



EASYCUT
TUNGALOY



TURNLINE

Tungaloy Report No. 424-E

w w w . t u n g a l o y . c o m

DAVA GROUP CNC
COMERCIALIZADORA

Highly rigid self-clamping
tools that provide remarkable
tool life!



DAVA GROUP CNC
COMERCIALIZADORA

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 **TurnLine**



EASycut
TUNGALOY

A new range of grooving tools that
will boost your productivity

Tungaloy
Member IMC Group

EASYCUT

TUNGALOY

**A unique self-clamping insert improves tool rigidity.
Tool can perform in high speed machining without vibration,
effectively reducing machining time.**

The most efficient solution for deep face grooving operations.

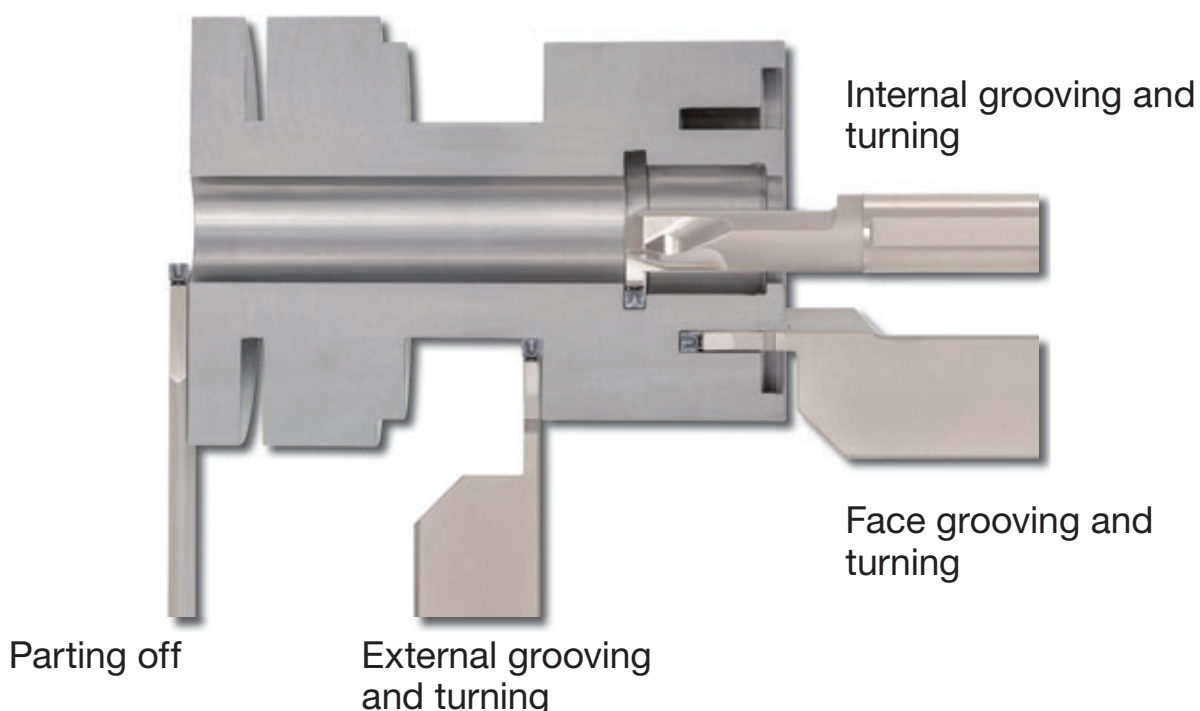
Only one insert is used for parting off, external, internal and face grooving, and side turning operations.

