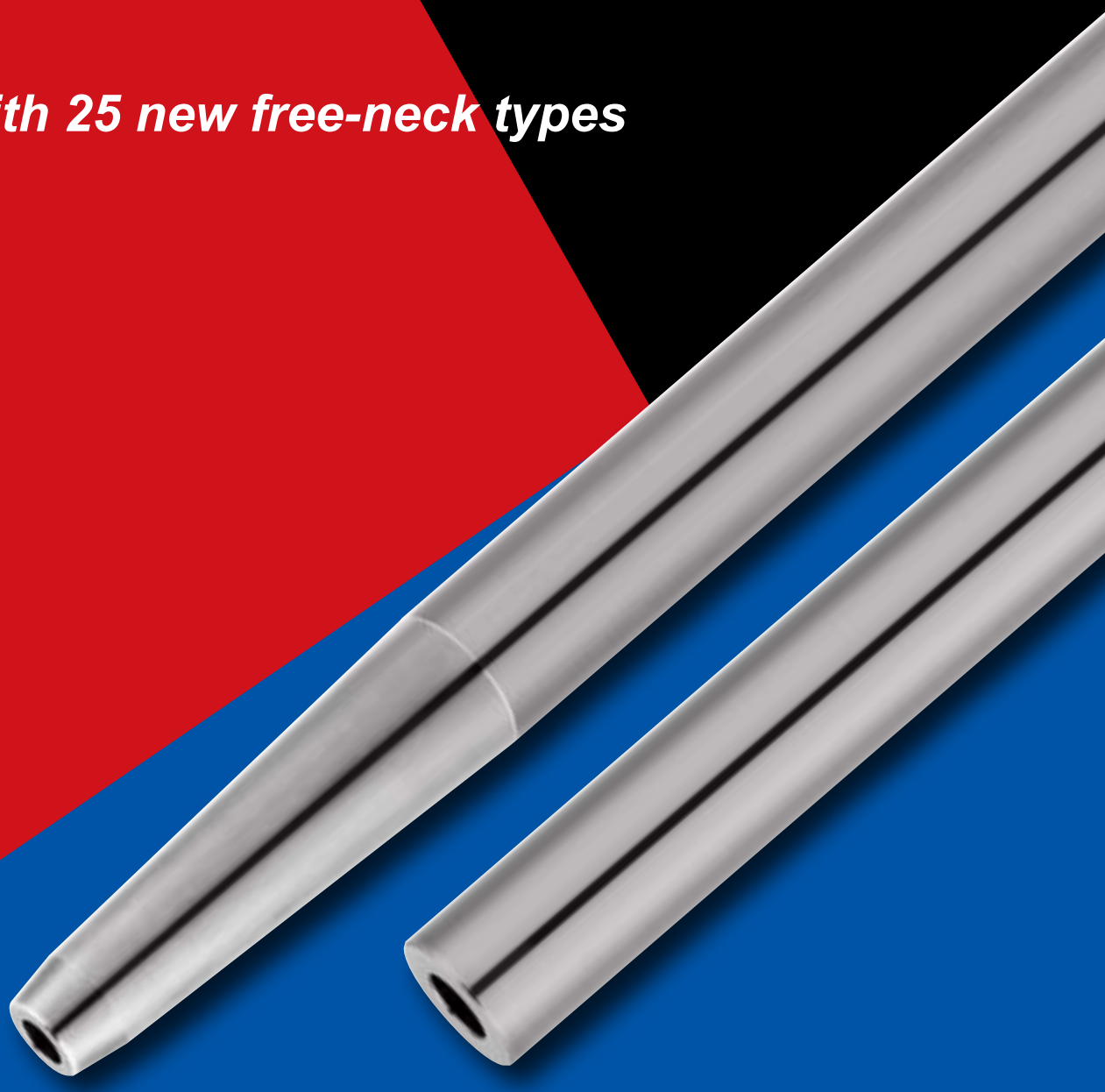
MOLDINO
The Edge To Innovation

Carbide Shank for Modular Mill

Now with 25 new free-neck types

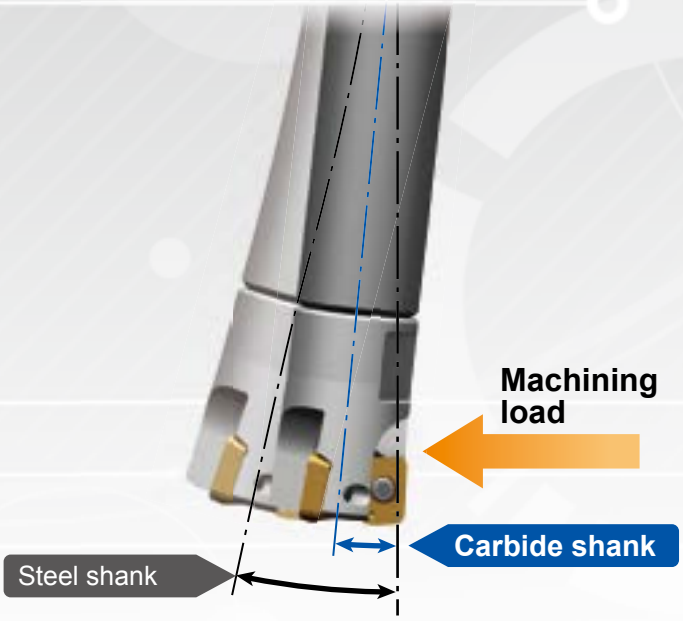


MOLDINO Tool Engineering, Ltd.
New Product News | No.2502E-2 | 2026-2

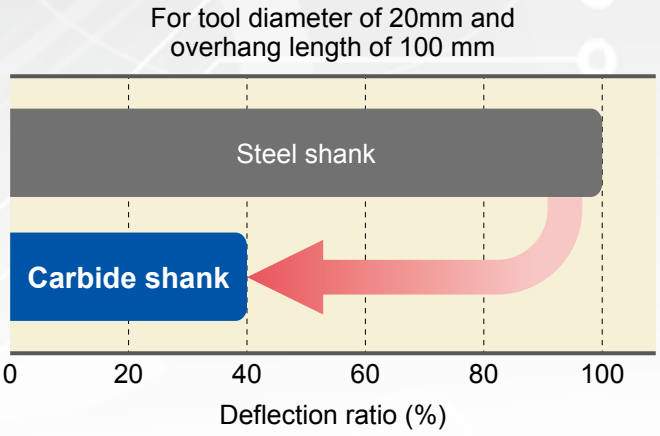
Advantages of Carbide Shanks

POINT 1

Minimizes deflection for improved machining precision.



