



Screwdriving technology

Automation

Air motors

Air tools

# DEPRAG

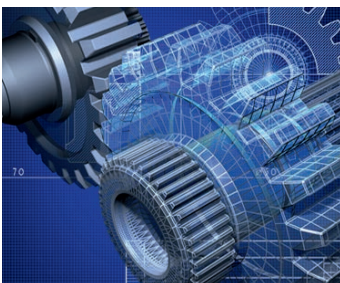
## Air vane motors for special applications

drilling motors 170 - 600 W  
 milling motor 400 W  
 grinding motors 150 - 1000 W

**robust and precise bearing**      **high running accuracy**  
**high precision drill chucks and collets**

High performance drive for installation in robots and machines.  
 For example their slim design allows the smallest of drill spacings when applying a multi-spindle technique, such as for the construction of windows.

The robust steel housing guarantees high precision and operational safety.



### Air motors for special applications

drilling motors - milling motors - grinding motors

The image shows three different models of air motors. The top left is a black motor with a blue band. The top right is a black motor with a silver band. The bottom is a silver motor with a drill bit attached. The background is orange with technical drawings and lines.



## 80 W drilling motors with collet 170 W drilling motors with collet or drill chuck

Motor size 1		right rotation					
Series 104-	Type	104-010-1	104-110-1	104-210-1	104-310-1		
with collet	Part no.	302929 A	302929 B	302929 C	302929 D		
Nominal-Power	W / HP	80 / 0.11	80 / 0.11	80 / 0.11	80 / 0.11		
Nominal-Speed	rpm	11000	3000	950	650		
Speed (idling)	rpm	22000	6000	1900	1300		
Nominal-Torque	Nm / in.lbs	0.06 / 0.5	0.22 / 1.9	0.8 / 7	1.2 / 11		
Start-Torque min.	Nm / in.lbs	0.09 / 0.8	0.33 / 2.9	1.2 / 11	1.8 / 16		
Air consumption	m <sup>3</sup> /min / cfm	0.23 / 8	0.23 / 8	0.23 / 8	0.23 / 8		
Length L	mm / in.	96.5 / 3.76	96.5 / 3.76	105.5 / 4.11	105.5 / 4.11		
Weight	kg / lbs	0.2 / 0.4	0.2 / 0.4	0.22 / 0.5	0.22 / 0.5		
Hose I.D.	mm / in.	4 / <sup>5</sup> / <sub>32</sub>	4 / <sup>5</sup> / <sub>32</sub>	4 / <sup>5</sup> / <sub>32</sub>	4 / <sup>5</sup> / <sub>32</sub>		
for drilling steel up to	Ø mm / in.	–	3 / <sup>1</sup> / <sub>8</sub>	3 / <sup>1</sup> / <sub>8</sub>	3 / <sup>1</sup> / <sub>8</sub>		
for drilling aluminium up to	Ø mm / in.	3 / <sup>1</sup> / <sub>8</sub>	3 / <sup>1</sup> / <sub>8</sub>	3 / <sup>1</sup> / <sub>8</sub>	3 / <sup>1</sup> / <sub>8</sub>		

Performance data relate to an air pressure of 6 bar (85 PSI)

Motor housing made from stainless steel.  
Spindle and collet regular steel.

Motor size 2		right rotation					
Series 104-	Type	104-020-1	104-120-1	104-220-1	104-320-1	104-420-1	104-520-1
with collet	Part no.	302916 A	302916 B	302916 C	302916 D	302916 E	302916 F
for drill chuck	Part no.	–	104-120	104-220	104-320	104-420	104-520
Nominal-Power	W / HP	170 / 0.23	170 / 0.23	170 / 0.23	170 / 0.23	170 / 0.23	170 / 0.23
Nominal-Speed	rpm	12000	3000	2000	750	500	330
Speed (idling)	rpm	24000	6000	4000	1500	1000	660
Nominal-Torque	Nm / in.lbs	0.13 / 1.1	0.5 / 4.4	0.8 / 7	2.1 / 18	3.2 / 28	4.9 / 43
Start-Torque min.	Nm / in.lbs	0.19 / 1.7	0.8 / 7	1.2 / 10	3.2 / 28	4.8 / 42	5 / 44*)
Air consumption	m <sup>3</sup> /min / cfm	0.3 / 11	0.3 / 11	0.3 / 11	0.3 / 11	0.3 / 11	0.3 / 11
Weight	kg / lbs	0.38 / 0.84	0.38 / 0.84	0.38 / 0.84	0.43 / 0.95	0.43 / 0.95	0.43 / 0.95
Hose I.D.	mm / in.	6 / <sup>1</sup> / <sub>4</sub>	6 / <sup>1</sup> / <sub>4</sub>	6 / <sup>1</sup> / <sub>4</sub>	6 / <sup>1</sup> / <sub>4</sub>	6 / <sup>1</sup> / <sub>4</sub>	6 / <sup>1</sup> / <sub>4</sub>
for drilling steel up to	Ø mm / in.	–	3 / <sup>1</sup> / <sub>8</sub>	4 / <sup>5</sup> / <sub>32</sub>	4 / <sup>5</sup> / <sub>32</sub>	4 / <sup>5</sup> / <sub>32</sub>	4 / <sup>5</sup> / <sub>32</sub>
for drilling aluminium up to	Ø mm / in.	4 / <sup>5</sup> / <sub>32</sub>	5 / <sup>13</sup> / <sub>64</sub>	6 / <sup>15</sup> / <sub>64</sub>	6 / <sup>15</sup> / <sub>64</sub>	6 / <sup>15</sup> / <sub>64</sub>	6 / <sup>15</sup> / <sub>64</sub>