● Innovative insert with long tool life

Insert is securely clamped, which guarantees reliable machining process in grooving and side turning

● High productivity due to exceptional chip evacuation

Tool's top shape is designed to eliminate obstacles, allowing easy chip evacuation out from the groove

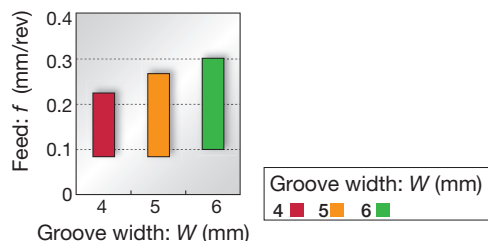


● Insert

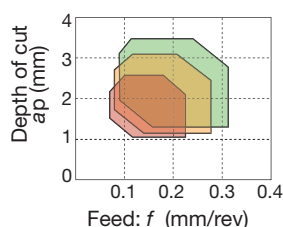
ETX type

Grooving and turning

■ Standard feed for grooving



■ Standard feed and DoC for turning



● Insert application

Insert	Application						
	Grooving			Parting off	Turning		
	External	Internal	Face		External	Internal	Face

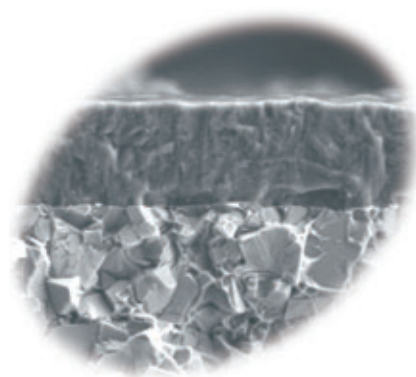
● Grade

AH725



PREMIUMTEC
TUNGALOY

- Versatile PVD coated grade suitable for a wide range of work material.
- Demonstrates the excellent balance of wear and fracture resistance.



● Standard cutting conditions

ISO	Workpiece materials	Hardness	Grade	Cutting speed Vc (m/min)
P	Steels (S45C / C45, SCM435 / 34CrMo4 etc.)	< 300 HB	AH725	50 - 180
M	Stainless steels (SUS303 / X10CrNiS18-9 etc.)	< 200 HB	AH725	50 - 120

