Rough Grinding and Cutting

Purpose

The main goal of rough grinding and cutting off is to remove as much material (stock) as possible. Surface finish is of minor importance. This process involves leveling or smoothing edges and shaping cast, forged, or welded pieces. It can also involve removing material to form or enlarge a cavity. Typical tasks include fettling castings, trimming welding joints, or cutting off.

Choosing the Tool

Several factors determine the choice of tool, including the type of grinding work, the workpiece material, shape, location, the abrasive used, and the power required. More power enables more material to be removed over time.

Choosing Wheel Diameter and Thickness

Key considerations when choosing wheel diameter include ease of use, machine speed, and economy:

- Many operators prefer the smallest wheel possible as it is lighter and generates less torque.
- Machine speed (rpm) is crucial. Safety codes restrict maximum speeds; larger wheels have lower maximum speeds.
- Larger wheels provide more usable abrasive material at a lower additional cost.
- Wheel thickness is also a matter of cost-effectiveness. Thicker wheels offer more abrasive material for the same price, but thinner wheels may be necessary for precision control or confined spaces, despite requiring a heavier tool and higher air consumption.

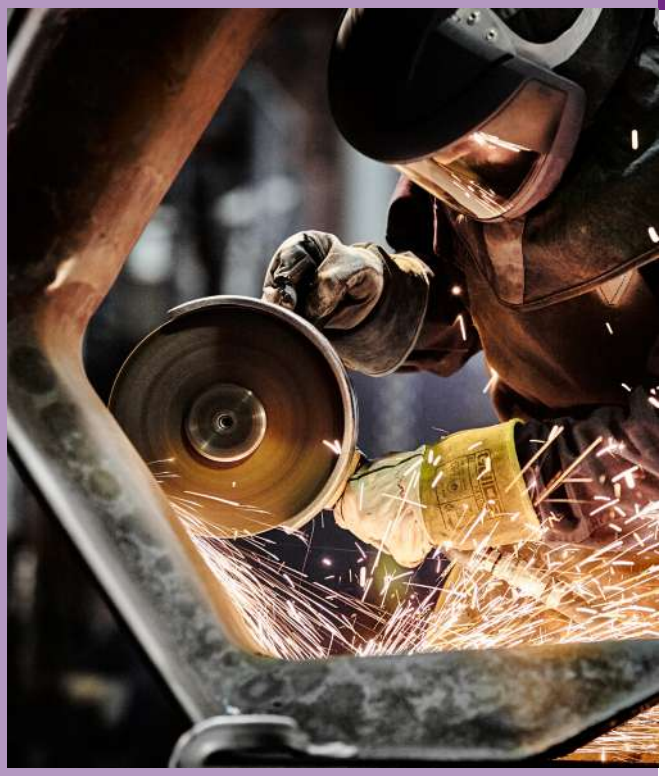
Technique

When using grinders, the material removal pattern is unpredictable, unlike stationary machines. Each grain on the abrasive acts as a tiny cutting tool, removing small chips of material. Over time, these grains become blunt, but the right abrasive will cause blunt grains to break off, exposing new, sharp grains, which is essential for effective grinding. Self-sharpening is crucial for effective grinding. Grinding with a rocking movement helps different parts of the abrasive touch the workpiece, aiding the self-sharpening process. When cutting off material, this rocking motion should follow the wheel's rotation direction.

Unleash unparalleled performance with our turbine grinders, where exceptional power-to-weight ratio meets superior ergonomics.

Description

Experience the ultimate in grinding technology with our turbine grinders, the compact workhorses that set the industry benchmark for ergonomics, power, durability, and performance. Our innovative turbine technology ensures these angle turbine grinders deliver superior material removal on the roughest surfaces. The Speed Controlled governor maintains optimal operating speed, significantly reducing operation time. Loaded with features to enhance operator comfort, ergonomics, and safety, our turbine grinders also reduce air consumption.