Performance data relate to an air pressure of 6 bar (85 PSI)

\*) max admissible torque  
External parts regular steel.

### Optional Equipment

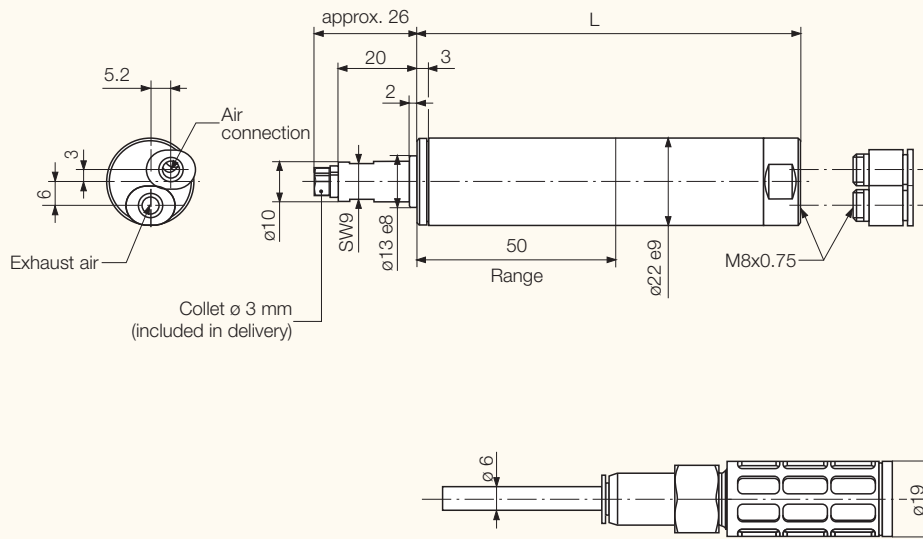
			Motor size 1	Motor size 2
Collet	Ø 2 mm	Part no.	314693	–
	Ø 3 mm	Part no.	(included in delivery)	312681
	Ø 4 mm	Part no.	302474/1	312684
	Ø 5 mm	Part no.	–	312686
	Ø 6 mm	Part no.	–	included in delivery
	Ø 3/32" (2.35 mm)	Part no.	314694	–
	Ø 1/8" (3.175 mm)	Part no.	314407	312682
Ø 1/4" (6.35 mm)	Part no.	–	312689	
Drill chuck				
Range 0.5 - 6.5 mm / B 10	Part no.	–	804655	
Quick change chuck				
Range 0 - 6.5 mm / B 10	Part no.	–	805986	
2 Slide connectors (M8 x 0.75)			included in delivery	–
Noise level at standard version			95 dB (A)	73 dB (A)
with exhaust air system and exhaust filter			71 dB (A)	74 dB (A)
Exhaust air system	Part no.		446354 A	302923 A
Exhaust filter	Part no.		integrated in exhaust air system	811091
Maintenance unit with lubricator*	Part no.		820454 A	820454 A
Connection thread			G 1/4	G 1/4
Maintenance unit without lubricator*	Part no.		822408 A	822408 A
Connection thread			G 1/4	G 1/4
Replacement part set consisting of vanes, sealant rings, o-rings and silencers	Part no.		446085 B	446086 B

\*) Maintenance unit consists of pressure regulator valve, filter and optionally with or without lubricator

Allowable shaft loading → Page 12

Of course you can also purchase individual replacement parts from us.