Cutting performance



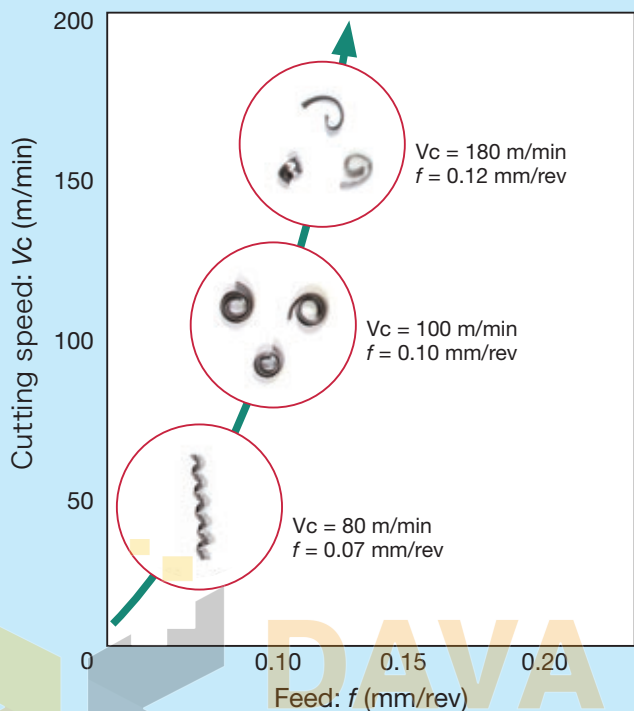
Face grooving

Insert : ETX4-040

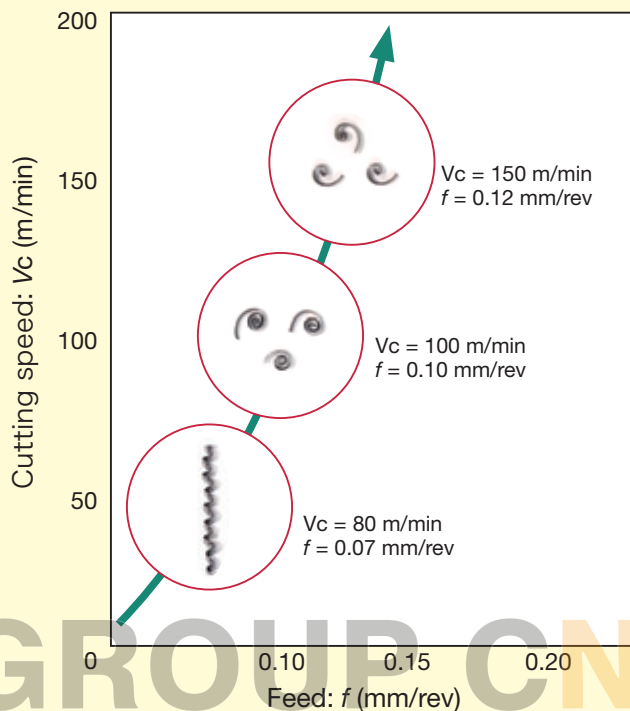
Coolant : Wet

Groove width : $W = 4$ mm

P Carbon steel (S45C / C45)



M Stainless steel (SUS304 / X5CrNi18-9)



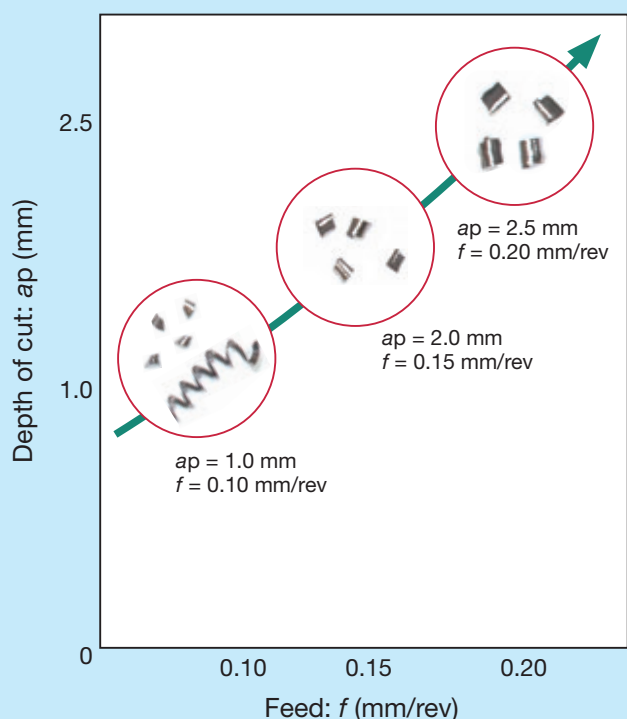
Face turning

Insert : ETX4-040

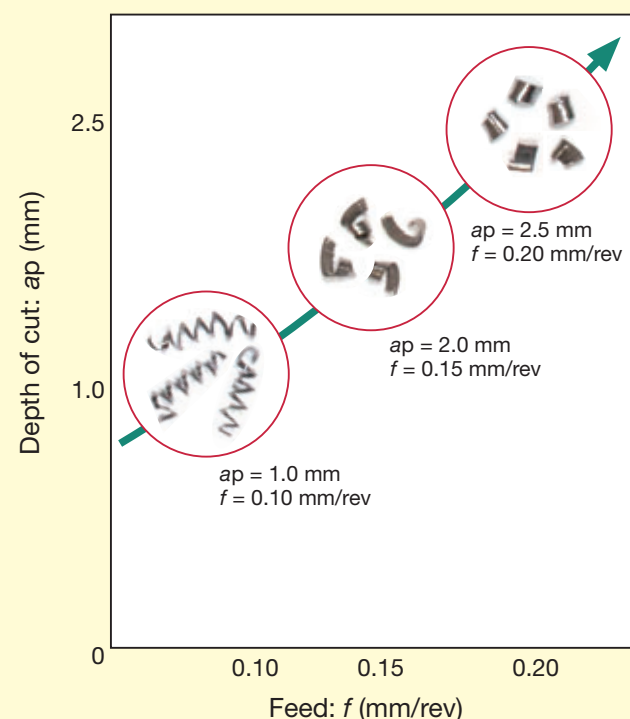
Coolant : Wet

Cutting speed : $V_c = 120$ m/min

P Carbon steel (S45C / C45)



