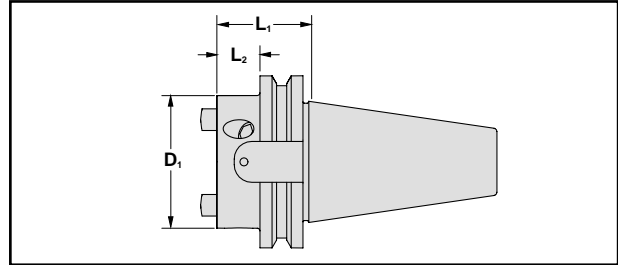
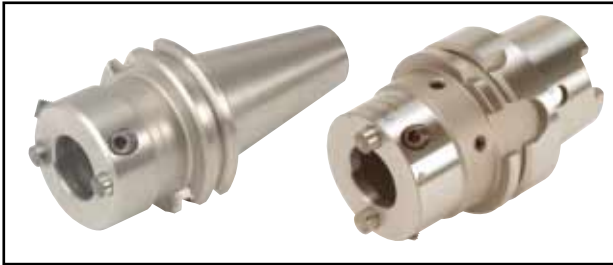


■ SPINDLE ADAPTOR

Diameters

1.93" and 3.07"

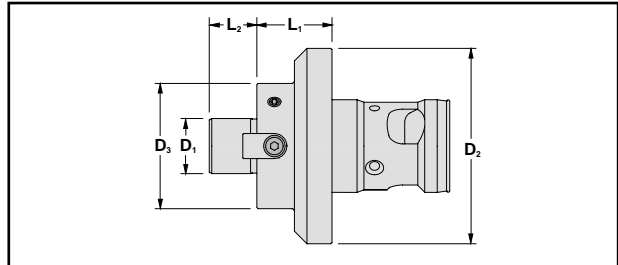


D ₁ Nominal Diameter	Adaption	New Cutter Number	Old Cutter Number	Innofit Adaption	L ₁ Extension Length	L ₂ Projection Length
1.93	CAT 40	C40Z4SA-13	NEW	Z4	1.375	.625
1.93	CAT 40	C40Z4SA-21	NEW	Z4	2.125	1.375
1.93	HSK63A	HSKA63Z45A062	NEW	Z4	2.441	1.375
3.07	CAT 50	C50Z5SA-21	NEW	Z5	2.125	1.375

■ FACE MILL ADAPTOR

Pilot Diameters

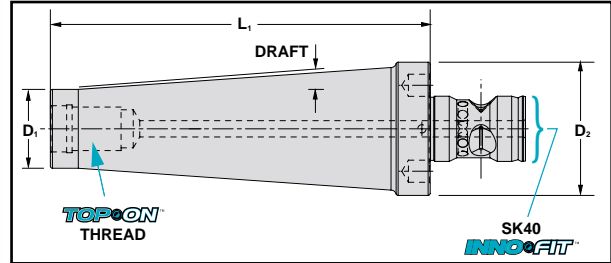
.500"-1.500"



D ₁ Nominal Diameter	Adaption	New Cutter Number	Old Cutter Number	D ₂ Flange Diameter	L ₁ Extension Length	L ₂ Pilot Height	Keys	D ₃
.500	SK40	Z4SM05SA-10	NEW	1.93	1.00	.56	.250	1.44
.750	SK40	Z4SM07SA-10	NEW	1.93	1.00	.68	.312	1.75
1.000	SK40	Z4SM10SA-12	NEW	1.93	1.25	.68	.375	2.75
.750	SK50	Z5SM07SA-12	NEW	3.07	1.25	.68	.312	1.75
1.000	SK50	Z5SM10SA-12	NEW	3.07	1.25	.68	.375	2.75
1.250	SK50	Z5SM12SA-12	NEW	3.07	1.25	.68	.500	2.75
1.500	SK50	Z5SM15SA-12	NEW	3.07	1.25	.94	.625	3.81