**Motor size 1**  
**Series 104-**  
 right rotation

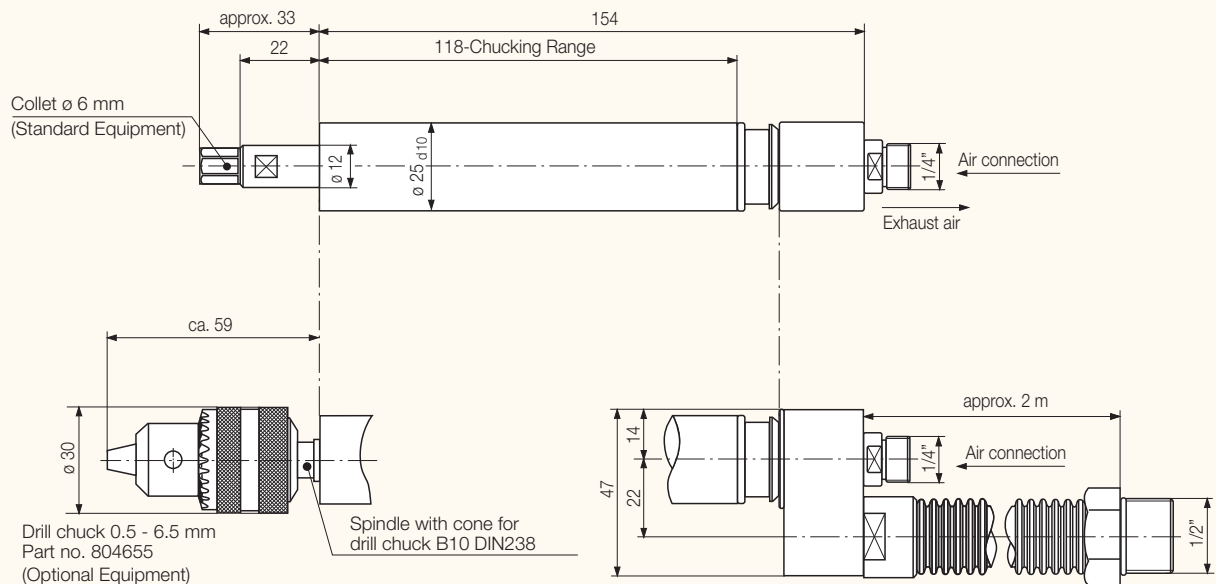


Exhaust air system with integrated silencer 446354 A  
 (Optional Equipment)

Dimensions in mm

p203439

**Motor size 2**  
**Series 104-**  
 right rotation



Exhaust air system 302923 A (Optional Equipment)  
 Corresponding exhaust filter 811091

Dimensions in mm

## 250 W / 400 W drilling motors with collet or drill chuck

Motor size 2.5		right rotation					
<b>Baureihe 104-</b> with collet	<b>Typ</b> Part no.	<b>104-0250-1</b> 302897 A	<b>104-1250-1</b> 302897 B	<b>104-2250-1</b> 302897 C	<b>104-7250-1</b> 302897 D	<b>104-3250-1</b> 302897 E	<b>104-4250-1</b> 302897 F
<b>Baureihe 104-</b> for drill chuck	<b>Typ</b> Part no.	<b>104-0250</b> 302900 A	<b>104-1250</b> 302900 B	<b>104-2250</b> 302900 C	<b>104-7250</b> 302900 D	<b>104-3250</b> 302900 E	<b>104-4250</b> 302900 F
Nominal-Power	W / HP	250 / 0.33	250 / 0.33	250 / 0.33	250 / 0.33	250 / 0.33	250 / 0.33
Nominal-Speed	rpm	8500	2400	1250	700	350	175
Speed (idling)	rpm	17000	4800	2500	1400	700	350
Nominal-Torque	Nm / in.lbs	0.28 / 2.5	1 / 9	1.9 / 17	3.4 / 30	6.8 / 60	13.6 / 125
Start-Torque min.	Nm / in.lbs	0.42 / 3.7	1.5 / 13	2.8 / 25	5.1 / 45	10.2 / 90	20.4 / 180
Air consumption	m <sup>3</sup> /min / cfm	0.35 / 12	0.35 / 12	0.35 / 12	0.35 / 12	0.35 / 12	0.35 / 12
Length L1	mm / in.	141 / 5 9/16	141 / 5 9/16	141 / 5 9/16	157 / 6 3/16	157 / 6 3/16	157 / 6 3/16
Length L2	mm / in.	64 / 2 33/64	64 / 2 33/64	64 / 2 33/64	80 / 3 5/32	80 / 3 5/32	80 / 3 5/32
Weight	kg / lbs	0.8 / 1.8	0.8 / 1.8	0.8 / 1.8	0.9 / 2	0.9 / 2	0.9 / 2
Hose I.D.	mm / in.	6 / 1/4	6 / 1/4	6 / 1/4	6 / 1/4	6 / 1/4	6 / 1/4
for drilling steel up to	Ø mm / in.	–	4 / 5/32	6 / 15/64	8 / 5/16	10 / 25/64	10 / 25/64*)
for drilling aluminium up to	Ø mm / in.	6 / 15/64	6 / 15/64	8 / 5/16	10 / 25/64	–	–

Performance data relate to an air pressure of 6 bar (85 PSI)

\*) for stainless steel, air connection and drive shaft regular steel.

