

Indexable Milling Cutter

DIRECTORY

- Face Milling B114
- High-Feed Milling B123
- Shoulder Milling B128
- Profile Milling B149
- Slot Milling B158
- Multi-Functional Milling B162

Face Milling-Quick Guide

	MFPN66	THN45	TSN45	TSE45	TSN90
SERIES					
Cutting edge angle	66°	45°	45°	45°	90° /87°
Depth of cut (APMX)	5	5	2.5/4.5	6.5	6.7 /10
Diameter range	D50-D315	D50-D160	D50-D160	D50-D160	D50-D125
Workpiece material					
Insert No.	PNMU0905	HNMU0906	SNMU1305 ONMU0505	SEKT12T3 SEHT12T3	SNGX1306
No. of corners (insert)	10	12	8/16	4	8
Purpose					
Reference pages	B114	B116	B118	B120	B122

High-Feed Milling-Quick Guide

	MFH	MRH	
SERIES			
Cutting edge angle	12°	10°	10°
Depth of cut (APMX)	0.5	1	2
Diameter range	D8-D14	D16-D32	D50-D160
Workpiece material			
Insert No.	BPMT0202	LOGU0303	SOMT1405
No. of corners (insert)	2	4	4
Purpose			
Reference pages	B123	B125	B127

Shoulder Milling – Quick Guide

	TTP				
SERIES					
Cutting edge angle	90°	90°	90°	90°	90°
Depth of cut (APMX)	7/11	7/11	40/42	40-78	60/70
Diameter range	D40-D125	D16-D40	D32-D40	D50-D100	D80/D100
Workpiece material					
Insert No.	TPKT1004 TPKT1505	TPKT1004 TPKT1505	TPKT1004 TPKT1505	TPKT1004 TPKT1505	TPKT1505
No. of corners (insert)	3	3	3	3	3
Purpose					
Reference pages	B128	B129	B130	B130	B131

	TAN90		TWN90	TAP90	
SERIES					
Cutting edge angle	90°	90°	90°	90°	90°
Depth of cut (APMX)	8/12	16.3	6.5	9/15	15
Diameter range	D16-D40	D50-D160	D63-D160	D13-D32	D50-D100
Workpiece material					
Insert No.	ANKT0904 ANKT1205	ANKT1706	WNMU0806	APKT1003 APKT1604	APKT1604
No. of corners (insert)	4	4	6	2	2
Purpose					
Reference pages	B133	B133	B135	B137	B137

	TLX			EAP	
SERIES					
Cutting edge angle	90°	90°	90°	90°	90°
Depth of cut (APMX)	9.7	9.7	58.5/66.9	9/14	14
Diameter range	D32-D80	D50-D125	D50/D63	D10-D35	D50-D200
Workpiece material					
Insert No.	LXGU1107	LXGU1107	LXGU1107	APMT1135 APMT1604	APMT1604
No. of corners (insert)	4	4	4	2	2
Purpose					
Reference pages	B140	B140	B141	B142	B144

TOTIME

Indexable Milling Cutter

Application Overview

Shoulder Milling-Quick Guide

	TAD		TLU
SERIES			
Cutting edge angle	90°	90°	90°
Depth of cut (APMX)	17	17	4/7
Diameter range	D25-D40	D40-D125	D16-D26
Workpiece material			  
Insert No.	ADET1905	ADET1905	LXMU0803 LXMU10T3 LXMU1204
No. of corners (insert)	2	2	4
Purpose	   	   	   
Reference pages	B145	B145	B147

Profile Milling-Quick Guide

	TRD		EMR		C-ABPF
SERIES					
Cutting edge angle	—	—	—	—	—
Depth of cut (APMX)	4/5/6	5/6	4/5/6	5/6	0.05/0.1
Diameter range	D16-D32	D50-D100	D12-D35	D50-D160	D10-D30
Workpiece material	    	    	   	    	
Insert No.	RDKT0802 RDKT10T3 RDKT1204	RDKT10T3 RDKT1204	RPMT08T2 RPMW1003 RPMT10T3 RPMT1204	RPMW1003 RPMT10T3 RPMT1204	SP1W SP1Q
Purpose	   	   	   	   	   
Reference pages	B149	B149	B152	B154	B156

Slot Milling-Quick Guide

	TLX		TTPC
SERIES			
Cutting edge angle	—	—	30° /45° /60°
Depth of cut (APMX)	16-25	16-25	3.3-5.9
Diameter range	D100-D200	D100-D200	D2-D20
Workpiece material	   	   	  
Insert No.	LXGU1008 LXGU1208 LXGU1509	LXGU1008 LXGU1208 LXGU1509	TPKT1004
Purpose	  	  	
Reference pages	B158	B159	B131