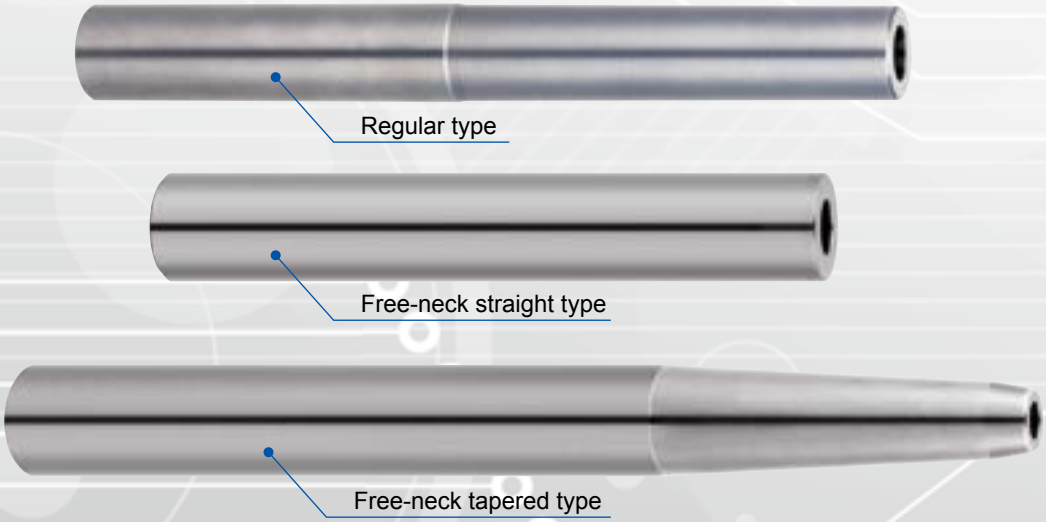
Comparison of deflection for shanks with identical dimensions under identical loads



Improved shank stiffness reduces deflection to less than half of that for steel shanks.

POINT 3

Ideal for a wide range of machining applications



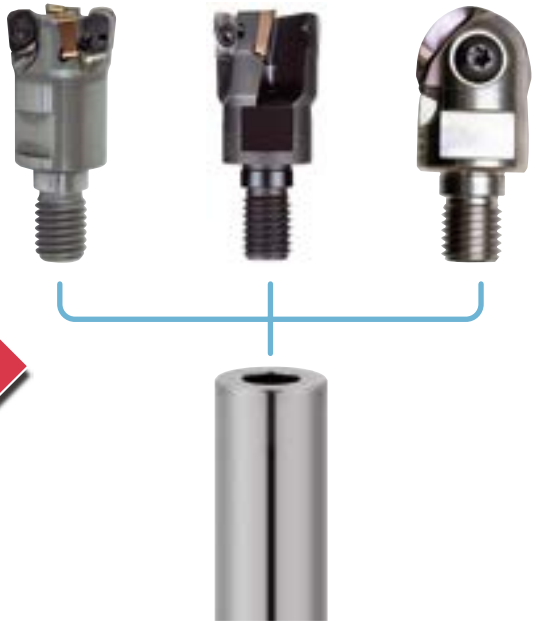
POINT 2

A single tool for everything from roughing to finishing

Individual tools

New tools are required for different machining processes.
Rising number of tools, leading to lack of storage space

Using the shank for modular mill



**Simply replace the modular head.
Consolidated shanks save space.**

Straight and tapered free-neck types are available in addition to the lineup for general applications.
Select shanks for specific needs and machining requirements.

New tapered and straight free-neck types added to lineup

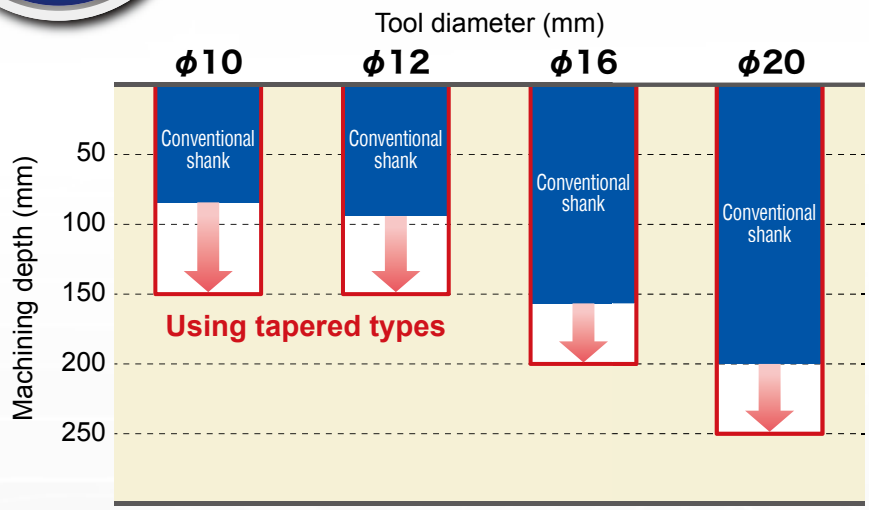
Adjustable overhang length eliminates interference concerns.