Motor size 3		right rotation					
<b>Series 104-</b> for drill chuck	<b>Typ</b> Bestell-Nr.	<b>104-030</b> 302937 A	<b>104-130</b> 302937 B	<b>104-230</b> 302937 C	<b>104-730</b> 302937 D		
Nominal-Power	W / HP	400 / 0.54	400 / 0.54	400 / 0.54	400 / 0.54		
Nominal-Speed	rpm	8500	2400	1250	700		
Speed (idling)	rpm	17000	4800	2500	1400		
Nominal-Torque	Nm / in.lbs	0.44 / 3.9	1.6 / 14	3 / 26	5.4 / 48		
Start-Torque min.	Nm / in.lbs	0.66 / 5.8	2.4 / 21	4.5 / 40	8.1 / 72		
Air consumption	m <sup>3</sup> /min / cfm	0.42 / 15	0.42 / 15	0.42 / 15	0.42 / 15		
Length L1	mm / in.	152 / 5 63/64	152 / 5 63/64	152 / 5 63/64	168 / 6 39/64		
Length L2	mm / in.	64 / 2 17/32	64 / 2 17/32	64 / 2 17/32	80 / 3 5/32		
Weight	kg / lbs	0.82 / 1.8	0.82 / 1.8	0.82 / 1.8	0.92 / 2		
Hose I.D.	mm / in.	10 / 3/8	10 / 3/8	10 / 3/8	10 / 3/8		
for drilling steel up to	Ø mm / in.	–	4 / 5/32	6 / 15/64	8 / 5/16		
for drilling aluminium up to	Ø mm / in.	6 / 15/64	6 / 15/64	8 / 5/16	10 / 25/64		

Performance data relate to an air pressure of 6 bar (85 PSI)

Air connection and drive shaft regular steel.

