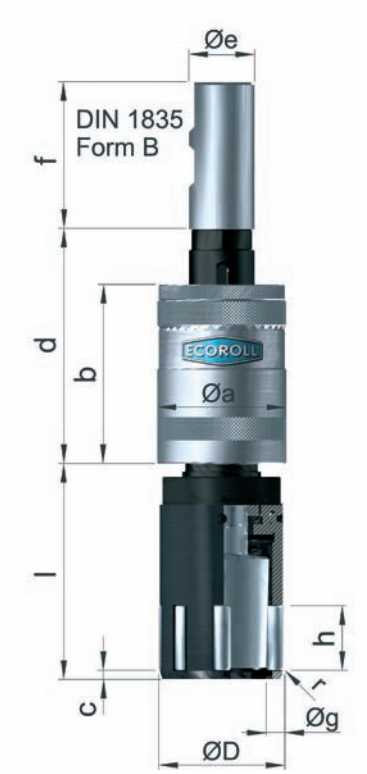
Type G Tool Application: Cylindrical bores

Through holes, diameters 4 – 200 mm
Blind holes, diameters 6 – 200 mm



Features

- *For bore tolerances up to class IT8*
- *Type GE for bore tolerances up to class IT11, Ø 50 mm and larger*
- *Suitable for metals with tensile strength up to 1400 N/mm² and maximum hardness HRC ≤ 45*
- *Achieves a surface quality of R_z < 1 µm (R_a ≤ 0.2 µm)*
- *For use on CNC-controlled lathes, drills, mills, and machining centers as well as manual machines*
- *Right hand rotation*

Basic tool design

- *Type G tools consist of a tool body and roller head.*
- *Tool body includes shank and burnishing diameter adjustment assembly with an adjustment increment of 1 µm.*
- *Tool shanks are Morse taper or cylindrical Weldon design. Specialized shanks also available.*
- *Roller head consists of cone, cage and rollers.*
- *Roller heads interchangeable within tool body diameter range. Optional self-feeding cages also available.*

Parameters

- *Circumferential speed: up to 250 m/min.*
- *Feed rate: 0.05 - 0.3 mm/rev./roller*
- *Rolling length: when the workpiece diameter is 36 mm or larger, the tool allows for unlimited rolling length. For smaller diameters, tools with standard rolling length are available.*

Specially designed versions available by request.

Tool body	Diameter range D (all measurements in mm)	Tool shank: Morse taper or cylindrical shank Ø e x f	a	b	c[1)]	d max.	i	l	Rolling length
G1.1	≥ 4 < 17	MK2 Ø 20h6 x 50	35	52	1.5	70	80	Rolling length + 8 mm	Standard rolling length: 50 mm
	≥ 17 < 21				2				
G1.2	≥ 21 < 33	MK2 Ø 20h6 x 50 Ø 25h6 x 56					80		
G1.3	≥ 33 < 36								
	≥ 36 < 50				3	74		89	Unlimited rolling length
G2	≥ 50 < 100	MK3 Ø 25h6 x 56	49	68		93	99	79	
G3	≥ 100 < 201[2)]	MK4 Ø 32h6 x 60	71	84	5	110	124	100	

NOTE: 1) *All measurements in mm. Measurement* **c** *does not apply for blind hole tools.*
2) *For workpieces with diameters larger than 201 mm, please see ECOROLL Type R tools.*

Advantages

- *Reliable, high precision performance*
- *Short cycle time*
- *Convenient diameter adjustment*
- *Minimal lubrication required (oil or emulsion)*
- *Tool automatically collapses when retracted to prevent surface damage*
- *Easy to change wear parts*

Tool body — **G1.2–25.00–1–50–MK** — *Shank*

Diameter *Design* *Rolling length*

How to order:

1. *Specify the tool body type and machining diameter (see following table).*

NOTE: *Depending on the application, blind hole tools may allow a larger range of settings than shown in the table.*

2. *Specify the design version:*
   - *1: through holes with non-feeding cage*
   - *2: through holes with self-feeding cage*
   - *3: blind holes with non-feeding cage*
3. *Specify the rolling length in mm: 100, 150, 200, 250, 300 (other lengths by request).*
4. *Specify the shank type:*
   - *MK: Morse taper*
   - *ZS: Cylindrical Weldon shank*

Tool body	Diameter D	Setting range through hole / blind hole[3]	Number of rollers[4]	Roller diameter Ø g x h	Roller radius r	Rolling length
	mm	- / + mm		mm		
G1.1 ≥ 4 < 21	4	- 0.05 / + 0.2 / no blind hole	3	1 x 4	0.5	50
	5			1.5 x 6	1	
	6-7	- 0.05 / + 0.3 / - 0.05 / + 0.1		2 x 6 / 2 x 10[3]		
	8-9		4			
	10	- 0.05 / + 0.4 / - 0.05 / + 0.1		3 x 9	1.5	
	11-16		5			
	17-20	- 0.05 / + 0.6 / - 0.05 / + 0.1		5 x 16		
G1.2 ≥ 21 < 33	21-24					
	25,26,28,30,32		6			
G1.3 ≥ 33 < 50	33-35	- 0.05 / + 0.8 / - 0.05 / + 0.1				75
	36					unlimited
	38		8	8 x 25	2.5	
	40,42,44-48					
G2 ≥ 50 < 100	50,52,55,58, 60,62,63,65,68, 70,72,75,78,80,85					
	90,95		12			
G3 ≥ 100 < 201	100,110,115,120,125 130,140,150,160			14 x 35	4	
	170,180,190,200		16			

NOTE: ***3)*** *Depending on the application, blind hole tools may allow a larger range of settings than shown in the table.*
4) *Please exchange only complete sets of rollers. When ordering rollers, specify through or blind hole.*