TOPCON™ TO INNOFIT™ ADAPTOR

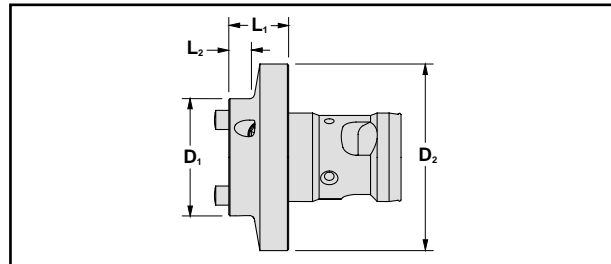
Diameter
1.93"



Cutter Number	D ₁ Diameter	D ₂ Diameter	Thread Size	L Length	Possible Draft Angle
Z4MOD12SK-25	0.83	1.93	M12	2.50	5.0°
Z4MOD16SK-45	0.83	1.93	M12	4.50	7.0°
Z4MOD12SK-55	0.83	1.93	M12	5.50	5.0°
Z4MOD16SK-25	1.14	1.93	M16	2.50	7.0°
Z4MOD16SK-45	1.14	1.93	M16	4.50	6.5°
Z4MOD16SK-55	1.14	1.93	M16	5.50	3.5°

REDUCER

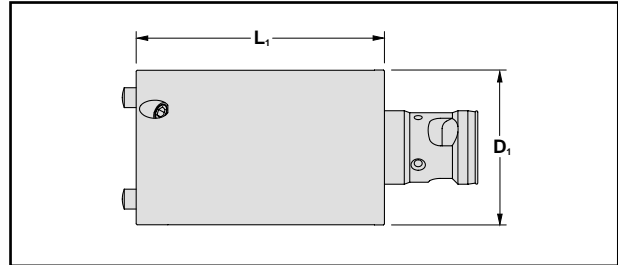
Diameter
1.93"



D ₁ Nominal Diameter	Adaption	New Cutter Number	Old Cutter Number	L ₁ Extension Length	L ₂ Projection Length	D ₂ Flange Diameter
1.93	SK40, SK50	Z5Z4 SA025	NEW	.985	.355	3.07
1.93	SK40, SK50	Z5Z4 SA050	NEW	1.970	1.340	3.07
1.93	SK40, SK50	Z5Z4 SA075	NEW	2.955	2.320	3.07
1.93	SK40, SK50	Z5Z4 SA100	NEW	3.940	3.310	3.07

EXTENSION

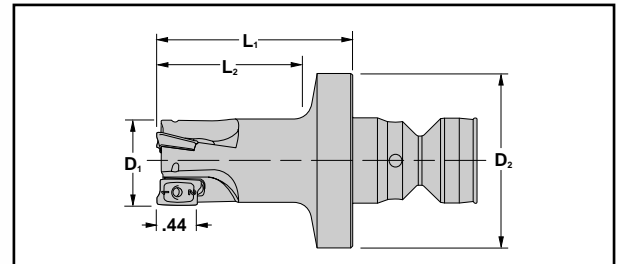
Diameters
1.93" and 3.07"



D ₁ Nominal Diameter	Adaption	New Cutter Number	Old Cutter Number	L ₁ Extension Length
1.93	SK40	Z4Z4 SA050	NEW	1.970
1.93	SK40	Z4Z4 SA075	NEW	2.950
1.93	SK40	Z4Z4 SA100	NEW	3.940
3.07	SK50	Z5Z5 SA075	NEW	2.950
3.07	SK50	Z5Z5 SA100	NEW	3.940
3.07	SK50	Z5Z5 SA125	NEW	4.925