Issue 01

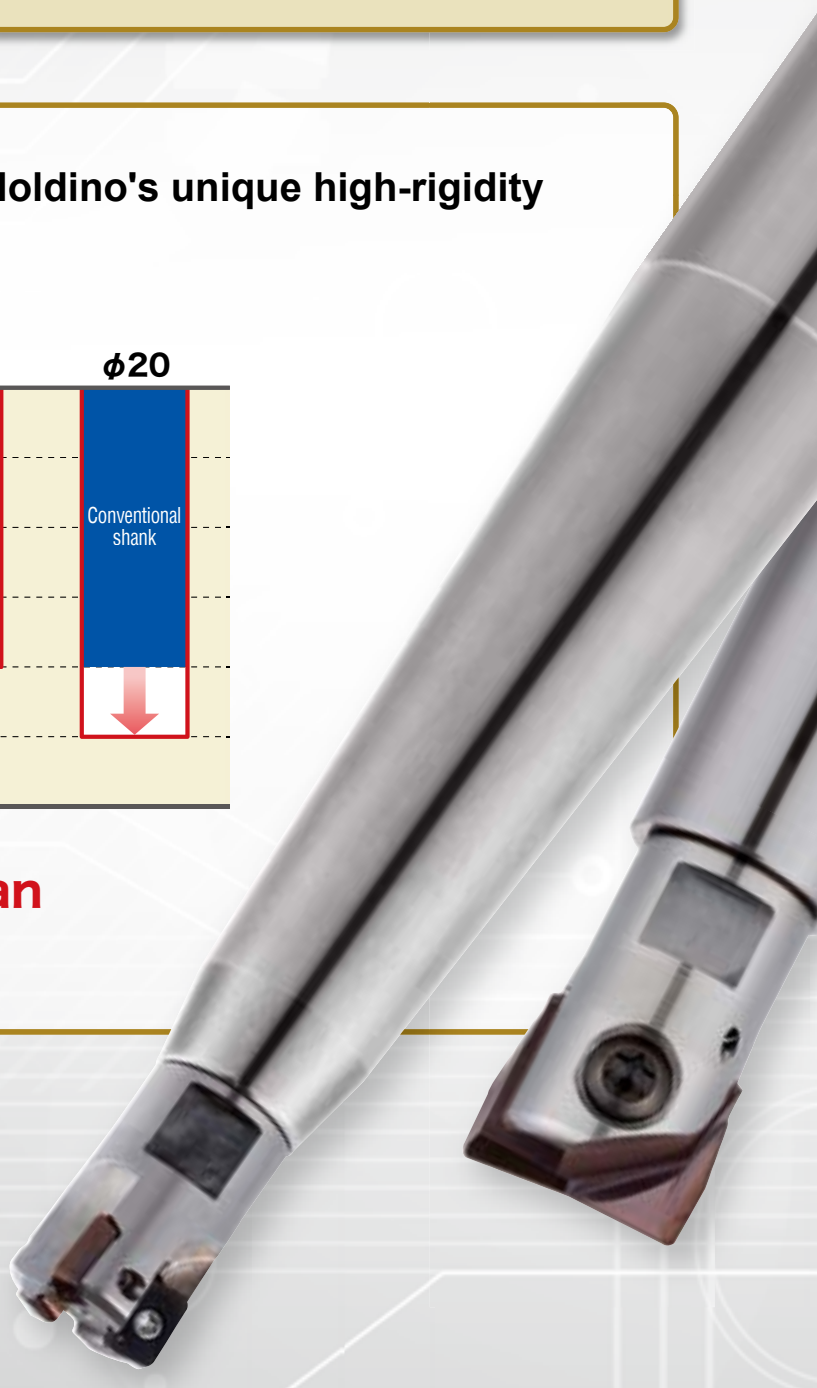
Current machining methods don't reach deep spaces, so we've always used electrical discharge machining.

Solution

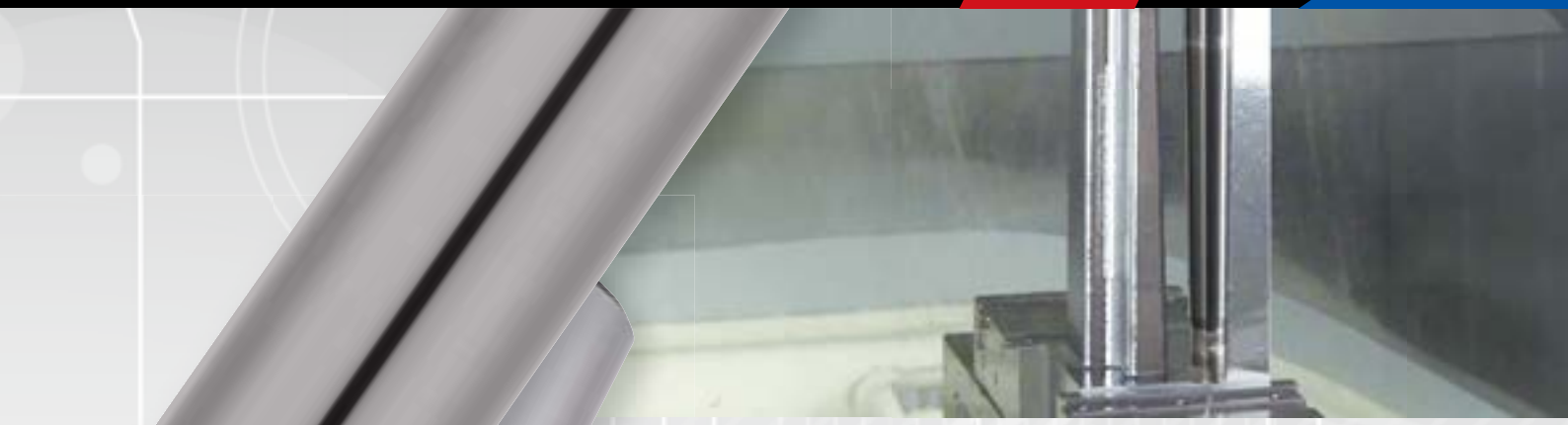
Direct milling using Moldino's unique high-rigidity taper profile



Tools reach deeper than conventional shanks.



YouTube
Check here to see machining video.

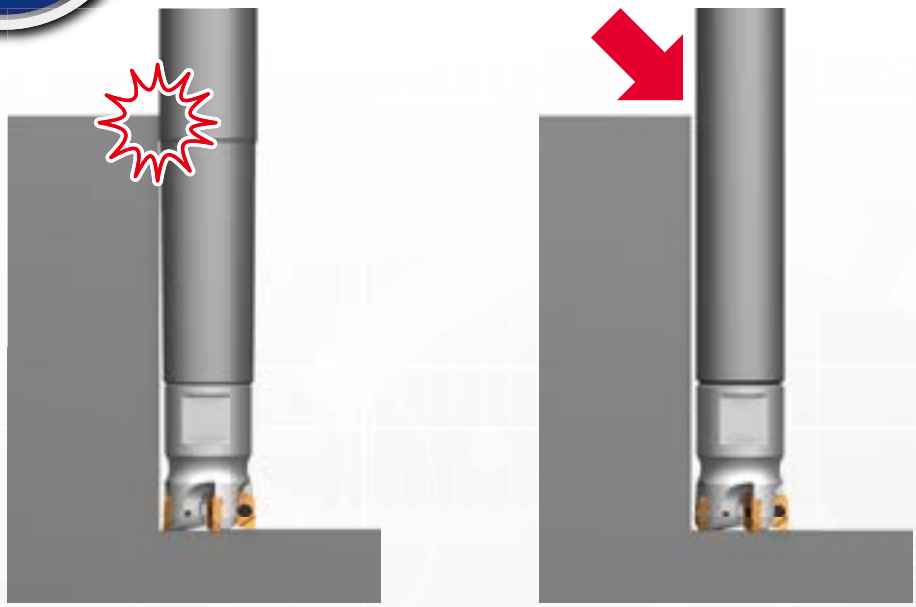


Issue 02

Shank interferes with the vertical walls of structural sections.