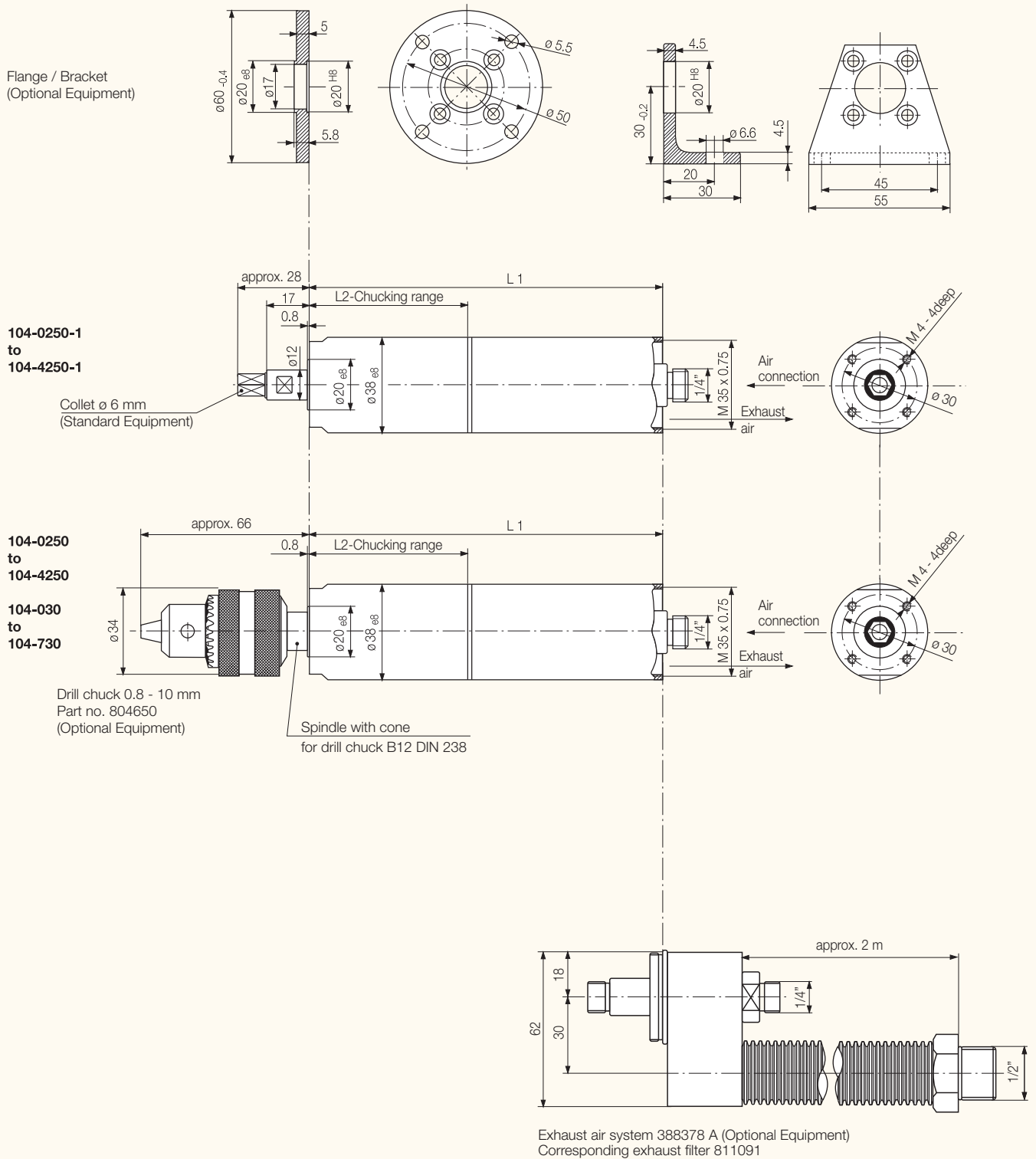
### Optional Equipment

		Motor size 2.5 – Series 104-	Motor size 3 – Series 104-
Flange	Part no.	444530	444530
necessary 4 cylinder-screws	Part no.	823216	823216
Bracket	Part no.	444539	444539
necessary 4 cylinder-screws	Part no.	823216	823216
Collet	Part no.		
Ø 3 mm	Part no.	312681	–
Ø 4 mm	Part no.	312684	–
Ø 4,5 mm	Part no.	312685	–
Ø 5 mm	Part no.	312686	–
Ø 6 mm		included in delivery	–
Ø 1/8" (3.175 mm)	Part no.	312682	–
Ø 1/4" (6.35 mm)	Part no.	312689	–
Drill chuck			
Range 0.8 - 10 mm / B 12	Part no.	804650	804650
Quick change chuck			
Range 0.5 - 8 mm / B 12			
Not suitable for type 104-0250/104-030	Part no.	805985	805985
Noise level at standard version		75 dB (A)	75 dB (A)
with exhaust air system and exhaust filter		73 dB (A)	73 dB (A)
Exhaust air system	Part no.	388378 A	388378 A
Exhaust filter	Part no.	811091	811091
Maintenance unit with lubricator*	Part no.	820454 A	820455 A
Connection thread		G 1/4	G 1/2
Maintenance unit without lubricator*	Part no.	822408 A	822409 A
Connection thread		G 1/4	G 1/2
Replacement part set consisting of vanes, sealant rings, o-rings and silencers	Part no.	446087 B	446088 C

\*) Maintenance unit consists of pressure regulator valve, filter and optionally with or without lubricator

**Motor size 2.5**  
**Series 104-**  
 right rotation

**Motor size 3**  
**Series 104-**  
 right rotation



Dimensions in mm

## 600 W drilling motors made from stainless steel

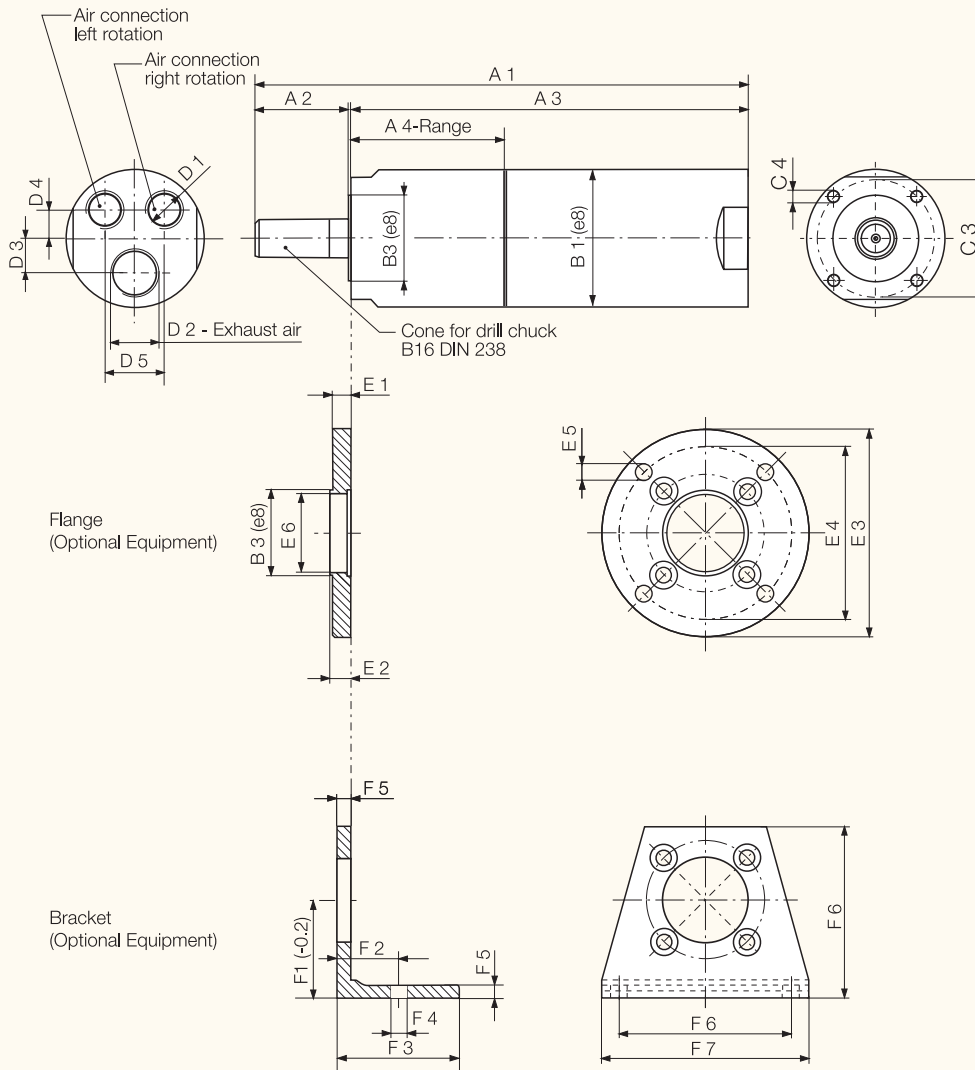
Motor size 6		reversible						
Series 67-	Type	67-016B16	67-026B16	67-036B16	67-046B16	67-056B16	67-066B16	67-0661B16
for drill chuck	Part no.	445353 H	445353 B	445353 C	445353 D	445353 E	445353 F	445353 G
Nominal-Power	W / HP	600 / 0.8	600 / 0.8	600 / 0.8	600 / 0.8	600 / 0.8	600 / 0.8	300 / 0.4
Nominal-Speed	rpm	1750	1350	850	315	240	150	75
Speed (idling)	rpm	3500	2700	1700	630	480	300	150
Nominal-Torque	Nm / in.lbs	3.2 / 28	4.2 / 37	6.7 / 59	18 / 159	24 / 212	38 / 336	38 / 336
Start-Torque min.	Nm / in.lbs	4.8 / 42	6.4 / 57	10.1 / 89	27 / 239	36 / 319	57 / 504	57 / 504
Air consumption	m <sup>3</sup> /min / cfm	0.85 / 30	0.85 / 30	0.85 / 30	0.85 / 30	0.85 / 30	0.85 / 30	0.55 / 19
Weight	kg / lbs	2.1 / 4.6	2.1 / 4.6	2.1 / 4.6	2.2 / 4.8	2.3 / 5.1	2.3 / 5.1	2.3 / 5.1
Hose I.D.	mm / in.	12 / 1/2	12 / 1/2	12 / 1/2	12 / 1/2	12 / 1/2	12 / 1/2	12 / 1/2
for drilling steel up to	Ø mm / in.	3 / 1/8	5 / 13/64	8 / 5/16	13 / 33/64	13 / 33/64	13 / 33/64	13 / 33/64
for drilling aluminium up to	Ø mm / in.	3 / 1/8	5 / 13/64	8 / 5/16	13 / 33/64	13 / 33/64	13 / 33/64	13 / 33/64