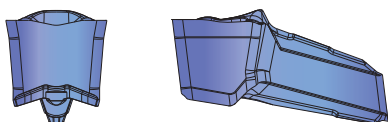
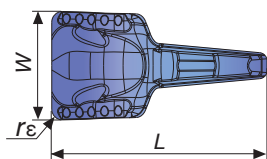
M Stainless steel (SUS304 / X5CrNi18-9)



● Inserts

ETX

Grooving and turning



Cat. No.	Grades	Dimensions (mm)		
	Coated AH725	$W \pm 0.05$	r_{ϵ}	L
ETX4-040	●	4	0.4	8
ETX5-040	●	5	0.4	10
ETX6-040	●	6	0.4	12

● : Stocked items

■ Comparison of face grooving depth



Type	Groove width: W (mm)	Max. groove depth: a_r (mm)
EASycut Conventional	6	32
EASycut Conventional	5	25
EASycut Conventional	4	20

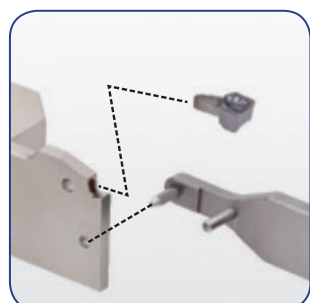
■ Comparison of external grooving depth



Type	Groove width: W (mm)	Max. groove depth: a_r (mm)
EASycut Conventional	6	35
EASycut Conventional	5	32
EASycut Conventional	4	25

