Pneumatic tools				
Series		Power [W]	Speed [min-1]	Page
10R90		44	100 000	
12R04 / 12R91		70	60 000 / 65 000	
12S10 12S20 12S25		220 440 660	380 - 34 000 20 000 - 25 000 430 - 23 000	6 – 7
12S11 12S26	ĵi.	220 660	28 000 4700 – 22 000	8 – 9
12R03		70	80 000	
12S12 12S27		220 660	12 000 – 20 000 3300– 11 000	10 – 11
14CF 14CS 14CN 15SF0		300 440 660 300	600 - 20 000 500 - 20 000 500 - 20 000 1000 - 5300	12 – 13
15SF2		300	600 – 5 300	
Series 015 u. 041-052				14 15 16 17 18 19
Carbide burs with aluminum cut Series 101-108				25
Carbide routers with diamond cut				
Series 190/191		*************************************		26
Fiber-glass reinforced Carbide b series 620 series 010		Pneumatic g	prinder sets	27 and 20,21,23
25 West of the second	The second second			

General, motor designs

The right tool for your job!

Tools driven by compressed-air are well known for compact design, excellent power to weight ratio and low initial and maintenance costs. Compressed-air driven tools are usable in humid and explosive environments.

Important for the efficient use of a tool is its optimal adaptation to the special application. Please consider some factors in this decision e. g. quality, lifetime and serviceability of the tool.

More important are the technical data of the tool: Enough power, low air consumption and an adequate speed for the chosen rotating tool.

Of interest is also the handling which is determined by the design and the weight of the tool.

Additional you have to look for the right throttle for the application. Normally it is important to use a security throttle but sometimes there is a need of a valve or throttle for a fixed or continuous operation.

The sound level of the tool should be also included in the decision. Rear exhaust with overhose will highly silence the tools. A front exhaust will cool the workpiece but will also blow away the chips. All these questions should be checked before the tool is bought and the best way is to talk to a technical consultant of DE-STA-CO.

Our product range includes compressed air driven tools with a power of 44 W to 660 W and a speed up to 100,000 UPM.

Special accessories for the pneumatic tools and carbide burs allow an optimal adaptation of the tools to the application.

A precise manufacturing and a broad quality assurance causes high liability of DE-STA-CO pneumatic tools and burs.

Motor-designs

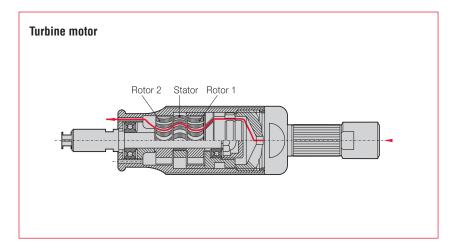
Vane motor

Most of our pneumatic tools are driven by vane motors, which generate their power by the principle of expanding compressed air.

Vane motor Air intake First exhaust Compressed air flows Most of the expanded air emits into the motor and is blocked by rotor blade A. the motor at the first The rotor starts turning. exhaust. Expansion Second Exhaust The compressed air bet-The remaining air will ween the blades A and B exhaust now. has now the possibility to expand. This expansion causes a torque at the rotor; the turning of the rotor is strengthened.

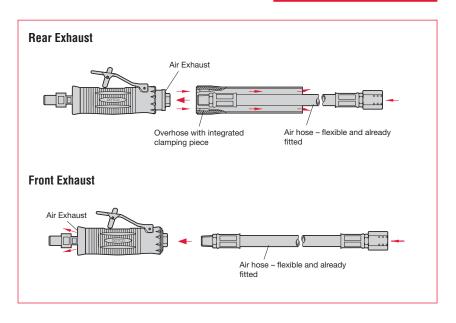
Turbine motor

A turbine motor generates its power by using the velocity and the kinetic energy of the compressed air. The air flows through the rotor 1, is redirected by the stator and flows through rotor 2.



Types

Due to precision manufactured parts the noise development of the grinders is rather low. Mostly you will hear the sound of the expanding air. This noise could be further reduced by using overhoses. The function of an overhose is easily shown at the illustration on the right side. Using a rear exhaust with an overhose the exhausting air will be piped away from the workplace. The noise reduction will be as greater as farther away the exhaust from the workplace is. But keep in mind: If the air should cool attached accessories a front air exhaust should be chosen.



