<b>0.20</b>	0.30
	30%	0.50	<b>1.50</b>	2.50	0.12	<b>0.25</b>	0.38
	10%	0.50	<b>1.50</b>	2.50	0.14	<b>0.28</b>	0.42
SNEX1205-WU	100%	0.50	<b>1.00</b>	1.50	0.06	<b>0.13</b>	0.20
	30%	0.50	<b>1.00</b>	1.50	0.08	<b>0.16</b>	0.24
	10%	0.50	<b>1.00</b>	1.50	0.10	<b>0.19</b>	0.28