Chamfer Milling-Quick Guide

Face Milling
MFPN6 Series

High-Fed Milling
MFH-Series

Shoulder Milling
TAN90 Series

Profile Milling
TRD Series

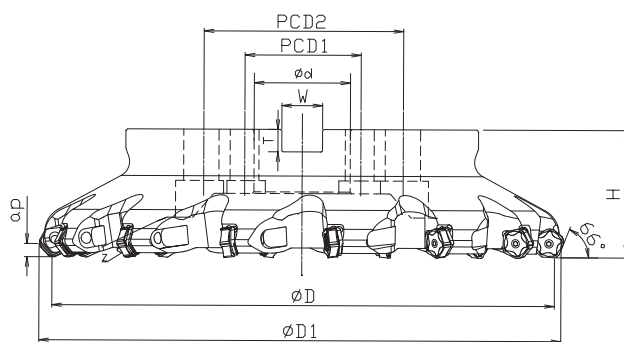
Slot Milling
TLXFD/SD Series

Multi-Functional Milling
Modular Bapm Series

MFPN66 SERIES

66° Face Mill with High Economical and 10 Cutting Edge Insert for Higher Productivity

- ★ Stability and cost efficiency with 10-edge pentagonal inserts.
- ★ Low cutting forces and reduced chattering with a helical cutting edge design.
- ★ Tough and reliable dual cutting edge design.

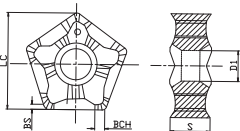
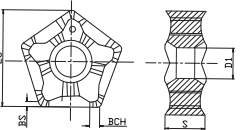
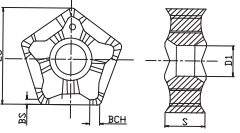


Designation	Size (mm)										Clamping Screw	Wrench
	D	D1	d	H	W	T	Z	PCD 1	PCD 2	Max.ap		
MFPN66050R-4T-M	50	58	22	40	10.4	6.3	4	-	-	5	SB4090	DTPM-15
MFPN66063R-5T-M	63	71	22	40	10.4	6.3	5	-	-	5		
MFPN66080R-6T-M	80	88	27	50	12.4	7.0	6	-	-	5		
MFPN66100R-7T-M	100	108	32	50	12.4	8.0	7	-	-	5		
MFPN66125R-9T-M	125	133	40	63	16.4	9.0	9	-	-	5		
MFPN66160R-11T-M	160	168	40	63	16.4	9.0	11	-	-	5		
MFPN66200R-13T-M	200	208	60	63	25.7	14.0	13	101.6	-	5		
MFPN66250R-15T-M	250	258	60	63	25.7	14.0	15	101.6	-	5		
MFPN66315R-17T-M	315	323	60	63	25.7	14.0	17	101.6	177.8	5		

MFPN66 SERIES

66° Face Mill with High Economical and 10 Cutting Edge Insert for Higher Productivity

● Applicable Inserts

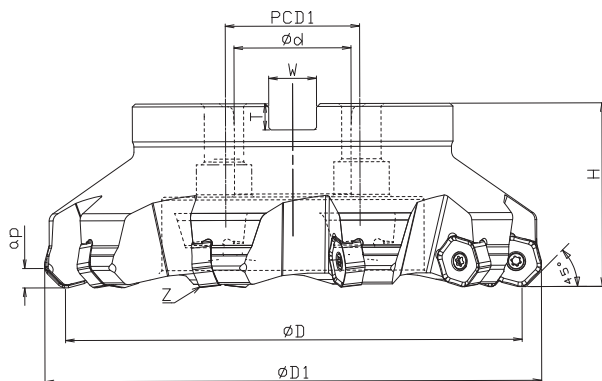
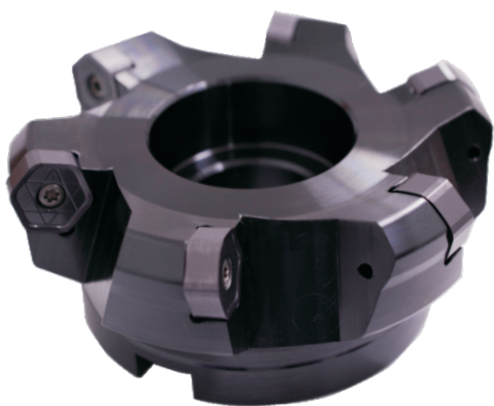
			Usage Classification		P	Steel	★	★							
			★ 1st Choice ☆ 2nd Choice	M	Stainless		★	★							
K	Cast iron	★			★										
N	Non-ferrous														
S	Superalloys			★											
H	Hard materials														
Insert				Insert No.	Size(mm)					Coated Carbide		Carbide			
			LC		S	D1	BS	BCH	TG4025	TG4035	TY602	TI960	HC200		
		PNMU0905XNER-UG	14.6	5.56	4.7	2	2	●							
		PNMU0905XNER-SG	14.6	5.56	4.7	2	2		●						
		PNMU0905XNER-TG	14.6	5.56	4.7	2	2			●					

