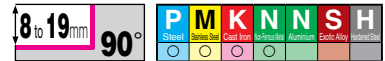
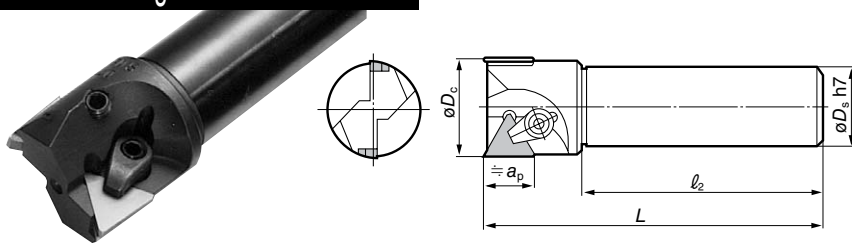


FMS Type



Shoulder Milling for Steel & Cast Iron



Body

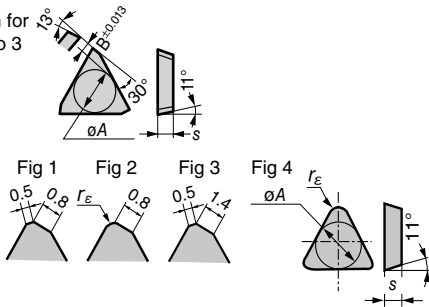
Cat. No.	Stock	Dimensions (mm)					No. of Teeth	Axial Rake	Radial Rake	Applicable Insert
		ϕD_c	L	ϕD_s	a_p	l_2				
FMS 216	●	16	70	16	8	50	1	+3°	-6°	TPKN 22TR
220	●	20	100	20	8	75	2	+3°	-4°	
225	●	25	110	25	8	80	2	+7°	-4°	
FMS 330	●	30	160	32	13	120	2	+7°	-4°	TPKN 32TR
332	●	32	160	32	13	120	2	+7°	-4°	
335	●	35	160	32	13	120	2	+7°	-4°	
FMS 440	●	40	160	32	19	120	2	+7°	-4°	TPCH 43TR
450	●	50	160	32	19	120	2	+7°	-4°	
460	●	60	160	32	19	120	3	+7°	-4°	
440B	●	40	160	42	19	120	2	+7°	-4°	

Inserts are not included.

Inserts

P Steel M Stainless Steel K Cast Iron N Non-Ferrous Metal S Exotic Alloy H Hardened Steel

Common for Fig.'s 1 to 3



Grade	Coated Carbide		Carbide		Cermet		Dimensions (mm)			Applicable Endmill		
	P	K	P	K	P	P	A	s	r_f			
High Speed/Light	●	●	●	●	●	●						
General Purpose	●	●	●	●	●	●						
Roughing	●	●	●	●	●	●						
Cat. No.	ACP100	ACP200	ACP300	ACK200	ACK300	A30N	A30	G10E	T1500A	T1200A	T250A	Fig
TPKN 22TR						●						2
22R							●					1
TPMN 222							●	●				4
TPKN 32TR						●						2
32R							●	●				1
TPMN 322							●	●	●	▲		4
TPCH 43TR	●	●	●			●			●	▲	●	3
43R				●	●		●	●				3
TPMN 432							●	●	●	▲		4
433							●	●				4

H10E grade is also available for TPCH43TR.
EH10Z and EH20Z grades are also available for TPCH43R.

Recommended Cutting Conditions

Diameter $\phi 16$ to $\phi 25$ mm

ISO	Work Material	Hardness	Cutting Speed v_c (m/min) Min. - Optimum - Max.	Feed Rate f_z (mm/t) Min. - Optimum - Max.	Grade
P	Low Carbon Steel	180 to 280HB	50-75-100	0.03-0.06-0.10	ACP200
	Alloy Steel	180 to 280HB	50-65-80	0.03-0.05-0.08	ACP200
K	Cast Iron	250HB	40-70-100	0.03-0.10-0.15	ACK200
N	Non-ferrous Metal	—	40-90-150	0.03-0.10-0.15	G10E

Diameter $\phi 30$ to $\phi 35$ mm

ISO	Work Material	Hardness	Cutting Speed v_c (m/min) Min. - Optimum - Max.	Feed Rate f_z (mm/t) Min. - Optimum - Max.	Grade
P	Low Carbon Steel	180 to 280HB	60-90-120	0.04-0.08-0.15	ACP200
	Alloy Steel	180 to 280HB	60-80-100	0.04-0.08-0.13	ACP200
K	Cast Iron	250HB	60-90-120	0.04-0.12-0.20	ACK200
N	Non-ferrous Metal	—	60-130-200	0.04-0.12-0.20	G10E

Diameter $\phi 40$ to $\phi 60$ mm

ISO	Work Material	Hardness	Cutting Speed v_c (m/min) Min. - Optimum - Max.	Feed Rate f_z (mm/t) Min. - Optimum - Max.	Grade
P	Low Carbon Steel	180 to 280HB	60-100-150	0.05-0.15-0.20	ACP200
	Alloy Steel	180 to 280HB	60-90-120	0.05-0.12-0.18	ACP200
K	Cast Iron	250HB	60-90-120	0.05-0.15-0.25	ACK200
N	Non-ferrous Metal	—	80-140-200	0.05-0.15-0.25	G10E

Note The cutting conditions above are a guide. Actual conditions will need to be adjusted according to machine rigidity, work clamp rigidity, cutting depth, and other factors.

Spare Parts

Clamp	Double Screw	Shim	Spring Pin	Spanner	Applicable Endmill
CCM5BSL	WB5-10 WB5-12 M5 5.0	—	—	TH025	FMS 200
CCM6BL	WB6-16 M6 5.0	—	—	LH030	FMS 300
CCM8UL	WB8-20 M8 8.0	STPL42	SPP308	LH040	FMS 400

Recommended Tightening Torque (N·m)