END MILL SERIES 12J1F

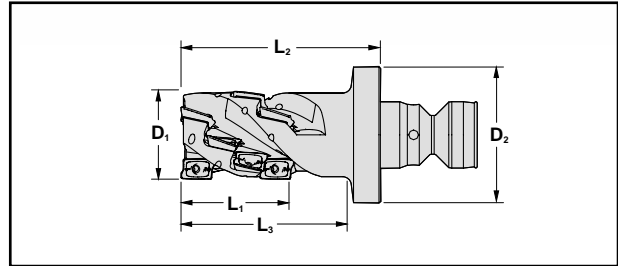
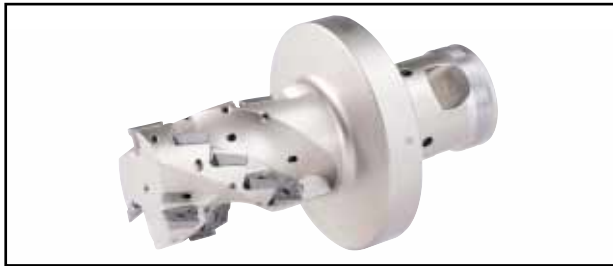
Diameters .750"-1.250"
Cutting Edge Length .44"
Insert Corner .015", .031", .062" and .125"R



D ₁ Nominal Diameter	Adaption	New Cutter Number	Old Cutter Number	L ₁ Extension Length	L ₂ Projection Length	D ₂ Flange Diameter	Number of Inserts
.750	SK 40	12J1F-07030Z4R01	NEW	3.0	2.40	1.93	2
1.000	SK 40	12J1F-10040Z4R01	NEW	4.0	3.40	1.93	2
1.000	SK 40	12J1F-10030Z4R01	NEW	3.0	2.40	1.93	3
1.250	SK 40	12J1F-12030Z4R01	NEW	3.0	2.40	1.93	4
1.250	SK 40	12J1F-12045Z4R01	NEW	4.5	3.90	1.93	3

■ EXTENDED FLUTE END MILL SERIES 22J3F

Diameters 1.102"-1.500" **Cutting Edge Length** 1.10" to 3.00" **Insert Corner** .015", .031", .062", and .125"r

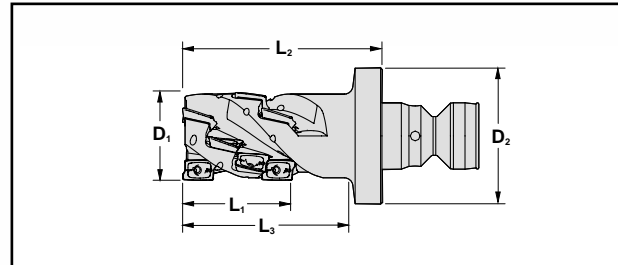


D ₁ Nominal Dia.	Adaption	New Cutter Number	Old Cutter Number	L ₁ Max. Depth of Cut	L ₂ Extension Length	L ₃ Projection Length	D ₂ Flange Diameter	No. of Flutes Effective	Number of Inserts
1.102	SK40	22J3F-11022Z4R01	NEW	1.10	2.25	1.65	1.93	2	6
1.250	SK40	22J3F-12027Z4R01	NEW	1.54	2.75	2.15	1.93	3	12
1.500	SK40	22J3F-15037Z4R01	NEW	2.60	3.75	3.15	1.93	4	28

In side stations, use only .015"r to ensure overlap

■ EXTENDED FLUTE END MILL SERIES 22J3X

Diameters 1.000"-2.500" **Cutting Edge Length** 1.00" to 4.00" **Insert Corner** .015", .031", .062", and .125"r