THN45 SERIES

45° Face Mill with High Economical and 12 Cutting Edge Insert for Higher Productivity



- ★ Enhanced cutting edge for cutting stability and high feed machining.
- ★ Acute cutter pocket design and inclined screw clamping enables robust clamping.
- ★ High helical cutting edges for smooth machining double - sided 12 corner insert.



Designation	Size(mm)									Clamping Screw	Wrench
	D	D1	d	H	W	T	Z	PCD1	Max.ap		
THN45-50R04HN09M22	50	61.4	22	40	10.4	6.3	4	-	5	TH3009	THP09
THN45-63R06HN09M22	63	74.4	22	40	10.4	6.3	6	-	5		
THN45-80R06HN09M27	80	91.4	27	50	12.4	7.0	6	-	5		
THN45-100R06HN09M32	100	111.4	32	50	14.4	8.0	6	-	5		
THN45-125R08HN09M40	125	136.4	40	63	16.4	9.0	8	-	5		
THN45-160R10HN09M40	160	171.4	40	63	16.4	9.0	10	66.7	5	TH3009	TTL15P

THN45 SERIES

45° Face Mill with High Economical and 12 Cutting Edge Insert for Higher Productivity

● Applicable Inserts

Insert		Insert No.	Size(mm)					Coated Carbide				Carbide			
			IC	S	D1	BS	RE	TY602	TY615	TY625	TI960	HC200			
		HNMMU0906ANSN-GR	16.5	6.36	5	1.5	1.2	●							
		HNMMU0906ANSN-TR	16.5	6.36	5	1.5	0.8	●							

● Recommended Cutting Conditions

ISO	Workpiece material	Hardness	Grade	Cutting Speed	Feed
				Vc (m/min)	fz (mm/t)
P	Low Carbon Steel	≤HB180	TY602	200-300	0.20-0.40
	High Carbon and Alloy Steel	HB180-280		100-250	0.15-0.25
	Alloy Steel	HB280-350		100-180	0.20-0.40
M	Stainless Steel	≤HB200	TY602/TY615	100-200	0.10-0.30
K	Gray Cast Iron	HB150-250	TY602	130-230	0.20-0.40
	Ductile Cast Iron	HB150-250		120-220	0.10-0.30

Face Milling
THN45 Series

High-Feed Milling
MF-H Series

Shoulder Milling
TAN90 Series

Profile Milling
TRD Series

Slot Milling
TLXFD/SD Series

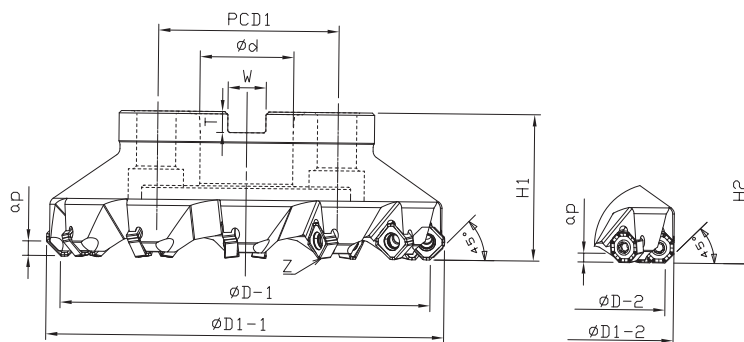
Multi-Functional Milling
Modular Bapm Series

TSO45 SERIES



45° Face Mill Offers Advantage of Using Square, Octagonal Inserts in the Same Pocket

- ★SNMU insert offers double-sided, square inserts with eight cutting edges.
- ★Most suitable for a large depth of cut and free cutting inserts with excellent chip control.
- ★ONMU inserts offers double-sided, octagonal insert with 16 cutting edges – high economy inserts.
- ★Light cutting force due to excellent chip control.
- ★The optimized cutting edge creates barrel-formed chips for easy removal, allowing an operation at higher feed rate.