Features

- Innovative ergonomic design
- Highly efficient turbine motor
- Compact and robust design
- Precise Speed Controlled governor
- Auto-balancer
- Built-in spindle lock (for GTG22 THOR and GTG25)
- Overspeed shut-off device
- Adjustable wheel guard

Benefits

- Highest material removal rate in its class
- Oil-free operation
- Reduced risk of vibration related injuries
- Excellent operator comfort and accessibility
- Minimum sound levels

Turbine Grinders

GTG22 Details

GTG25 Details

GTG40 Details

GTG25

Model	Max free speed	Max output	Max wheel dia	Spindle thread	Spindle length	Weight	Height over spindle	Air consumption at max output	Air consumption at free speed	Rec hose size	Air inlet thread BSP	Air inlet thread NPT	Ordering No.
	r/min	kW	mm		mm	kg	mm	l/s	l/s	mm	in		
GTG25-F120-13	12000	2.5	125	-	-	2.1	61	34	9	16	3/8	-	8423 2525 01
GTG25-F085-18	8500	2.5	180	-	-	2.2	61	34	9	16	3/8	-	8423 2525 02
GTG25-F120-527	12000	2.5	125	5/8"-11 UNC	23.4	2.2	84	34	9	16	-	3/8	8423 2525 06
GTG25-F085-727	8500	2.5	180	-	-	2.4	84	34	9	16	-	3/8	8423 2525 07
GTG25 F120-M14	12000	2.5	125	M14	20	2.1	80	34	9	16	3/8	-	8423 2525 10
GTG25 F085-M14	8500	2.5	180	M14	20	2.2	80	34	9	16	3/8	-	8423 2525 11
GTG25 F085-13	8500	2.5	125	-	-	2.2	61	34	9	16	3/8	-	8423 2525 15

North American Model

Accessories

	8423 2525 01	8423 2525 02	8427 2525 06	8428 2525 07	8430 2525 10	8431 2525 11	8423 2525 15	Ordering No.
Included								
Allen key for flange nut	✓	✓	-	-	-	-	✓	4080 0048 00
Allen key for support handle	✓	✓	✓	✓	-	-	✓	0902 0113 00
Flange washer (for grinding applications)	✓	✓	-	-	-	-	✓	4175 0777 90
Flange washer (for cutting-off applications)	✓	✓	-	-	-	-	✓	4175 0777 92
Face spanner (30 x Ø5.5 mm)	-	-	✓	✓	-	-	-	4080 0201 00
Face spanner	-	-	-	-	✓	✓	-	4080 0862 00
Locking kit (imperial)	-	-	✓	✓	-	-	-	4170 1188 91
Locking kit (metric)	-	-	-	-	✓	✓	-	4170 1188 90
Adapter (Ø42mm)	-	-	-	✓	-	-	-	4175 0643 02
Adapter (Ø84mm, 5/8" - type 27 and 42 wheels)	-	-	-	✓	-	-	-	4175 0646 00

Continued on the next page (GTG 25)

Accessories

	8423 2525 01	8423 2525 02	8427 2525 06	8428 2525 07	8430 2525 10	8431 2525 11	8423 2525 15	Ordering No.
Included								
Adapter, backing pad (5/8", for 527 grinding wheel)	-	-	✓	-	-	-	-	4175 0643 00
Adapter, backing pad	-	-	-	-	✓	✓	-	4175 0643 93
Key compl. (to be assembled into the support handle)	✓	✓	-	-	-	-	✓	4175 0798 90
Flange nut M14 - type 41 (type 1) cutting wheel	-	-	-	-	✓	✓	-	4175 0643 94
Flange nut M14 - type 27 (type 42) grinding wheel	-	-	-	-	✓	✓	-	4175 0643 96
Optional								
Backing pad kit - Slimline 5" (120mm)	✓	-	-	-	-	-	✓	4170 1888 02
Backing pad kit - Slimline 7" (180mm)	-	✓	-	-	-	-	-	4170 1888 05
Whip hose kit (3/8" + RUBAIR16)	✓	✓	✓	✓	✓	✓	✓	4175 0738 90
Productivity kit (MIDI-FRL-1/2-BSP EQ10-T13)	✓	✓	✓	✓	✓	✓	✓	8202 0850 17
MULTIFLEX-3/8 cover	✓	✓	✓	✓	✓	✓	✓	8202 1350 42
MULTIFLEX-3/8	✓	✓	✓	✓	✓	✓	✓	8202 1350 22
Lever, compl.	✓	✓	✓	✓	✓	✓	✓	4150 1594 98
Diamond cutting wheel - Ø125mm	✓	-	✓	-	✓	-	-	3780 5074 61
Diamond cutting wheel - Ø180mm	-	✓	-	✓	-	✓	✓	3780 5074 62
Spot suction for diamond cutting wheel (only Ø180mm)	-	✓	-	✓	-	✓	✓	3780 4090 35
Spot suction for depressed center wheel (only Ø180mm)	-	✓	-	✓	-	✓	✓	3780 4090 30
Add on spot suction (only Ø125mm)	✓	-	✓	-	✓	-	-	3780 4032 14