● Insert clamping procedure

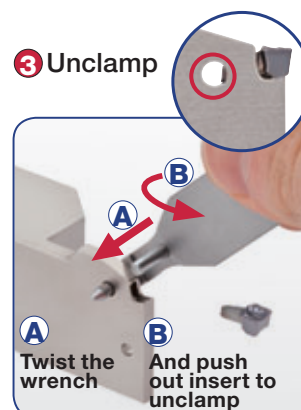
1 Put the insert in the pocket



2 Turn the wrench and push insert to clamp



3 Unclamp

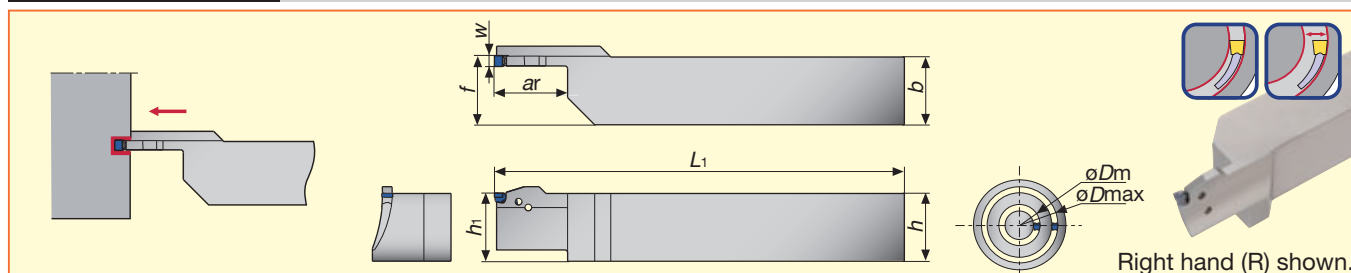


A
Twist the wrench

B
And push out insert to unclamp

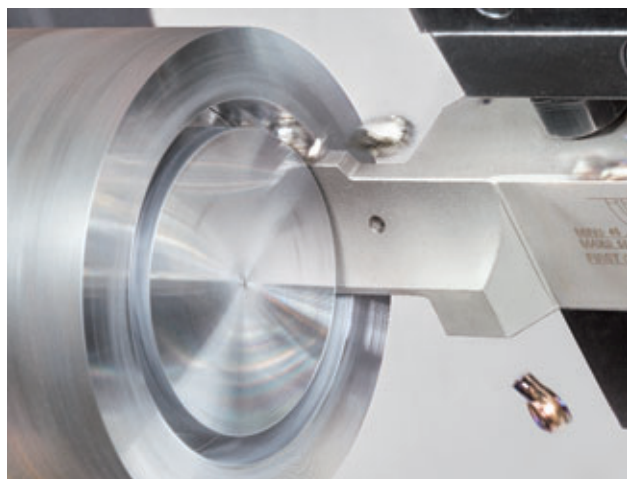
External toolholders

ETF R/L Face grooving



Groove width W (mm)	Cat. No.	Stock		Min. dia. øDm (mm)	Max. dia. øDmax (mm)	Max. groove depth ar (mm)	Dimensions (mm)					Inserts	Parts Wrench
		R	L				h ₁	b	h	L ₁	f		
4	ETFR/L2020-4T15-030035	●	●	30	35	15	20	20	20	125	20.5	ETX4...	ECW-456EF
4	ETFR/L2525-4T15-030035	●	●	30	35	15	25	25	25	150	25.5	ETX4...	ECW-456EF
4	ETFR/L2020-4T22-035045	●	●	35	45	22	20	20	20	125	20.5	ETX4...	ECW-456EF
4	ETFR/L2525-4T22-035045	●	●	35	45	22	25	25	25	150	25.5	ETX4...	ECW-456EF
4	ETFR/L2020-4T25-045055	●	●	45	55	25	20	20	20	125	20.5	ETX4...	ECW-456EF
4	ETFR/L2525-4T25-045055	●	●	45	55	25	25	25	25	150	25.5	ETX4...	ECW-456EF
4	ETFR/L2020-4T25-055075	●	●	55	75	25	20	20	20	125	20.5	ETX4...	ECW-456EF
4	ETFR/L2525-4T25-055075	●	●	55	75	25	25	25	25	150	25.5	ETX4...	ECW-456EF
4	ETFR/L2020-4T25-075120	●	●	75	120	25	20	20	20	125	20.5	ETX4...	ECW-456EF
4	ETFR/L2525-4T25-075120	●	●	75	120	25	25	25	25	150	25.5	ETX4...	ECW-456EF
4	ETFR/L2525-4T25-120200	●	●	120	200	25	25	25	25	150	25.5	ETX4...	ECW-456EF
4	ETFR/L2525-4T25-200500	●	●	200	500	25	25	25	25	150	25.5	ETX4...	ECW-456EF
5	ETFR/L2525-5T25-035045	●	●	35	45	25	25	25	25	150	25.5	ETX5...	ECW-456EF
5	ETFR/L2525-5T25-045055	●	●	45	55	25	25	25	25	150	25.5	ETX5...	ECW-456EF
5	ETFR/L2525-5T25-055075	●	●	55	75	25	25	25	25	150	25.5	ETX5...	ECW-456EF
5	ETFR/L2525-5T32-075120	●	●	75	120	32	25	25	25	150	25.5	ETX5...	ECW-456EF
5	ETFR/L2525-5T32-120200	●	●	120	200	32	25	25	25	150	25.5	ETX5...	ECW-456EF
5	ETFR/L2525-5T32-200500	●	●	200	500	32	25	25	25	150	25.5	ETX5...	ECW-456EF
6	ETFR/L2525-6T25-040055	●	●	40	55	25	25	25	25	150	25.5	ETX6...	ECW-456EF
6	ETFR/L2525-6T25-055075	●	●	55	75	25	25	25	25	150	25.5	ETX6...	ECW-456EF
6	ETFR/L2525-6T32-075120	●	●	75	120	32	25	25	25	150	25.5	ETX6...	ECW-456EF
6	ETFR/L2525-6T32-120200	●	●	120	200	32	25	25	25	150	25.5	ETX6...	ECW-456EF
6	ETFR/L2525-6T32-200500	●	●	200	500	32	25	25	25	150	25.5	ETX6...	ECW-456EF