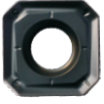
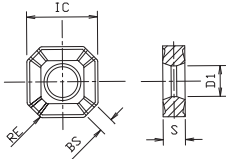
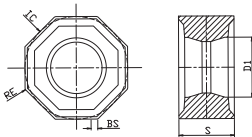


Designation	Size (mm)											Clamping Screw	Wrench
	D-1	D-2	D1-1	D1-2	d	H1	H2	W	T	Z	PCD1		
TSO45-50R04S13O05M22	50	52.3	62.5	62	22	40	38.77	10.4	6.3	4	-	TSO1013	TSOP1305
TSO45-63R06S13O05M22	63	65.3	75.5	75	22	40	38.77	10.4	6.3	6	-		
TSO45-80R06S13O05M27	80	82.3	92.5	92	27	50	48.77	12.4	7.0	6	-		
TSO45-100R08S13O05M32	100	102.3	112.5	112	32	50	48.77	14.4	8.0	8	-		
TSO45-125R10S13O05M40	125	127.3	137.5	137	40	63	61.77	16.4	9.0	10	-		
TSO45-160R12S13O05M40	160	162.3	172.5	172	40	63	61.77	16.4	9.0	12	66.7	TSO1013	TTL20

TSON45 SERIES

45° Face Mill Offers Advantage of Using Square, Octagonal Inserts in the Same Pocket

● Applicable Inserts

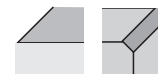
		Usage Classification		P	Steel	★													
				M	Stainless	★													
				K	Cast iron	★													
				N	Non-ferrous														
				S	Superalloys														
				H	Hard materials														
				Size(mm)							Coated Carbide		Carbide						
Insert		Insert No.		IC	S	D1	BS	RE	Max.ap		TY602	TY622	TY625	TI960	HC200				
		SNMU1305ANTR-PR		13	5.5	5.6	3	0.8	4.5	●									
		ONMU050505-PR		13	5.5	5.6	5	0.5	2.5	●									

● Recommended Cutting Conditions

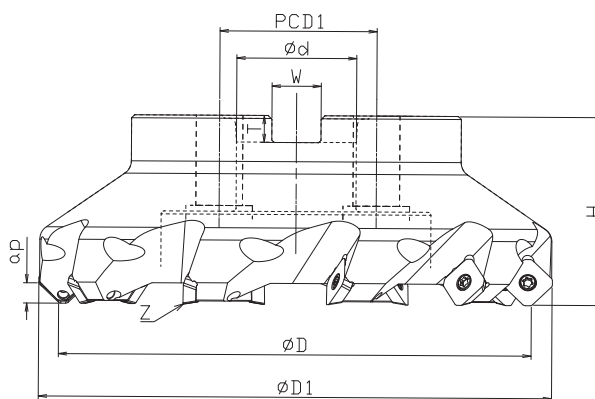
ISO	Workpiece material	Hardness	Grade	Cutting Speed	Feed
				Vc (m/min)	fz (mm/t)
P	Low Carbon Steel	≤HB180	TY602	120-250	0.10-0.50
	High Carbon and Alloy Steel	HB180-280		100-180	0.15-0.40
	Alloy Steel	HB280-350		70-150	0.15-0.40
M	Stainless Steel	≤HB200		100-200	0.10-0.30
K	Gray Cast Iron	HB150-250		100-180	0.10-0.50
	Ductile Cast Iron	HB150-250		100-180	0.10-0.30

TSE45 SERIES

45° Face Mill with High Precision and 4 Cutting Edge Insert for Higher Productivity



- ★ 4 cutting edges on one insert for highly economical machining.
- ★ Optimized relief geometry on the positive insert ensures low cutting force and minimal chattering.
- ★ Helical cutting edges and optimized positioning on cutter provide high wall accuracy and surface quality.
- ★ Sharp and tough rake geometry reduces fracture of cutting edges.

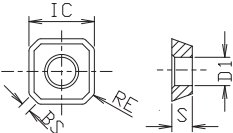
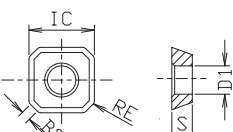


Designation	Size(mm)									Clamping Screw	Wrench
	D	D1	d	H	W	T	Z	PCD1	Max.ap		
TSE45-50R04SE12M22	50	62.9	22	40	10.4	6.3	4	-	6.5	TS2012	TSP12
TSE45-63R05SE12M22	63	75.9	22	40	10.4	6.3	5	-	6.5		
TSE45-80R06SE12M27	80	92.9	27	50	12.4	7.0	6	-	6.5		
TSE45-100R07SE12M32	100	112.9	32	50	14.4	8.0	7	-	6.5		
TSE45-125R08SE12M40	125	137.9	40	63	16.4	9.0	8	-	6.5		
TSE45-160R10SE12M40	160	172.8	40	63	16.4	9.0	10	66.7	6.5	TS3512	TTL15