GTG40

Model	Max free speed	Max output	Max wheel dia	Spindle thread	Spindle length	Weight	Height over spindle	Air consump-tion at max output	Air consump-tion at free speed	Rec hose size	Air inlet thread BSP	Air inlet thread NPT	Ordering No.
	r/min	kW	mm		mm	kg	mm	l/s	l/s	mm	in	in	
GTG40 S060-611	6000	4.5	152	5/8"-11 UNC	22.3	4.6	123	60	20	16	-	1/2	8423 0715 00 (for cup wheel type 11)
GTG40 S060-927	6000	4.5	230	5/8"-11 UNC	22.3	4.3	123	60	20	16	-	1/2	8423 0715 05 (for depressed center wheels, type 27)
GTG40 S060-727	6000	4.5	180	5/8"-11 UNC	22.3	4.3	123	60	20	16	-	1/2	8423 0715 07 (for depressed center wheels, type 27)
GTG40 S085-727	8500	4.5	180	5/8"-11 UNC	22.3	4.3	123	60	20	16	-	1/2	8423 0715 10 (for depressed center wheels, type 27)
GTG40 F120-7D	12000	4.5	180	-	-	3.8	99	60	20	16	-	1/2	8423 0715 30 (for depressed center wheels, type 27)
GTG40 F085-18	8500	4.5	180	-	-	3.8	99	60	20	16	1/2	-	8423 2900 10
GTG40 F066-23	6600	4.5	230	-	-	4.0	99	60	20	16	1/2	-	8423 2910 10
GTG40 S060-C15*	6000	4.5	150	5/8"-11 UNC	22.3	4.3	123	60	20	16	1/2	-	8423 2930 10 (for cup wheel type 11)

North American Model

Continued on the next page (GTG 40)

*Max cup wheel diameter is 150mm for Model - GTG40 S060-C15

Accessories

	8423 0715 00	8423 0715 05	8423 0715 07	8423 0715 10	Ordering No.
Included					
Allen key (8mm)	✓	✓	✓	✓	0462 3500 49
Face spanner	-	-	-	✓	0462 2000 13
Face spanner	-	-	-	✓	4080 0997 00

	8423 0715 30	8423 2900 10	8423 2910 10	8423 2930 10	Ordering No.
Included					
Allen key (8mm)	✓	✓	✓	✓	0462 3500 49
Face spanner (30 x Ø5.5 mm)	✓	✓	✓	-	4080 0201 00
Flange nut - type 41 (type 1) cutting wheel	-	✓	✓	-	4175 0193 90
Flange nut - type 27 (type 42) grinding wheel	✓	✓	✓	-	4175 0194 90

	8423 0715 00	8423 0715 05	8423 0715 07	8423 0715 10	Ordering No.
Optional					
MULTIFLEX-1/2-NPT (For North America)	✓	✓	✓	✓	8202 1350 62
Screwdriver (1/4" fem. Hex.)	✓	✓	✓	-	4080 0853 00
Bit-HEXC1/4"-L25.4-T10	✓	✓	✓	-	4023 1321 00
Bit-HEXC1/4"-L25.4-T20	✓	✓	✓	-	4023 1322 00
Bit-HEXE1/4"-L49-T25	✓	✓	✓	-	4023 2220 26
Friction plate - for Australia	✓	✓	✓	-	4175 0200 90