Solution

Straight type eliminates interference.

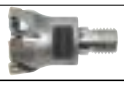


Conventional shank

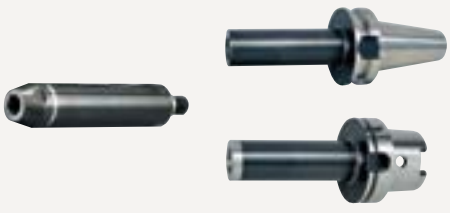
Using a straight type

Reducing shank diameter relative to tool diameter eliminates interference with vertical walls.

Supported tool lineup

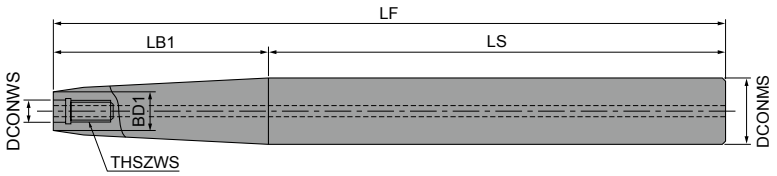
Process/ Type		Tools						Features
		Cutter	Shape	Tool dia. (mm)	No. of flutes	No. of corners	max. ap (mm)	
Roughing	High feed	**TR2F-M**		ϕ16～ϕ42	2～6	2	0.5	Multi-flute high-feed tools for high-efficiency machining of high-performance mold materials
		TR4FM		ϕ32・ϕ40	2・3	4	1.2	Four-corner high-feed tools for high-speed machining at f_z = 2.0mm
		TD4N-M		ϕ16～ϕ42	2～6	4	1	Four-corner double-sided multi-flute high-feed tools to reduce uncut chips
		ASRM		ϕ20～ϕ40	2～4	2	2	High-feed tools with rounded cutting edges and excellent cutting edge strength
		ASRTM		ϕ25～ϕ40	2～4	3	2	Versatile three-corner high-feed tools with a wide range of breaker types
		ASRM (Multi-flute type)		ϕ16～ϕ40	2～6	2	1.5	Multi-flute high-feed tools with small inserts for outstanding stiffness
		ASRFM		ϕ20～ϕ40	2～5	4	1.2	Four-corner high-feed tools with inserts for outstanding economy
Roughing, Semi-Finishing	Ball	**BR2PM**		ϕ16～ϕ32 (R8～R16)	2	2	15～28	Ball end mills with unique twisted cutting edges
		BCFM		ϕ16～ϕ32 (R8～R16)	2	2	16～28	Ball end mills with a keyway insert clamping mechanism
	Radius	**RH2P-M**		ϕ8～ϕ32	1～8	2	0.5	Radius end mills with high-precision inserts set at a negative rake angle for hardened steel machining
		ARM		ϕ12～ϕ40	2～4	-	2.5～5	Radius end mills with round inserts for a wide range of applications
		RV-M		ϕ25～ϕ40	3～5	8	5・6	Radius end mills with a unique anti-rotation mechanism for difficult-to-machine materials
	Square	**AHJM**		ϕ16～ϕ40	2	2	8.5～14.5	Multi-functional end mills for drilling, ramping, and side-cutting milling
		AHUM		ϕ16～ϕ40	2～6	2	5～14	Shoulder mills with high rake angle cutting edges for use with general to difficult-to-machine materials
		ASMM		ϕ8～ϕ32	1～8	2	0.3・5	Small-diameter, multi-flute end mills available for both high-feed and shoulder milling
		ASPVM-Z		ϕ16～ϕ26	2・3	2	3	End mills for efficient counterboring
Finishing	Ball	**ABPFM**		ϕ10～ϕ32 (R5～R16)	2	1	5.6～18.5	High-precision, indexable ball end mills with a unique high-helix cutting edge profile
	Radius	**ARPFM**		ϕ10～ϕ32	2	1	3～10	High-precision indexable radius end mills with twisted cutting edges that combine edge strength with machinability
	Square	**ASPVM10**		ϕ10～ϕ32	2～8	2	2.3	Small-diameter, multi-flute end mills with high-precision inserts for smooth cutting
		ASPVM20		ϕ16～ϕ40	2～6	2	3	Finishing end mills for floor, side, and vertical finishing milling
	Special Shape Tools (GALLEA series)	**GF1**		ϕ16～ϕ25	2～4	1	9.5	Barrel-shaped end mills to accommodate large contour Z-pitch settings
		GF2T		ϕ20～ϕ40	3～6	2	12	Two-corner barrel-shaped end mills with inserts with unique clamping design
		GF3L		ϕ20～ϕ30	3	3	2.5～3.9	Three-corner barrel-shaped end mills for efficient finishing on shallow slopes
		GP1LB		ϕ16～ϕ30	2	1	8～15	Precision-type end mills with lens and barrel shapes
		GP1T		ϕ12～ϕ30	2	1	8.6～21.6	Tapered barrel-shaped end mills to maximize the benefits of 5-axis machining

	Cutting applications
	Planing Slotting Die-sinking Profiling Helical
	Planing Slotting Die-sinking Profiling Helical Vertical
	Planing Slotting Die-sinking Profiling Helical
	Planing Slotting Die-sinking Profiling Helical
	Planing Slotting Die-sinking Profiling Helical
	Planing Slotting Die-sinking Profiling Helical
	Planing Slotting Die-sinking Profiling Helical
	Slotting Die-sinking Profiling Radius Helical
	Slotting Die-sinking Profiling Radius Helical
	Planing Side milling Die-sinking Helical
	Planing Slotting Die-sinking Profiling Helical
	Planing Slotting Die-sinking Profiling Helical
	Planing Side milling Slotting Die-sinking Profiling Helical Drilling
	Planing Side milling Slotting Die-sinking Profiling Helical
	Planing Side milling Slotting Die-sinking Profiling Helical
	Spot facing
	Planing Side milling Die-sinking Profiling Radius Helical
	Planing Side milling Die-sinking Profiling Helical
	Planing Side milling Slotting Die-sinking Profiling Helical Vertical
	Planing Side milling Slotting Die-sinking Profiling Helical Vertical
	Side milling
	Side milling
	Profiling
	Planing Side milling Profiling
	Profiling

Shank, Arbor	Cutter body Tool diameter	Page
NEW **Carbide shank free-neck** 	ϕ10～ϕ28	8
Carbide shank 	ϕ8～ϕ42	10
Steel shank 	ϕ10～ϕ42	Please refer to D page of MOLDINO's CUTTING TOOLS PRODUCTS CATALOGUE.
Modular mill arbor (HSK) 	ϕ20～ϕ42	
AV arbor (damped arbor) (D○○-AV,BT50,HSK) 	ϕ40, ϕ42	