Performance data relate to an air pressure of 6 bar (85 PSI)

### Optional Equipment

		Motor size 6 Series 67-
Flange	Part no.	444616
necessary 4 cylinder-screws	Part no.	823148
Bracket	Part no.	444617
necessary 4 cylinder-screws	Part no.	823148
Drill chuck		
Range 1 - 13 mm / B 16	Part no.	804652
Quick change chuck		
Range 1 - 13 mm / B 16	Part no.	804663
Noise level at standard version		104 dB (A)
with silencer		94 dB (A)
with exhaust air system		76 dB (A)
Silencer – motor operates in one direction:		
1 Air connection (right- or left-rotation)		
1 Hose-nozzle	Part no.	410540 (G 3/8)
1 Silencer	Part no.	802671 (G 3/8)
1 Silencer	Part no.	802666 (G 1/2)
Silencer – motor is reversible:		
2 Air connections (right- and left-rotation)		
2 Hose-nozzles	Part no.	410540 (G 3/8)
1 Silencer	Part no.	802666 (G 1/2)
Silencer system – motor operates in one direction	Part no.	440019 B
Silencer system – motor is reversible	Part no.	440019 A
Maintenance unit with lubricator*	Part no.	820455 A
Connection thread		G 1/2
Maintenance unit without lubricator*	Part no.	822409 A
Connection thread		G 1/2
Replacement part set consisting of		
vanes, sealant rings, o-rings	Part no.	444787 A (for motor type 67-016/026/036/046B16)
and silencers	Part no.	444787 B (for motor type 67-056/066/0661B16)

\*) Maintenance unit consists of pressure regulator valve, filter and optionally with or without lubricator.  
Our standard maintenance units are not ATEX conform. Please contact us if this is a requirement.



Dimensions in mm

p440183

Motor Size	Series 67- Type			Dimensions of Motor (mm)												
				A1	A2	A3	A4	B1	B3	C3	C4	D1	D2	D3	D4	D5
6	67-016B16	67-026B16	67-036B16	204	37.5	166	66	56	35	48	M6	G <sup>3</sup> / <sub>8</sub>	G <sup>1</sup> / <sub>2</sub>	14	11.5	24
	67-046B16			222	37.5	184	84									
	67-056B16	67-066B16	67-0661B16	219	38	180	80									

Motor Size	Dimensions Flange Part no. 444616 (mm)							Dimensions Bracket Part no. 444617 (mm)						
	B3	E1	E2	E3	E4	E5	E6	F1	F2	F3	F4	F5	F6	D5
6	35	7.5	8.5	85	70	6.6	32	40	25	50	6.6	5.5	70	85