Valves

Security lever S

On safety reasons this lever only allows to start the air tool after actuating the ratchet lever (1). Then the tool can be activated by pressing the hand lever.

Roll valve R

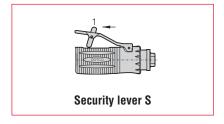
Turning the valve will start the air tool. This roll valve could only be found at grinder of the series 10-90, 12-03 and 12-04.

Speed and Power

All in this catalogue specified (free) speeds and powers are measured at the max. pressure of 6,3 bar.

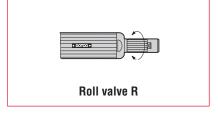
Speed governor

A patented centrifugal controlled governor is used for some grinders with 660 watt power. This governor controls the air flow inside the tool. At free speed the air flow is regulated on a minimal base and if the maximal power is needed the flow has its maximum.



Maintenance

The durability of a grinder could be highly increased by maintaining the tool. A maintenance unit is needed (filter – regulator – lubricator) and this unit should be installed as near to the tool as possible. Please oil the tools with 2 or 3 drops per minute.



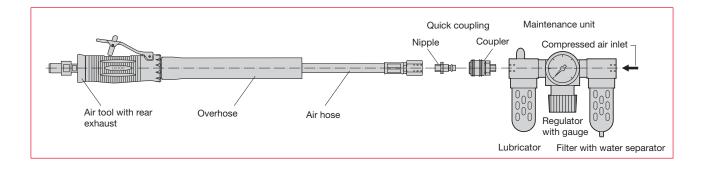
Exception: series 12R03 and 12R04 should be oiled with 1 to 2 drops per minute.
Only the turbine grinder 10R9000-03 and 12R9180-43SG should not be oiled.

Recommended oil

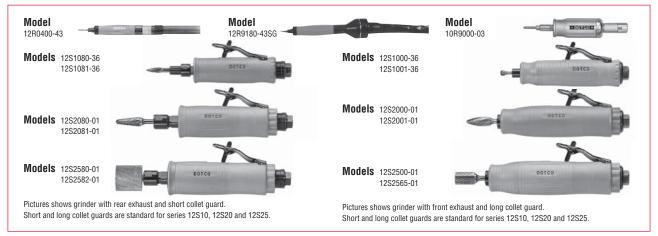
We recommend for the air tools a light oil with a viscosity of app. 18-30 mm/sec at 40°C; like our model-no. 45-0918 (1 litre can, see page 15).

Greasing the gears

To grease the mitre gears of the compressed air tools the special grease, model-no. 45-0980, should be used. To grease planetary gears we recommend the special grease model-no. 45-0983. Please find the recommended lubricating intervals in the corresponding manual.



Straight grinder 44/70/220/440/660W



Series	Model-no.	Free speed	Power	Air consump- tion	Noise level	Air exhaust F = front	Recommended air hose - please order separately	Standard accessories			
		[min ⁻¹]	[W]	[dm³/min]	[dB (A)]	R = rear	(Page 14)		Model-no.		
10R90	10R9000-03 oil free	100 000	44	170	75	F	-	Collet, 3 mm Wrench, AE 4,8 mm Wrench, AE 6,4 mm Air hose, 2,1 m (Anschl. G 1/4) Air hose filter	148-3 mm 14-0803 14-0804 45-1307-S 45-0211		
12R04	12R0400-43	60 000	70	170	75	R	-	Collet, 3 mm Air hose, 1,5 m (Anschl. G 1/4) Overhose, 1,2 m Wrench, AE 4,8 mm Wrench, AE 8,7 mm Collet guard, short	148-3 mm 45-0948-S 45-0956-A 14-0803 14-0822 DO-917		
12R91	12R9180-43SG	65 000	70	170	75	R	-	Collet, 3 mm Air hose, 1,5 m (Anschl. G 1/4) Overhose, 1,2 m Wrench, AE 4,8 mm Wrench, AE 8,7 mm Collet guard, short	148-3 mm 45-0948-SLA D0-0974 14-0803 14-0822 D0-917		
12810	12\$1000-36 12\$1001-36 12\$1080-36 12\$1081-36	30 000 34 000 30 000 ¹⁾ 34 000 ¹⁾	200	280	83 83 78 78	F F R R	45-1408-S	Collet, 6 mm Wrench, AE 11,1 mm Wrench, AE 17,5 mm Collet guard, short Collet guard, long Overhose, 1,2 m (for rear exhaust only(R))	300-6 mm 14-0807 14-0811 D0-011050 D0-011047 45-2687-A		
12S20	12\$2000-01 ½12\$2001-01 12\$2080-01 ½12\$2081-01	25 000 20 000 25 000 20 000	440	570	84 84 78 78	F F R R	45-1508-S	Collet, 6 mm Wrench, AE 14,3 mm Wrench, AE 19 mm Collet quard, short	200-6 mm 14-0809 14-0812 D0-012050		
12S25	12\$2500-01 ½ 12\$2565-01* 12\$2580-01 ½ 12\$2582-01	23 000 15 000 23 000 18 000	660	800	84 84 78 78	F F R R	45-1508-S	Collet guard, long Overhose, 1,2 m (for rear exhaust only(R))	D0-012047 45-2687-A		