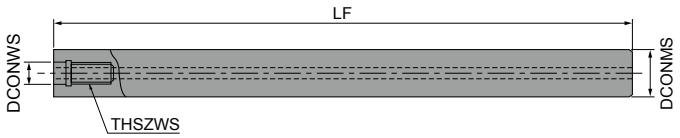
Free-Neck Type Lineup

Tapered type



Item code	Stock	Size (mm)							Compatible wall angle	Cutter body	With/ without air hole
		DCONWS	THSZWS	LF	LB1	LS	BD1	DCONMS			
ASC12T-6.5-200-60Z-09	★	6.5	M6	200	60	140	9.3	12	≧0.9°	Φ10 Φ11※2	○
ASC16T-6.5-200-115Z-14	★				115	85		16	≧1.4°		
ASC16T-6.5-200-50Z-29	★				50	150			≧2.9°		
ASC16T-6.5-200-120Z-09※1	★				120	80	11	16	≧0.9°	Φ12 Φ13※2	○
ASC16T-6.5-200-75Z-14※1	★				75	125			≧1.4°		
ASC20T-6.5-200-70Z-29※1	★				70	130		20	≧2.9°		
ASC20T-8.5-250-120Z-09	★	8.5	M8	250	120	130	14.5	20	≧0.9°	Φ16 Φ17※2 Φ18※2	○
ASC20T-8.5-250-75Z-14	★				75	175			≧1.4°		
ASC25T-8.5-250-80Z-29	★				80	170		25	≧2.9°		
ASC25T-10.5-300-150Z-09	★	10.5	M10	300	150	150	18.5	25	≧0.9°	Φ20 Φ21※2 Φ22※2	○
ASC25T-10.5-300-95Z-14	★				95	205			≧1.4°		
ASC32T-10.5-300-105Z-29	★				105	195		32	≧2.9°		

Straight type



Item code	Stock	Size (mm)				Cutter body	With/ without air hole
		DCONWS	THSZWS	LF	DCONMS		
ASC10-6.5-80-0Z	★	6.5	M6	80	10	Φ10 Φ11※2	○
ASC10-6.5-130-0Z	★			130			
ASC12-6.5-100-0Z※1	★			100	12	Φ12 Φ13※2	○
ASC12-6.5-150-0Z※1	★			150			
ASC15-8.5-210-0Z	★	8.5	M8	210	15	Φ16※2 Φ17※2 Φ18※2	○
ASC16-8.5-130-0Z	★	8.5	M8	130	16	Φ16 Φ17※2 Φ18※2	○
ASC16-8.5-210-0Z	★			210			
ASC18-10.5-240-0Z	★	10.5	M10	240	18	Φ20※2 Φ21※2 Φ22※2	○
ASC20-10.5-150-0Z	★	10.5	M10	150	20	Φ20 Φ21※2 Φ22※2	○
ASC20-10.5-250-0Z	★			250			
ASC23-12.5-300-0Z	★	12.5	M12	300	23	Φ25※2 Φ26※2 Φ28※2	○
ASC25-12.5-175-0Z	★	12.5	M12	175	25	Φ25 Φ26※2 Φ28※2	○
ASC25-12.5-300-0Z	★			300			

★ : Stocked items of new products.

【Note】①Compatible with commercially-available milling chucks and shrink-fit holders.
②※1 When tools with diameters of Φ10 and Φ11 are combined, interference should be occurred.
③※2 Since the cutter diameter is larger than the shank diameter (DCONMS), there is no interference at the shank.

Tapered Type - Standard Cutting Conditions

Roughing tools (High-feed tools)

Tool dia. (mm)		Φ10			Φ12			Φ16			Φ20		
L/D		6~8	8~10	>10	6~8	8~10	>10	6~8	8~10	>10	6~8	8~10	>10
Carbon steels Alloy steels <30HRC	n(min^{-1})	5093	4456	3820	4244	3714	3183	3183	2785	2387	2546	2228	1910
	Vc(m/min)	160	140	120	160	140	120	160	140	120	160	140	120
	fz(mm/t)	0.6	0.5	0.4	0.6	0.5	0.4	1.0	0.8	0.6	1.0	0.8	0.6
	a_p(mm)	0.3	0.3	0.2	0.3	0.3	0.2	0.5	0.4	0.3	0.5	0.4	0.3
	a_e(mm)	5	5	5	6	6	6	8	8	8	10	10	10
Carbon steels Alloy steels 30~40HRC	n(min^{-1})	4456	3820	3183	3714	3183	2653	2785	2387	1989	2228	1910	1592
	Vc(m/min)	140	120	100	140	120	100	140	120	100	140	120	100
	fz(mm/t)	0.6	0.5	0.4	0.6	0.5	0.4	1.0	0.8	0.6	1.0	0.8	0.6
	a_p(mm)	0.3	0.3	0.2	0.3	0.3	0.2	0.5	0.4	0.2	0.5	0.4	0.2
	a_e(mm)	5	5	5	6	6	6	8	8	8	10	10	10
Pre-hardened steels 40~45HRC	n(min^{-1})	3501	3183	2865	2918	2653	2387	2188	1989	1790	1751	1592	1432
	Vc(m/min)	110	100	90	110	100	90	110	100	90	110	100	90
	fz(mm/t)	0.5	0.4	0.3	0.5	0.4	0.3	0.8	0.6	0.4	0.8	0.6	0.4
	a_p(mm)	0.3	0.3	0.2	0.3	0.3	0.2	0.4	0.3	0.2	0.4	0.3	0.2
	a_e(mm)	5	5	5	6	6	6	8	8	8	10	10	10
Pre-hardened steels 45~50HRC	n(min^{-1})	2865	2546	2228	2387	2122	1857	1790	1592	1393	1432	1273	1114
	Vc(m/min)	90	80	70	90	80	70	90	80	70	90	80	70
	fz(mm/t)	0.4	0.3	0.25	0.4	0.3	0.25	0.8	0.6	0.4	0.8	0.6	0.4
	a_p(mm)	0.3	0.3	0.2	0.3	0.3	0.2	0.4	0.3	0.2	0.4	0.3	0.2
	a_e(mm)	5	5	5	6	6	6	8	8	8	10	10	10
Stainless steels	n(min^{-1})	3183	2865	2546	2653	2387	2122	1989	1790	1592	1592	1432	1273
	Vc(m/min)	100	90	80	100	90	80	100	90	80	100	90	80
	fz(mm/t)	0.5	0.4	0.3	0.5	0.4	0.3	0.8	0.6	0.4	0.8	0.6	0.4
	a_p(mm)	0.3	0.3	0.2	0.3	0.3	0.2	0.4	0.3	0.2	0.4	0.3	0.2
	a_e(mm)	5	5	5	6	6	6	8	8	8	10	10	10
Cast irons Cast steels	n(min^{-1})	5093	4456	3820	4244	3714	3183	3183	2785	2387	2546	2228	1910
	Vc(m/min)	160	140	120	160	140	120	160	140	120	160	140	120
	fz(mm/t)	0.6	0.5	0.4	0.6	0.5	0.4	1.0	0.8	0.6	1.0	0.8	0.6
	a_p(mm)	0.3	0.3	0.2	0.3	0.3	0.2	0.5	0.4	0.3	0.5	0.4	0.3
	a_e(mm)	5	5	5	6	6	6	8	8	8	10	10	10
Hardened steels 50~55HRC	n(min^{-1})	2228	2228	1910	1857	1857	1592	1393	1393	1194	1114	1114	955
	Vc(m/min)	70	70	60	70	70	60	70	70	60	70	70	60
	fz(mm/t)	0.3	0.2	0.2	0.3	0.2	0.2	0.4	0.3	0.2	0.4	0.3	0.2
	a_p(mm)	0.2	0.2	0.1	0.2	0.2	0.1	0.2	0.2	0.1	0.2	0.2	0.1
	a_e(mm)	5	5	5	6	6	6	8	8	8	10	10	10
Hardened steels 55~62HRC	n(min^{-1})	1910	1910	1592	1592	1592	1326	1194	1194	995	955	955	796
	Vc(m/min)	60	60	50	60	60	50	60	60	50	60	60	50
	fz(mm/t)	0.3	0.2	0.2	0.3	0.2	0.2	0.3	0.2	0.2	0.3	0.2	0.2
	a_p(mm)	~0.2	0.1	0.1	~0.2	0.1	0.1	~0.2	0.1	0.1	~0.2	0.1	0.1
	a_e(mm)	5	5	5	6	6	6	8	8	8	10	10	10