● : Stocked items

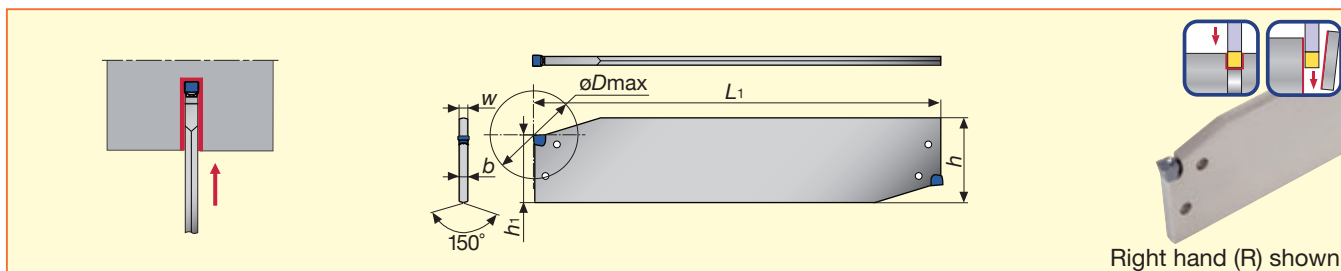


- Excellent chip control
- Excellent chip evacuation
- Machining at higher speed

Blades

EGP

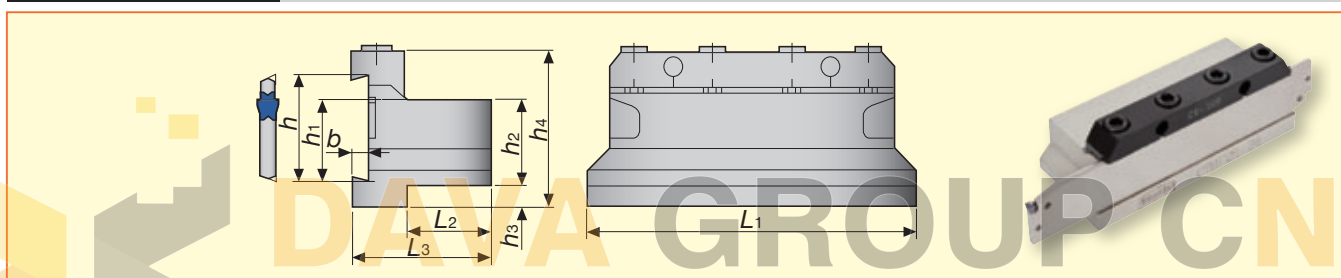
Parting off



Groove width W (mm)	Cat. No.	Stock	Max. parting off dia. øDmax (mm)	Dimensions (mm)				Inserts	Tool block	Parts Wrench
				h ₁	b	h	L ₁			
4	EGP26-4D	●	80	21.4	3.2	26	150	E□□4...	CTBU□□-26	ECW-456EF
4	EGP32-4D	●	100	24.9	3.2	32	150	E□□4...	CTBU□□-32	ECW-456EF
5	EGP32-5D	●	120	24.9	4	32	150	E□□5...	CTBU□□-32	ECW-456EF
6	EGP32-6D	●	120	24.9	5.2	32	150	E□□6...	CTBU□□-32	ECW-456EF

CTBU

Tool block for EGP type



Cat. No.	Stock	Dimensions (mm)										Parts		
		h ₁	b	h	L ₁	h ₂	h ₃	h ₄	L ₂	L ₃	Blade	Clamping screw	Clamp	Wrench
CTBU20-26	●	21.4	4	26	86	20	9	43	21	38	EGP26	CM6x30-S	CT-86	P-5
CTBU25-26	●	21.4	4	26	110	25	5	45	23	42	EGP26	CM6x30-S	CT-100	P-5
CTBU20-32	●	24.8	5.3	32	100	20	13	50	19	38	EGP32	CM6x30-S	CT-105	P-5
CTBU25-32	●	24.8	5.3	32	110	25	8	50	23	42	EGP32	CM6x30-S	CT-110	P-5
CTBU32-32	●	24.8	5.3	32	110	32	5	54	29	48	EGP32	CM6x30-S	CT-110	P-5