## 150 W / 250 W / 300 W grinding motors

	Type	211-43	202-30	203-30EA	203-45EA
	Part no.	314740 C	315082 A	6061173B	6061174B
Nominal-Power	W / HP	150 / 0.2	250 / 0.33	300 / 0.4	300 / 0.4
Speed (idling)	rpm	47.000	32.000	30.000	45.000
Air consumption (under load)	m <sup>3</sup> /min / cfm	0.23 / 8.1	0.3 / 11	0.45 / 15.9	0.45 / 15.9
Weight	kg / lbs	0.36 / 0.8	0.8 / 1.76	0.7 / 1.54	0.7 / 1.54
Hose I.D.	mm / in.	6 / 1/4	6 / 1/4	6 / 1/4	6 / 1/4
Aire inlet pipe thread size		1/4" m	1/4" m	-	-
Max. head-Ø milling insert (high grade steel)	mm / in.	6 / 1/4	10 / 25/64	6 / 1/4	6 / 1/4
Max. head-Ø grinding insert	mm / in.	13 / 33/64	25 / 1	20 / 25/32	20 / 25/32
Max. diameter of the vane disc	mm / in.	15 / 19/32	25 / 1	25 / 1	15 / 19/32
Length of the inlet hose / exhaust hose	m / ft.	-	-	2/1.25 / 6.6/4.1	2/1.25 / 6.6/4.1

Performance data relate to an air pressure of 6 bar (85 PSI)

### Standard Equipment

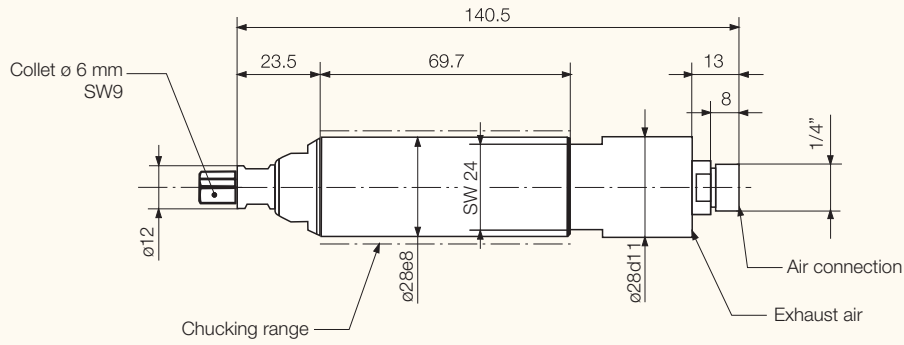
Collet Ø 6 mm	Part no.	312688	312688	830648	830648
Wrench	Part no.	800401 (9 mm)	800401 (9 mm)	805491 (11 mm)	805491 (11 mm)
Wrench	Part no.	800402 (10 mm)	800402 (10 mm)		
Wrench 6/9	Part no.	-	-	830649	830649
Exhaust air system		-	-	✓	✓
Exhaust filter		-	-	✓	✓

### Optional Equipment

Collet Ø 3 mm	Part no.	312681	312681	830650	830650
Ø 4 mm	Part no.	312684	312684	830702	830702
Ø 5 mm	Part no.	312686	312686	830703	830703
Ø 6 mm		included in delivery	included in delivery	included in delivery	included in delivery
Ø 1/8" (3.175 mm)	Part no.	312682	312682	830651	830651
Ø 3/16" (4.76 mm)	Part no.	-	-	830652	830652
Ø 1/4" mm (6.35 mm)	Part no.	312689	312689	830653	830653
Noise level at version without exhaust air system		85 dB (A)	71 dB (A)	-	-
version with exhaust air system and exhaust filter		73 dB (A)	73 dB (A)	78 dB (A)	79 dB (A)
Exhaust air system	Part no.	334615 H	302923 B	included in delivery	included in delivery
Exhaust filter	Part no.	811091	811091	included in delivery	included in delivery
Maintenance unit with lubricator* Connection thread	Part no.	820454 A G 1/4	820454 A G 1/4	820454 A G 1/4	820454 A G 1/4
Maintenance unit without lubricator* Connection thread	Part no.	822408 A G 1/4	822408 A G 1/4	822408 A G 1/4	822408 A G 1/4
Replacement part set consisting of vanes, sealant rings, o-rings and silencers	Part no.	444922 A	444921 A	440502 A	440502 A