Finishing tools (Ball nose)

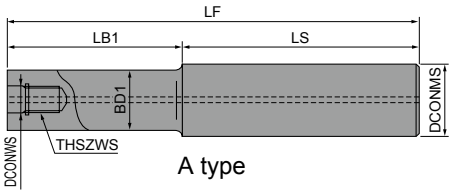
Tool dia. (mm)		Φ10 (R5)			Φ12 (R6)			Φ16 (R8)			Φ20 (R10)		
L/D		6~8	8~10	>10	6~8	8~10	>10	6~8	8~10	>10	6~8	8~10	>10
Carbon steels Alloy steels <30HRC	n(min^{-1})	9549	8594	7958	7958	7162	6631	5968	5371	4974	4775	4297	3979
	Vc(m/min)	300	270	250	300	270	250	300	270	250	300	270	250
	fz(mm/t)	0.1	0.1	0.08	0.15	0.15	0.12	0.2	0.2	0.15	0.25	0.25	0.2
	a_p(mm)	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
	a_e(mm)	0.2	0.15	0.1	0.25	0.2	0.2	0.3	0.25	0.2	0.35	0.3	0.25
Carbon steels Alloy steels 30~40HRC	n(min^{-1})	7958	7003	6366	6631	5836	5305	4974	4377	3979	3979	3501	3183
	Vc(m/min)	250	220	200	250	220	200	250	220	200	250	220	200
	fz(mm/t)	0.1	0.1	0.08	0.15	0.15	0.12	0.2	0.2	0.15	0.25	0.25	0.2
	a_p(mm)	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
	a_e(mm)	0.2	0.15	0.1	0.25	0.2	0.2	0.3	0.25	0.2	0.35	0.3	0.25
Pre-hardened steels 40~45HRC	n(min^{-1})	6366	5730	5093	5305	4775	4244	3979	3581	3183	3183	2865	2546
	Vc(m/min)	200	180	160	200	180	160	200	180	160	200	180	160
	fz(mm/t)	0.1	0.1	0.08	0.15	0.15	0.12	0.2	0.2	0.15	0.25	0.25	0.2
	a_p(mm)	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
	a_e(mm)	0.2	0.15	0.1	0.25	0.2	0.2	0.3	0.25	0.2	0.35	0.3	0.25
Pre-hardened steels 45~50HRC	n(min^{-1})	5730	5093	4456	4775	4244	3714	3581	3183	2785	2865	2546	2228
	Vc(m/min)	180	160	140	180	160	140	180	160	140	180	160	140
	fz(mm/t)	0.1	0.1	0.08	0.15	0.15	0.12	0.2	0.2	0.15	0.25	0.25	0.2
	a_p(mm)	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
	a_e(mm)	0.2	0.15	0.1	0.25	0.2	0.2	0.3	0.25	0.2	0.35	0.3	0.25
Stainless steels	n(min^{-1})	6366	5730	5093	5305	4775	4244	3979	3581	3183	3183	2865	2546
	Vc(m/min)	200	180	160	200	180	160	200	180	160	200	180	160
	fz(mm/t)	0.1	0.1	0.08	0.15	0.15	0.12	0.2	0.2	0.15	0.25	0.25	0.2
	a_p(mm)	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
	a_e(mm)	0.2	0.15	0.1	0.25	0.2	0.2	0.3	0.25	0.2	0.35	0.3	0.25
Cast irons Cast steels	n(min^{-1})	9549	8594	7958	7958	7162	6631	5968	5371	4974	4775	4297	3979
	Vc(m/min)	300	270	250	300	270	250	300	270	250	300	270	250
	fz(mm/t)	0.1	0.1	0.08	0.15	0.15	0.12	0.2	0.2	0.15	0.25	0.25	0.2
	a_p(mm)	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
	a_e(mm)	0.2	0.15	0.1	0.25	0.2	0.2	0.3	0.25	0.2	0.35	0.3	0.25
Hardened steels 50~55HRC	n(min^{-1})	5093	4456	3820	4244	3714	3183	3183	2785	2387	2546	2228	1910
	Vc(m/min)	160	140	120	160	140	120	160	140	120	160	140	120
	fz(mm/t)	0.1	0.1	0.08	0.15	0.15	0.12	0.2	0.2	0.15	0.25	0.25	0.2
	a_p(mm)	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
	a_e(mm)	0.2	0.15	0.1	0.25	0.2	0.2	0.3	0.25	0.2	0.35	0.3	0.25
Hardened steels 55~62HRC	n(min^{-1})	4456	3820	3183	3714	3183	2653	2785	2387	1989	2228	1910	1592
	Vc(m/min)	140	120	100	140	120	100	140	120	100	140	120	100
	fz(mm/t)	0.1	0.1	0.08	0.15	0.15	0.12	0.2	0.2	0.15	0.25	0.25	0.2
	a_p(mm)	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
	a_e(mm)	0.2	0.15	0.1	0.25	0.2	0.2	0.3	0.25	0.2	0.35	0.3	0.25