● : Stocked items

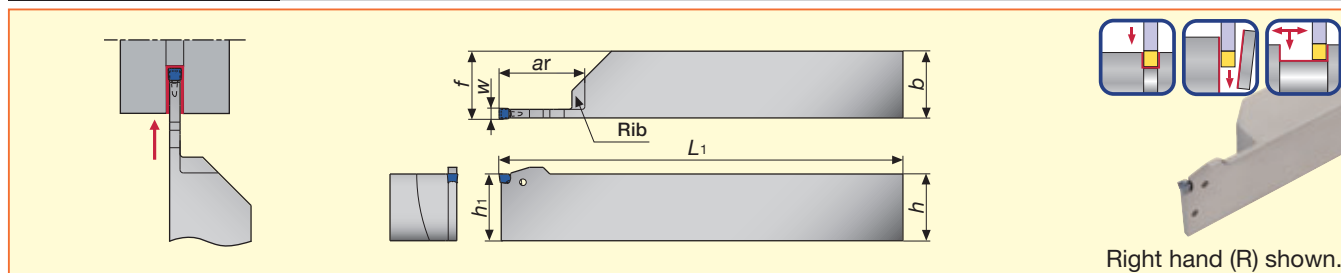


- High speed
- Excellent surface finish and straightness

External toolholders

* Wrench must be ordered separately

ETE R/L External grooving



Groove width W (mm)	Cat. No.	Stock		Max. groove depth ar (mm)	Dimensions (mm)					Inserts	Rib	Parts Wrench
		R	L		h1	b	h	L1	f			
4	ETER/L2020-4T25	●	●	25	20	20	20	125	20.4	ETX4...	Without	ECW-456EF
4	ETER/L2525-4T25	●	●	25	25	25	25	150	25.4	ETX4...	Without	ECW-456EF
4	ETER/L3232-4T30	●	●	30	32	32	32	170	32.4	ETX4...	Without	ECW-456EF
5	ETER/L2020-5T25	●	●	25	20	20	20	125	20.4	ETX5-...	Without	ECW-456EF
5	ETER/L2525-5T32	●	●	32	25	25	25	150	25.4	ETX5-...	Without	ECW-456EF
5	ETER/L3232-5T32	●	●	32	32	32	32	170	32.4	ETX5-...	Without	ECW-456EF
6	ETER/L2525-6T35	●	●	35*	25	25	25	150	25.4	ETX6-...	With	ECW-456EF
6	ETER/L3232-6T35	●	●	35**	32	32	32	170	32.4	ETX6-...	With	ECW-456EF