^{*=}with governor Grinders with other speeds on request

Applications



Router assembly for working on plastics, wood and nonferrous metals (Page 17)

Fiberglass router assembly (Page 16)





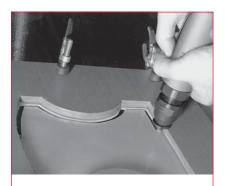
Oilfree turbine grinder 12R9180-43SG for burring, sanding and milling.



Deburring high-strength steel workpieces with 12R0400-43

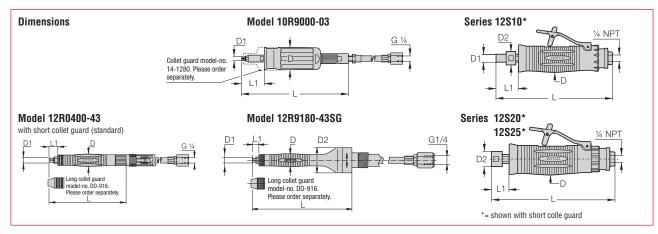


Finishing a casted workpiece with the 12S1000-36

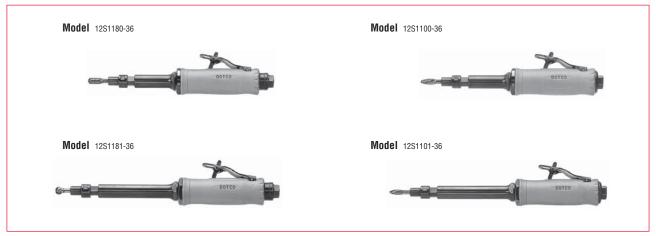


Routing fiberglass with a 12S2580-01 and a router assembly along a template (Page 16)

Recommended access	ories	Applications	Dimensions				Weight	
	Page/ Model-No.		L	L ₁	D	D ₁	D_2	[g]
Maintenance unit G1/4 Collets Collet guard Carbide burs Pneumatic accessories	Page 15 Page 14 14-1280 Page 20 Pages 14, 15	Deburring, grinding, milling and polishing with carbide burs (shaft and head-Ø 3mm) and mounted points and polishing points. Used in tool making, mold making, precision mechanic and aeronautical engineering.	141	25	29	7,5	-	250
Maintenance unit G1/4 Collets Collet guard, long Carbide burs Pneumatic accessories	Page 15 Page 14 DO-916 Pages 20, 21 Pages 14, 15	Deburring, grinding, milling and polishing with carbide burs (shaft-Ø 3mm and head-Ø max 6,5mm) and mounted points and polishing points. Used in tool making, mold making, precision mechanic and aeronautical engineering.	120	11	19	7,5	-	120
Maintenance unit G1/4 Collets Collet guard, long Carbide burs Pneumatic accessories	Page 15 Page 14 DO-916 Pages 20, 21 Pages 14, 15	Deburring, grinding, milling and polishing with carbide burs (shaft-Ø 3mm and head-Ø max 6,5mm) and mounted points and polishing points. Grinders with other speeds on request.	144	11	19	7,5	37	200
Maintenance unit G1/4 or G1/8 Collets Chamfering assemblies Router assemblies Carbide burs & Cutting wheels Pneumatic accessories	Page 15 Page 14 Pages 16, 17 Pages 16, 17 Pages 22 to 27 Pages 14, 15	Deburring, grinding, milling and polishing with carbide burs (shaft-Ø 6mm and head-Ø max 12mm) and mounted points and polishing points. Grinders with other speeds on request.	151 151 161 161	30	38	13	18,5	380
Maintenance unit G1/8 Collets Chamfering assemblies	Page 15 Page 14 Pages 16, 17	Deburring, grinding, milling and polishing with carbide burs (shaft-Ø 6 or 8mm and head-Ø max 19mm) and	175 175 185 185	34	44	_	20,5	610
Router assemblies Carbide burs & Cutting wheels Pneumatic accessories	Pages 16, 17 Pages 22 to 27 Pages 14, 15	mounted and polishing points. Chamfering, routing and deburring with accordingly assemblies.		34	44	-	20,5	670