TSE45 SERIES

45° Face Mill with High Precision and 4 Cuttig Edge Insert for Higher Productivty

● Applicable Inserts

		Usage Classification											
		P	Steel	★									
		M	Stainless	★									
		K	Cast iron	★									
		N	Non-ferrous					★					
		S	Superalloys										
		H	Hard materials										
		★ 1st Choice ☆ 2nd Choice											
Insert	Insert No.	Size(mm)					Coated Carbide			Carbide			
		IC	S	D1	BS	RE	TY602	TY622	TY625	TI960	HC200		
		SEKT12T3AGTN	13.4	4	5.5	1.3	1.5	●					
		SEHT12T3-HL	13.4	4	5.5	1.3	1.5				●		

● Recommended Cutting Conditions

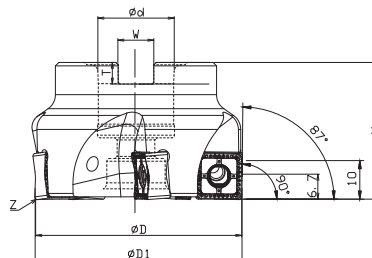
ISO	Workpiece material	Hardness	Grade	Cutting Speed	Feed
				Vc (m/min)	fz (mm/t)
P	Low Carbon Steel	≤HB180	TY602	120-220	0.15-0.30
	High Carbon and Alloy Steel	HB180-280		70-150	0.15-0.30
	Alloy Steel	HB280-350		70-150	0.15-0.30
M	Stainless Steel	≤HB200		120-200	0.15-0.30
K	Gray Cast Iron	HB150-250		140-220	0.15-0.30
	Ductile Cast Iron	HB150-250		150-240	0.15-0.30
N	Aluminum	—	HC200	300-800	0.07-0.55

TSN SERIES



Shoulder Milling Cutter with 8 Double-Sided Cutting Edge and Low Cutting Forces for Reduced Chattering and Superior Fracture Resistance

- ★ The insert is double-sided eight cutting edge type, which is economical. The large front angle of the insert is designed to cut easily.
- ★ There are M and ML grooves to meet the processing requirements under different working conditions



Designation	Size(mm)								Coolant Hole	Insert	Clamping Screw	Wrench
	D	D1	d	H	W	T	Z	MAX.ap				
TSN90-50R05SN13M22	50	50.84	22	40	10.4	6.3	5	6.7/10	●	SNGX130608	TSN1306	TSNL13
TSN90-63R06SN13M22	63	63.52	22	40	10.4	6.3	6	6.7/10	●			
TSN90-80R07SN13M27	80	80.6	27	50	12.4	7.0	7	6.7/10	●			
TSN90-100R08SN13M32	100	100.58	32	50	14.4	8.0	8	6.7/10	●			
TSN90-125R10SN13M40	125	125.72	40	63	16.4	9.0	10	6.7/10	●			

● Applicable Inserts

Usage Classification	P	Steel	★							
	M	Stainless	★							
	K	Cast iron		★						
	N	Non-ferrous								
	S	Superalloys	☆	★						
	H	Hard materials								
	★ 1st Choice ☆ 2nd Choice									

Insert	Insert No.	Size(mm)				Coated Carbide		Carbide		
		IC	S	D1	RE	TE620	TY720	TS320	TI960	HC200
	SNGX130608-ML	13.5	6.9	5.4	0.8	●	●	●		
	SNGX130608-M	13.5	6.9	5.4	0.8	●	●			

● Recommended Cutting Conditions

ISO	Workpiece material	Hardness	Priority		Cutting Speed	Feed
			Chipbreaker	Grade	Vc (m/min)	fz (mm/t)
P	Low Carbon Steel	≤ HB180	M	TE620	180-300	0.10-0.20
	High Carbon and Alloy Steel	HB180-280	M		130-210	0.10-0.20
	Alloy Steel	HB280-350	M		100-180	0.10-0.20
M	Stainless Steel	≤ HB200	M	TY720	120-300	0.10-0.20
K	Gray Cast Iron	HB150-250	M		100-280	0.13-0.25
	Ductile Cast Iron	HB150-250	M		100-180	0.13-0.25
S	Ni-base Heat Resistant Alloy	—	ML	TS320	30-80	0.10-0.20
	Titanium Alloy	—	ML		35-90	0.10-0.20