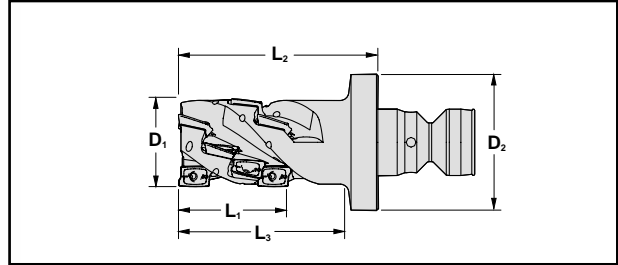


D ₁ Nominal Dia.	Adaption	New Cutter Number	Old Cutter Number	L ₁ Max. Depth of Cut	L ₂ Extension Length	L ₃ Projection Length	D ₂ Flange Diameter	No. of Flutes Effective	Number of Inserts
1.000*	SK40	22J3X-10020Z4R01	NEW	1.000	2.012	1.500	1.93	2	4
1.000	SK40	22J3X-10023Z4R01	NEW	1.500	2.387	1.875	1.93	2	6
1.250	SK40	22J3X-12020Z4R01	NEW	1.000	2.012	1.500	1.93	2	4
1.250	SK40	22J3X-12028Z4R01	NEW	2.000	2.875	2.375	1.93	3	12
1.500	SK40	22J3X-15025Z4R01	NEW	1.500	2.512	2.000	1.93	3	9
1.500	SK40	22J3X-15028Z4R01	NEW	2.000	2.887	2.375	1.93	3	12
1.500*	SK50	22J3X-15031Z5R01	NEW	2.000	3.125	2.500	3.07	3	12
1.500	SK40	22J3X-15033Z4R01	NEW	2.500	3.387	2.875	1.93	4	20
1.500	SK50	22J3X-15041Z5R01	NEW	3.000	4.125	3.500	3.07	4	24
2.000	SK40	22J3X-20025Z4R01	NEW	1.500	2.512	2.000	1.93	3	9
2.000	SK40	22J3X-20031Z5R01	NEW	1.500	3.125	2.500	1.93	3	9
2.000	SK50	22J3X-20048Z4R01	NEW	4.000	4.887	4.375	3.07	4	32
2.000	SK40	22J3X-20051Z5R01	NEW	4.000	5.125	4.500	1.93	4	32
2.000	SK40	22J3X-20038Z4R01	NEW	3.000	3.887	3.375	1.93	5	30
2.000*	SK50	22J3X-20051Z5R01	NEW	4.000	5.125	4.500	3.07	5	40
2.500*	SK50	22J3X-25031Z5R01	NEW	2.000	3.125	2.500	3.07	4	16
2.500	SK50	22J3X-25041Z5R01	NEW	3.000	4.125	3.500	3.07	4	24
2.500	SK50	22J3X-25041Z5R02	NEW	3.000	4.125	3.500	3.07	5	30

* Call for availability

■ EXTENDED FLUTE FULL EFFECTIVE END MILL SERIES 22J3E

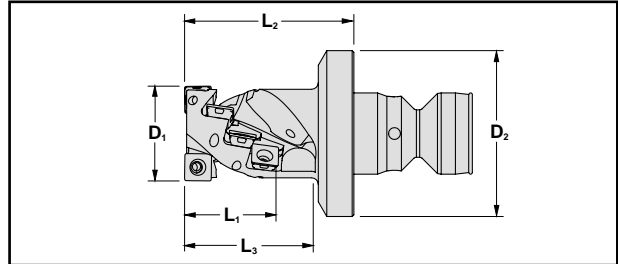
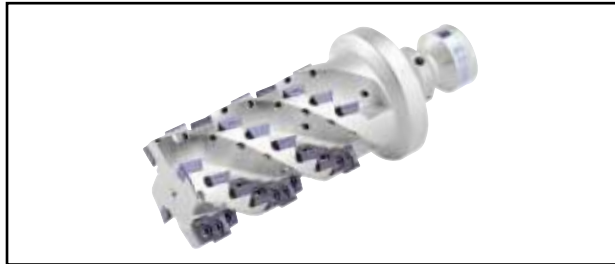
Diameters 1.500" to 3.000"
Max. Depth of Cut 2.26" to 4.42"
Insert Corner .031", .062", .093", .125"R



D ₁ Nominal Diameter	New Cutter Number	Old Cutter Number	L ₁ Max. Depth of Cut	L ₂ Extension Length	L ₃ Projection Length	D ₂ Flange Diameter	No. of Flutes Effective	No. of Flutes Total	Number of Inserts
1.500	22J3E-15035Z5R01	NEW	2.26	3.55	2.85	3.07	2	2	8
2.000	22J3E-20035Z5R01	NEW	2.26	3.55	2.85	3.07	3	3	12
2.500	22J3E-25055Z5R01	NEW	4.42	5.55	4.85	3.07	4	4	32