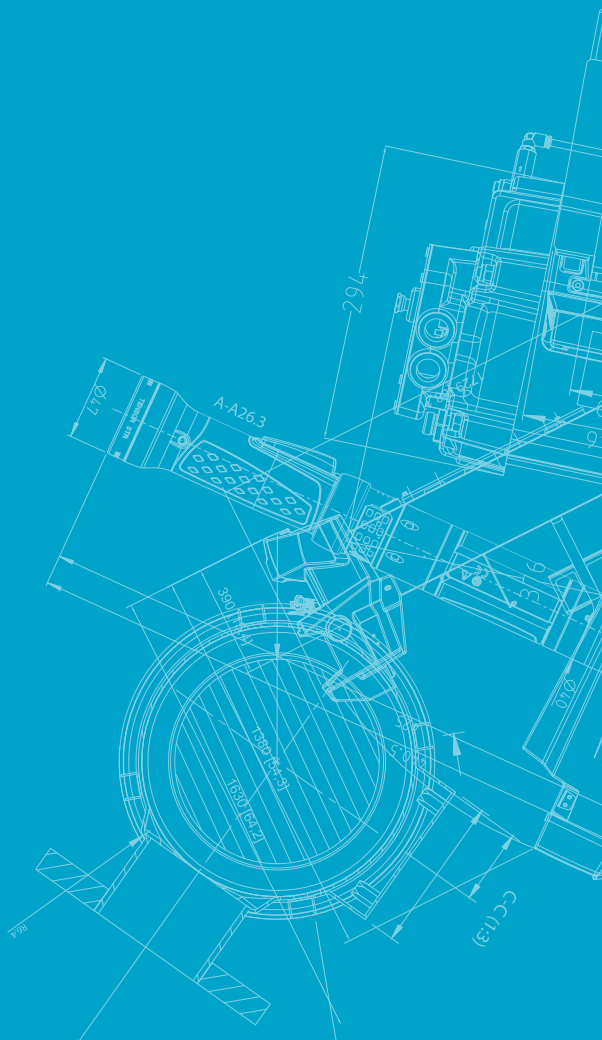
	8423 0715 30	8423 2900 10	8423 2910 10	8423 2930 10	Ordering No.
Optional					
Backing pad kit - Slimline 7" (180mm)	-	✓	✓	-	4170 1888 10
Hose kit (5/8" + TURBO16)	✓	-	-	-	8202 1181 85
Productivity kit (MAXI-F/R-1-BSP C-T16)	-	✓	✓	✓	8202 0850 05
MULTIFLEX-1/2-HF	-	✓	✓	✓	8202 1350 60
MULTIFLEX-1/2-NPT (For North America)	✓	-	-	-	8202 1350 62
Screwdriver (1/4" fem. Hex.)	✓	✓	✓	✓	4080 0853 00
Bit-HEXC1/4"-L25.4-T10	✓	✓	✓	✓	4023 1321 00
Bit-HEXE1/4"-L49-T25	✓	✓	✓	✓	4023 2220 26
Friction plate - for Australia	-	✓	✓	✓	4175 0200 90
Flange nut - type 27 (type 42) wheel, T9-13mm	-	✓	✓	-	4175 0114 92
Diamond cutting wheel - Ø180mm	-	✓	-	-	3780 5074 62
Assembly kit	-	-	-	✓	4175 0178 90

GTG22

Model	Max free speed	Max output	Max wheel dia	Spindle thread	Spindle length	Weight	Height over spindle	Air consumption at max output	Air consumption at free speed	Air inlet thread BSP	Ordering No.
	r/min	kW	mm		mm	kg	mm	l/s	l/s	in	
GTG22-HA G120	12000	2.3	125	-	-	1.9	58	32	8	3/8	8423 2222 10
GTG22-HA G85	8500	2.3	180	-	-	2.1	58	32	8	3/8	8423 2222 20
GTG22-HA G120-M14	12000	2.3	125	M14	20	1.9	78	32	8	3/8	8423 2222 30

Accessories

	8423 2222 10	8423 2222 20	8423 2222 30	Ordering No.
Included				
Allen key for flange nut	✓	✓	-	4080 0048 00
Allen key for support handle	✓	✓	✓	4221 0014 26
Flange washer (for grinding applications)	✓	✓	-	4175 0777 90
Flange washer (for cutting-off applications)	✓	✓	-	4175 0777 92
Face spanner	-	-	✓	4080 0862 00
Locking kit (metric)	-	-	✓	4170 1188 90
Adapter, backing pad	-	-	✓	4175 0643 93
Flange nut M14 - type 41 (type 1) cutting wheel	-	-	✓	4175 0643 94
Flange nut M14 - type 27 (type 42) grinding wheel	-	-	✓	4175 0643 96
Optional				
Backing pad kit - Slimline 5" (120mm)	✓	-	✓	4170 1888 02
Backing pad kit - Slimline 7" (180mm)	-	✓	-	4170 1888 05
Whip hose kit (3/8" + RUBAIR16)	✓	✓	✓	4175 0738 90
Productivity kit (MIDI-FRL-1/2-BSP EQ10-T13)	✓	✓	✓	8202 0850 17
MULTIFLEX-3/8	✓	✓	✓	8202 1350 22



Atlas Copco AB

(publ) SE-105 23 Stockholm, Sweden
Phone: +46 8 743 80 00
Reg. no: 556014-2720

atlascopco.com