【Note】

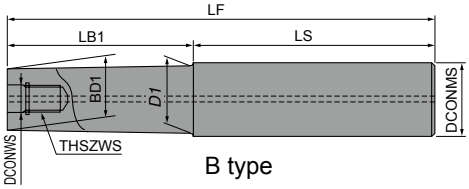
①This table provides general guidelines for cutting conditions; machining with a long overhang may cause sudden tool damage or overcut of the workpiece due to chatter vibration, in actual machining conditions adjust the parameters according to your actual machine and work-piece conditions.
②The machinability of hardened steels (55 - 62HRC) can vary significantly depending on the particular steel type and tool overhang. Adjust the table feed rate and cutting depth a_p to suit machining conditions.
③For details of cutting conditions for 6D or less, refer to the conditions table for the individual tool.
④To prevent tool damage due to chip clogging, always use a chip removal method such as an air blower, etc.
⑤Since there is a danger of the removed chips flying out and causing injury to workers, fire, or damage to eyes, during use be sure to cover the work area with a safety cover and have workers wear protective equipment such as glasses, etc. to make the work area safe.
⑥Perform insert replacement at an early stage to prevent chipping due to excessive use.

Regular Type Lineup

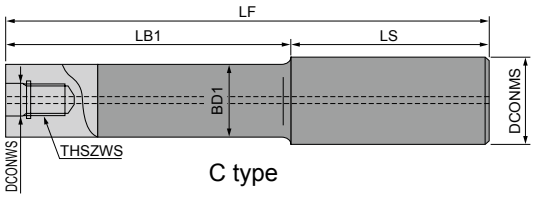
Regular type



A type



B type



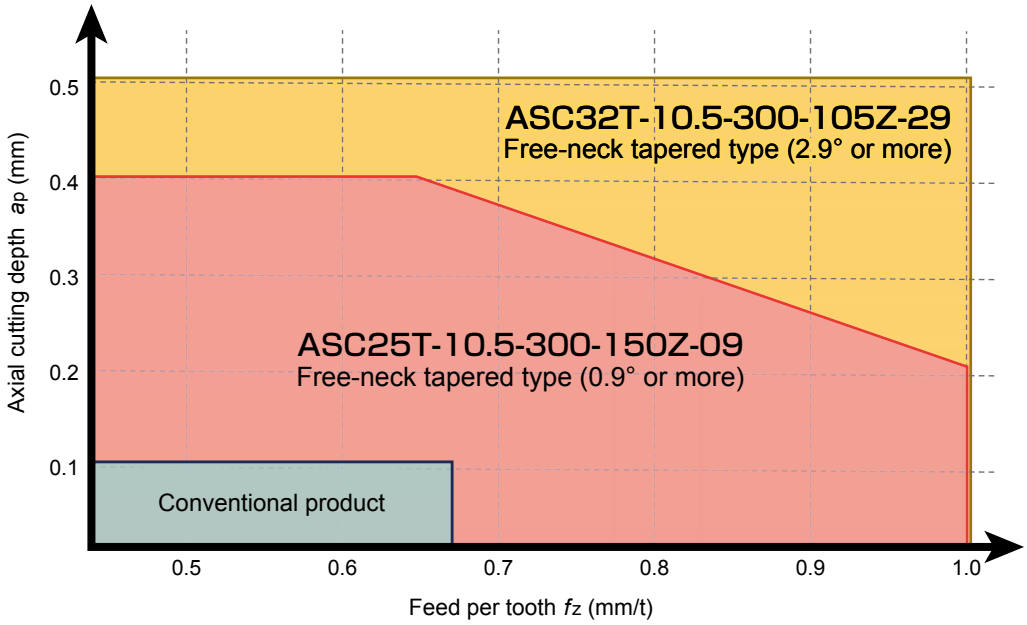
C type

Item code	Stock	Size (mm)								Shape	Cutter body	With/ without air hole
		DCONWS	THSZWS	LF	LB1	LS	BD1	DCONMS	*D1*			
ASC10-6.5-74-24Z	●	6.5	M6	74	24	50	9.3	10	-	A	φ8※1 φ10 φ11※2 φ12※2 φ13※2	○
ASC10-6.5-84-34Z	●			84	34	50				A		○
ASC10-6.5-114-49Z	●			114	49	65				A		○
ASC10-6.5-114-24Z	●				24	90				A		○
ASC12-6.5-74-24Z	●	6.5	M6	74	24	50	11	12	11.5	B	φ8※1 φ10※1 φ11※1 φ12 φ13※2	○
ASC12-6.5-94-44Z	●			94	44	50				B		○
ASC12-6.5-129-64Z	●			129	64	65				B		○
ASC12-6.5-129-24Z	●				24	105				B		○
ASC16-8.5-95-30Z	●	8.5	M8	95	30	65	14.5	16	15.5	B	φ16 φ17※2 φ18※2 AHUM 1020R-2-M8※2	○
ASC16-8.5-120-55Z	●			120	55	65						
ASC16-8.5-140-75Z	●			140	75	65						
ASC16-8.5-160-95Z	●			160	95	65						
ASC16-8.5-160-30Z	●			160	30	130						
ASC20-10.5-120-50Z	●	10.5	M10	120	50	70	18.5	20	19.5	B	φ20 φ21※2 φ22※2 AHUM 1025R-2-M10※2	○
ASC20-10.5-170-90Z	●			170	90	80						
ASC20-10.5-220-120Z	●			220	120	100						
ASC20-10.5-270-150Z	●			270	150	120						
ASC20-10.5-220-50Z	●	10.5	M10	220	50	170	18.5	20	19.5	B	GF1G 2025M-4-M10※2	○
ASC20-10.5-270-50Z	●			270		220						
ASC25-12.5-145-65	●	12.5	M12	145	65	80	23	25	-	C	φ25 φ26※2 φ28※2 AHUM 1030R-2-M12※2	○
ASC25-12.5-215-115	●			215	115	100						
ASC25-12.5-265-145	●			265	145	120						
ASC25-12.5-315-195	●			315	195	120						
ASC25-12.5-265-65	●	12.5	M12	265	65	200	23	25	-	C	AHUM 1530R-2-M12※2	○
ASC25-12.5-315-65	●			315		250						
ASC32-17-160-80	●	17	M16	160	80	80	28	32	-	C	φ30 φ32 φ33※2 φ35※2 ⟨φ40⟩※2 ⟨φ42⟩※2	○
ASC32-17-210-110	●			210	110	100						
ASC32-17-260-140	●			260	140	120						
ASC32-17-310-190	●			310	190	120						
ASC32-17-360-240	●			360	240	120						
ASC32-17-260-80	●	17	M16	260	80	180	28	32	-	C		○
ASC32-17-310-80	●			310		230						
ASC32-17-360-80	●			360		280						