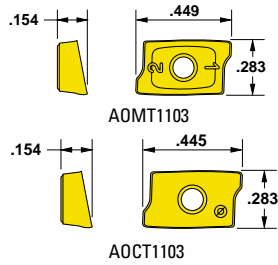
■ EXTENDED FLUTE FULL-EFFECTIVE END MILL SERIES 25J3E

Diameters 1.102" to 1.500"
Max. Depth of Cut 1.10" to 2.66"
Insert Corner .020"R



D ₁ Nominal Diameter	New Cutter Number	Old Cutter Number	L ₁ Max. Depth of Cut	L ₂ Extension	L ₃ Projection Length	D ₂ Flange Diameter	No. of Flutes Effective	Number of Inserts
1.102	25J3E-11020Z4R01	NEW	1.10	2.00	2.60	1.93	2	8
1.250	25J3E-12021Z4R02	NEW	1.34	2.12	2.72	1.93	3	15
1.500	25J3E-15036Z4R02	NEW	2.66	3.60	4.20	1.93	4	40

INSERTS	Insert Number	Application	Corner	Grades					
				IN	30M	2005	2030	2015	2040

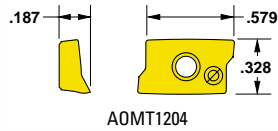


FOR 12J1F SERIES

AOMT110304R	Helical positive	.015R		■	■	■	■	■
AOCT110304FR-P	Ground/Polished	.015R	■					
AOMT110308R	Helical positive	.031R		■	■	■	■	■
AOCT110308FR-P	Ground/Polished	.031R	■					
AOMT110316R	Helical positive	.062R		■	■	■	■	■
AOMT110332R	Helical positive	.125R		■	■	■	■	■

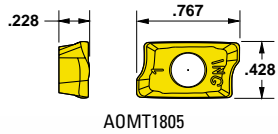
FOR 22J3F SERIES

AOMT110304R	Helical positive	.015R		■	■	■	■	■
AOCT110304FR-P	Ground/Polished	.015R	■					
AOMT110308R	Helical positive	.031R		■	■	■	■	■
AOCT110308FR-P	Ground/Polished	.031R	■					
AOMT110316R	Helical positive	.062R		■	■	■	■	■
AOMT110332R	Helical positive	.125R*		■	■	■	■	■



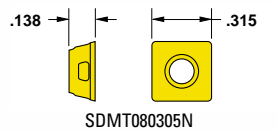
FOR 22J3X SERIES

AOMT120408FR	Helical positive	.031R		■	■			
AOMT120408R	Helical positive	.031R		■	■	■	■	■
AOMT120416R	Helical positive	.062R		■	■		■	■
AOMT120432R	Helical positive	.125R		■	■		■	■



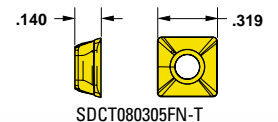
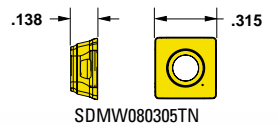
FOR 22J3E SERIES

AOMT180508R	Helical positive	.031R		■	■	■	■	■
AOMT180516R	Helical positive	.062R		■	■	■	■	■
AOMT180524R	Helical positive	.093R		■			■	■
AOMT180532R	Helical positive	.125R		■	■	■	■	■
AOMT180564R	Helical positive	.250R		■			■	■



FOR 25J3E SERIES

SDMT080305N	Multi-purpose	.020R		■	■	■	■	■
SDMW080305TN	Flat top	.020R		■	■	■	■	■
SDCT080305FN-P	Ground/Polished	.020R	■					



* Cutter body must be relieved to accept .125"r insert

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