* Max. ø170

** Max. ø340

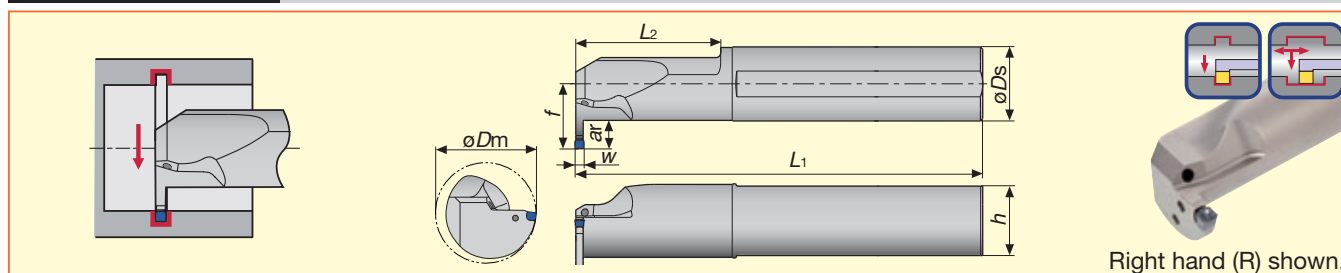
● : Stocked items



- Deep grooving
- High speed
- Excellent surface finish and straightness

Internal toolholders

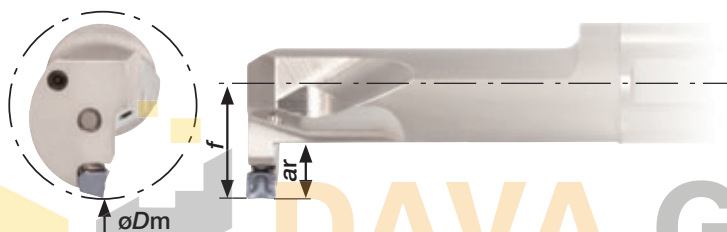
ETI R/L Internal grooving



Right hand (R) shown.

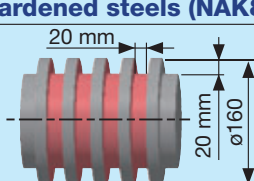
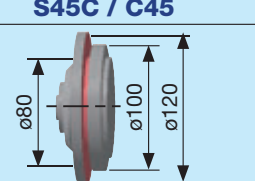
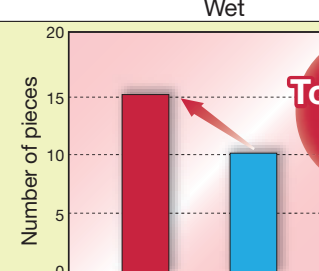
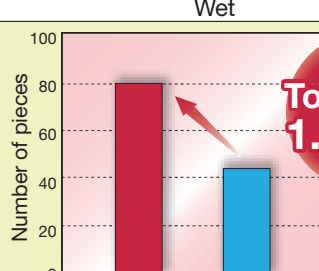
Groove width W (mm)	Cat. No.	Stock		Min. dia. øDm (mm)	Max. groove depth ar (mm)	Dimensions (mm)					Inserts	Parts	
		R	L			øDs	h	L1	f	L2		Seal cap (internal screw)	Wrench
4	ETIR/L16-4T06-D200	●	●	20	6	16	15	160	15	40	E□□4...	CA-16(M6)	ECW-456I
4	ETIR/L20-4T06-D250	●	●	25	6	20	18	160	17	40	E□□4...	CA-20(M6)	ECW-456I
4	ETIR/L25-4T09-D320	●	●	32	9	25	23	200	22.5	40	E□□4...	CA-25(R1/8")	ECW-456EF
4	ETIR/L32-4T11-D400	●	●	40	11	32	30	250	28	60	E□□4...	CA-32(R1/8")	ECW-456EF
5	ETIR/L32-5T11-D400	●	●	40	11	32	30	250	28	60	E□□5...	CA-32(R1/8")	ECW-456EF
6	ETIR/L32-6T11-D400	●	●	40	11	32	30	250	28	60	E□□6...	CA-32(R1/8")	ECW-456EF

● : Stocked items



Rigid tool with internal coolant
Start from 20mm min. entry bore
diameter, and max. 6mm groove
depth.

Practical examples

Workpiece type		Mould part		Machine part	
Toolholder		ETEL2525-4T25		ETER2525-4T25	
Insert		ETX4-040		ETX4-040	
Grade		AH725		AH725	
Workpiece material		Prehardened steels (NAK80)		S45C / C45	
					
Cutting conditions	Grooving width: W(mm)	4		4	
	Groove depth: ar (mm)	20		10	
	Cutting speed : Vc(m/min)	70		120	
	Feed : f (mm/rev)	0.14		0.1	
	Depth of cut : ap(mm)	0.5		-	
	Method of machining	Grooving, traversing for finishing bottom		Grooving	
		Wet		Wet	
Results					
		EasyCut achieved 50% longer tool life due to the higher wear resistance. EasyCut also demonstrated excellent chip control that lowered vibration and noise.		EasyCut achieved 1.8 times longer tool life than competitor, credit to the exceptional wear resistance.	

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Oct. 2014 (TJ)