

Type EG45 Tool Applications: Fillets and contours

Features

- For use with either CNC-controlled or conventional lathes that can copy contours
- Complete processing in one setting
- Suitable for metals with tensile strength up to 1400 N/mm² and maximum hardness HRC ≤ 45
- Achievable surface quality: $R_z < 1 \mu\text{m}$ ($R_a = 0.2 \mu\text{m}$)

EG45-40M

- Roller burnishes cylindrical surfaces with connecting fillet radii up to the workpiece face
- For materials with low to mid-level strength

EG45-45T

- Roller burnishes cylinders and faces in addition to connecting fillets up to a 75° inclination
- High burnishing force can machine high-strength materials

EG45-45F

- Roller burnishes convex and concave forms with a floating roller head specially adapted to the workpiece
- Operates in plunge-in or feed mode



EG45-40M



EG45-45T

Advantages

- Simultaneously eliminates micro-notches and induces residual compressive stresses through cold working
- Short cycle time
- Eliminates set-up and auxiliary processing time
- No dust or grinding residue
- Minimal lubrication required (oil or emulsion)
- Infinitely variable burnishing force
- Accurately measured burnishing force ensures consistent, high quality results
- Easy to change wear parts

Parameters

- Maximum circumferential speed: 300 m/min.
- Maximum feed rate: 1 mm/rev.

Radius Application

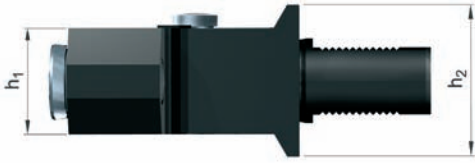
Tool type	Workpiece radius R to be burnished with roller radius r (mm)					
	0.8	1.2	1.6	2.5	4	6.3
EG45-40M	0.8 - 3	1.2 - 5	2.5 - 8	4 - 12	6 - 40	
EG45-45T	0.8 - 3	1.2 - 5	2-8	3 - 12	5 - 20	8 - 63
EG45-45F	Rollers specially designed according to workpiece shape.					

Tool Application Ranges

Yield strength $R_p 0.2$ N/mm ²	≤ 160	≤ 250	≤ 400	≤ 630	≤ 1000
Workpiece $\varnothing \leq 25$ mm	EG45-45T EG45-45F EG45-40M				EG45-45T EG45-45F
Workpiece $\varnothing \leq 100$ mm	EG45-45T EG45-45F EG45-40M			EG45-45T EG45-45F	
Workpiece $\varnothing \leq 160$ mm	EG45-45T EG45-45F EG45-40M		EG45-45T EG45-45F		
Workpiece $\varnothing \leq 250$ mm	EG45-45T EG45-45F EG45-40M	EG45-45T EG45-45F			

Tool Design and Specifications

Basic tool design



Type EG45 single roller burnishing tools consist of a tool body equipped with a tool shank, a spring assembly that allows the roller head to move with no play and very low friction, and a dial indicator that indirectly measures the burnishing force.

The roller head is attached to the flexible, spring-loaded section of the tool body. EG45-45T and -45F are equipped with floating rollers, and EG45-40M comes with a smaller roller. Because of its structure, EG45-40M has a lower load capacity.

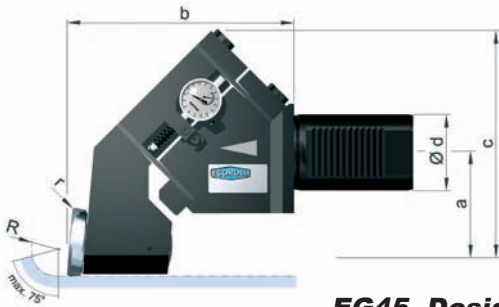
How to order:

Four versions of this tool are available. Please refer to the following illustrations and table.

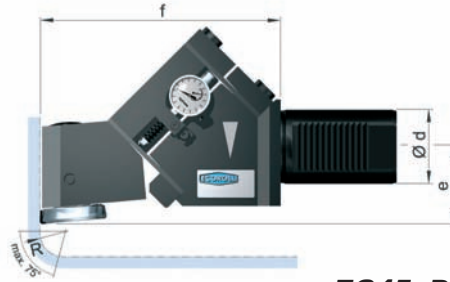
Tool type: Single roller burnishing tool with a spring system loaded at a 45° angle

EG45-1-40M-R2.5-VDI50

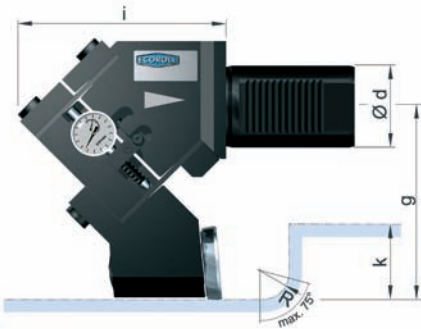
- Shank VDI 50, SL=square shank
- Design version: see illustrations
- Roller diameter and design
- Roller with radius of 2.5 mm



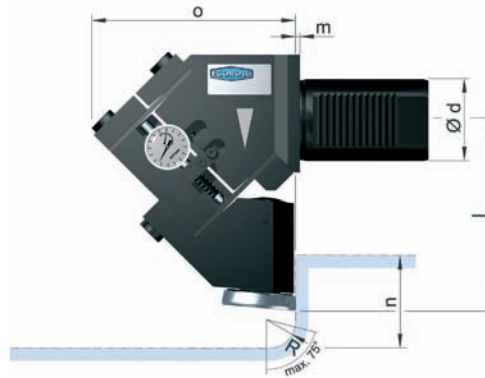
EG45, Design 1
Cylindrical surfaces, including adjacent fillets



EG45, Design 2
Faces on the chuck side, including adjacent fillets



EG45, Design 3
Cylindrical surfaces, including adjacent fillets
Feed direction: toward tailstock



EG45, Design 4
Faces on the tailstock side, including adjacent fillets

Tool type	VDI shank Ød (mm)	Height (mm)		Square shank (mm)	Variable dimensions per design version (mm)												
		h ₁	h ₂		p	1			2		3			4			
						a	b	c	e	f	g	i	k	l	m	n	o
EG45-45T	40,50	63	81-110	25 or 32	81	149	162	52	163	118	127	48	116	3	72	124	
	60					156					170						134
EG45-40M	40,50	63	81-110	25 or 32	69	129	150	52	163	108	126	48	116	3	72	124	
	60					136					134						