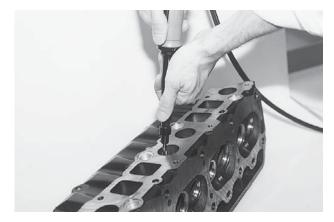
Extended straight grinder 220/440/660W



& = ready for oilless use

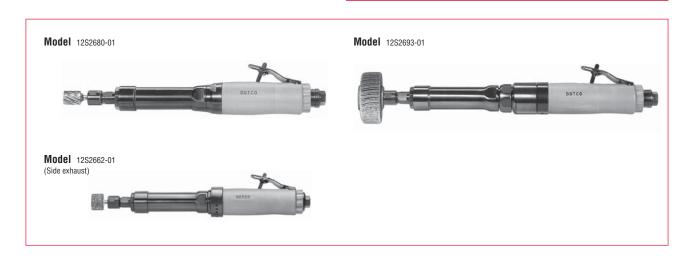
Series	Model-no.	Free speed	Power	Air consump- tion	Noise level	Air exhaust F = front R = rear	Recommended air hose - please order separately (Page 14)				
		[min ⁻¹]	[W]	[dm³/min]	[dB (A)]	S = side	(raye 14)		Model-no.		
12S11	12S1100-36 12S1101-36 12S1180-36 12S1181-36	28 000	220	280	83 83 78 78	F F R	45-1408-S	Collet, 6 mm Wrench, AE 11,1 mm Wrench, AE 17,5 mm Overhose, 1,2 m (for rear exhaust only(R))	300-6 mm 14-0807 14-0811 45-2687-A		
12S26		12 000 22 000 4 700	660	800	77 76 76	S R R	45-1508-S	Collet, 6 mm Wrench, AE 14,3 mm Wrench, AE 19 mm Overhose, 1,2 m (for rear exhaust only(R))	200-6 mm 14-0809 14-0812 45-2687-A		

^{*=} with governor Grinders with other speeds on request



Working at a difficult to access part of a workpiece with 12S1101-36.





Recommended accessories		Applications	Dimensio			nsions		Weight		
	Page/ Model-No.		L	L ₁	L ₂	D	D ₁	D_2	D_3	[9]
Maintenance unit G1/4 or G1/8 Collets Carbide burs and cutting wheels Pneumatic accessories	Page 15 Page 14	Deburring, grinding, milling and polishing with carbide burs (shaft-Ø 6 mm and head-Ø		86 136	38	10	10.5	40	500 600	
	Page 22 - 27 Page 14 u.15	nointe	238 288	86 136		38	13	18,5	19	500 600
Maintenance unit G3/8 Collets Carbide burs and cutting wheels Pneumatic accessories	Page 15 Page 14 Pages 22 to 27 Page 14, 15	Deburring, grinding, milling and polishing with carbide burs (shaft-Ø 6 or 8 mm and head-Ø max. 19 mm) and mounted points and polishing points. Because its low speed model 12S2693-01 is particularly suitable for working with wire, nylon brushes and grinding wheels.	346 338 385	38	165	44	_	20,5	32	1.500 1.400 1.700