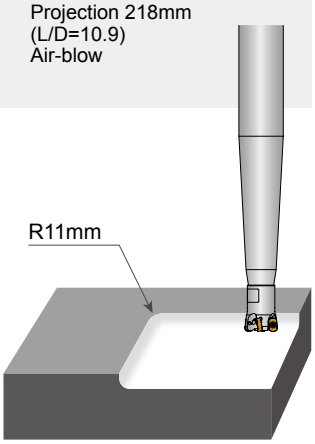
● : Stocked items.

Compatible with commercially-available milling chucks and shrink-fit holders.
For ※1, Interference will occur because the cutter diameter is less than the shank neck diameter (BD1, *D1*).
For ※2, The cutter diameter is larger than the shank diameter (DCONMS), eliminating shank interference.
Under normal conditions, the ⌀40 dimension should be used with overhang lengths up to 200 mm.

Rough machining area evaluation

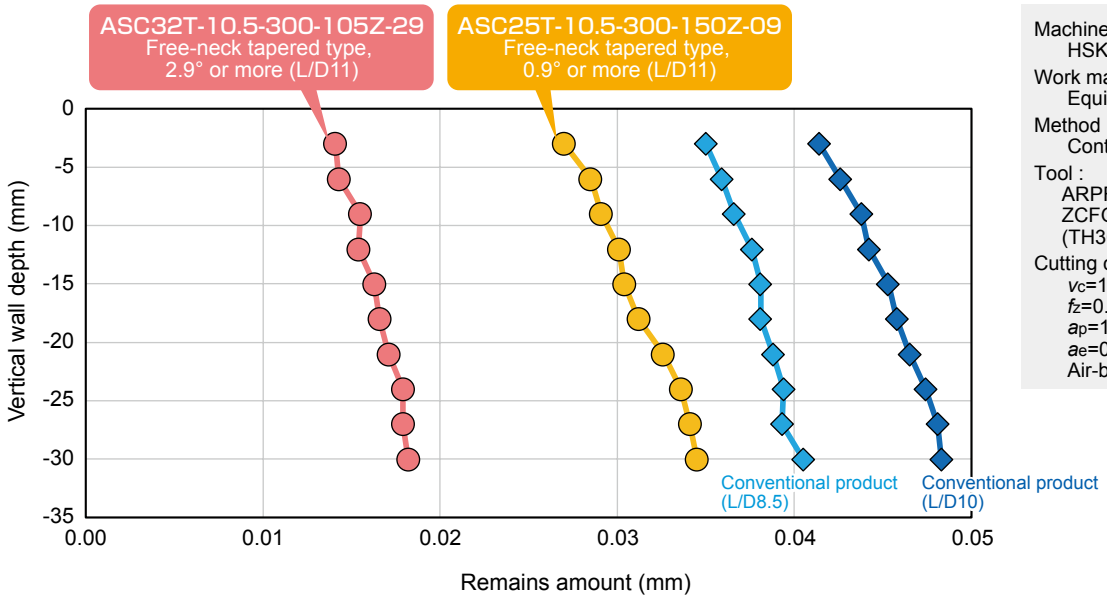


Machine :
HSK100
Work material :
Equivalent to SKD61 (45HRC)
Method :
Contour machining including vertical wall sections with a corner radius of11 mm
Tool :
TD4N2020M-3
ENMU0603ER-C (JP4120)
Cutting conditions :
v_c=80m/min
a_e=14mm
Projection 218mm
(L/D=10.9)
Air-blow

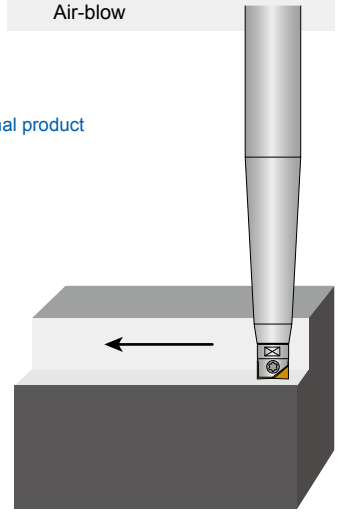


Tapered types realize 4- to 7-times greater efficiency.

Finishing dimensional accuracy evaluation



Machine :
HSK100
Work material :
Equivalent to SKD61 (45HRC)
Method :
Contour vertical wall finishing
Tool :
ARPFM20
ZCFG200SW-R1.0
(TH308)
Cutting conditions :
v_c=150m/min
f_z=0.08mm/t
a_p=1.0mm
a_e=0.2mm
Air-blow



**Tapered types leave less remains, even with longer overhangs than conventional products.
Enables deeper machining and greater precision than ever before.**

MOLDINO

The Edge To Innovation

The diagrams and table data are examples of test results, and are not guaranteed values.

⚠ Attentions on Safety

1. Handling

(1) When removing tool from packaging, be careful not to drop the tool on your foot or fingers.
(2) When actually setting the inserts, be careful not to touch the cutting flute directly with your bare hands.

2. Mounting

(1) When preparing to use, be sure that the insert is firmly screwed in the pocket and cutter is properly mounted on the tool holder.
(2) If abnormal chattering occurs during use, stop the machine immediately, identify the cause of the chatter and take corrective action.

3. Usage

(1) Before use confirm all dimensions, verify work material and programmed tool rotation.
(2) The numerical values in the standard cutting conditions table should be used as criteria when starting new work. The cutting conditions should be adjusted as appropriate when the cutting depth is large, the rigidity of the machine being used is low, or according to the conditions of the work material.
(3) Inserts are made of hard material and may break and be expelled from cutter at high speeds. Since there is a danger of injury to workers from chip evacuation, insert breakage or fire safety precautions must be observed at all times. Including, but not limited to: safety glasses, machine enclosures or other means to create a safe environment for work. If you have questions on safety, contact your supervisor.
・Do not use where there is a risk of fire or explosion.
・Do not use non-water-soluble cutting oils. Such oils may result in fire.
(4) Do not use the tool for any purpose other than that for which it is intended, and do not modify it.

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