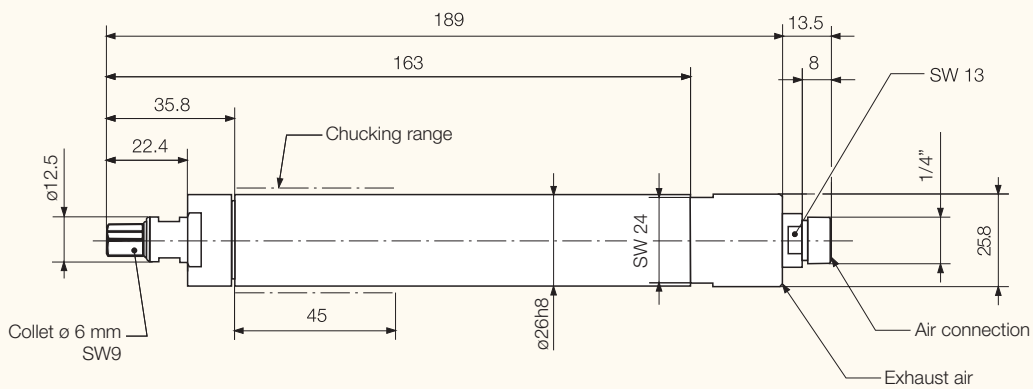
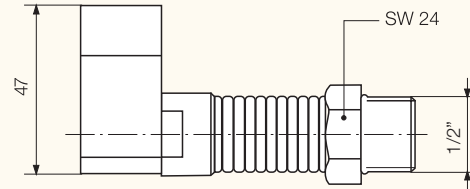
\*) Maintenance unit consists of pressure regulator valve, filter and optionally with or without lubricator





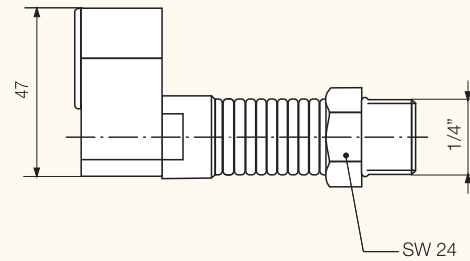
**Type  
211-43**

**Exhaust air system  
334615 H  
(Optional Equipment)  
Corresponding  
exhaust filter 811091**

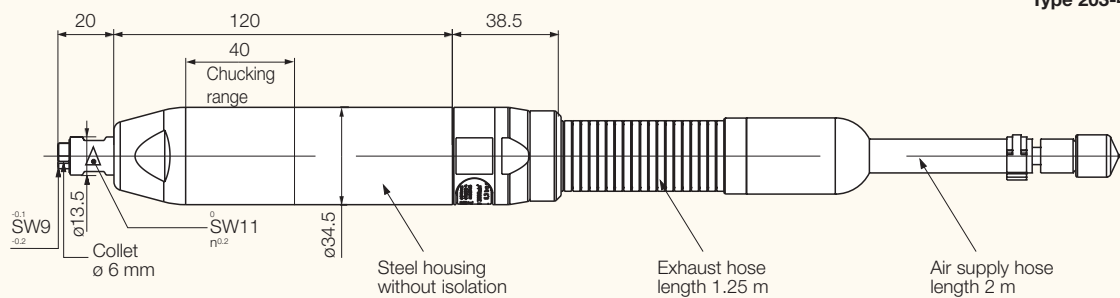


**Type  
202-30**

**Exhaust air system  
302923 B  
(Optional Equipment)  
Corresponding  
exhaust filter 811091**



p203428



**Type 203-30EA  
Type 203-45EA**

Dimensions in mm

m6077877

## 400 W / 500 W / 700 W / 1000 W milling motors and grinding motors

Milling motor Grinding motors	Type Type	27-030 -	- 205-20EA	- 207-19EA	- 210-15EA
	Part no.	314925 A	6061168B	6061169B	6061172B
Nominal-Power	W / HP	400 / 0.54	500 / 0.67	700 / 0.94	1.000 / 1.34
Speed (idling)	rpm	20.000	20.000	19.000	15.300
Air consumption (under load)	m <sup>3</sup> /min / cfm	0.38 / 13.4	0.9 / 31.8	0.9 / 31.8	1.0 / 35.3
Weight	kg / lbs	0.7 / 1.54	1.2 / 2.64	1.7 / 3.74	1.7 / 3.74
Hose I.D.	mm / in.	10 / <sup>25</sup> / <sub>64</sub>	10 / <sup>25</sup> / <sub>64</sub>	10 / <sup>25</sup> / <sub>64</sub>	12 / <sup>15</sup> / <sub>32</sub>
Aire inlet pipe thread size		¼" m	-	-	-
Max. head-Ø milling insert (high grade steel)	mm / in.	12 / <sup>15</sup> / <sub>32</sub>	16 / <sup>5</sup> / <sub>8</sub>	16 / <sup>5</sup> / <sub>8</sub>	16 / <sup>5</sup> / <sub>8</sub>
Max. head-Ø grinding insert	mm / in.	32 / 1¼	32 / 1¼	40 / <sup>137</sup> / <sub>64</sub>	50 / <sup>131</sup> / <sub>32</sub>
Max. diameter of the vane disc	mm / in.	-	40 / <sup>137</sup> / <sub>64</sub>	40 / <sup>137</sup> / <sub>64</sub>	50 / <sup>131</sup> / <sub>32</sub>
Length of the inlet hose / exhaust hose	m / ft.	-	2/1 6.56/3.28	2/1 6.56/3.28	2/1 6.56/3.28

Performance data relate to an air pressure of 6 bar (85 PSI)

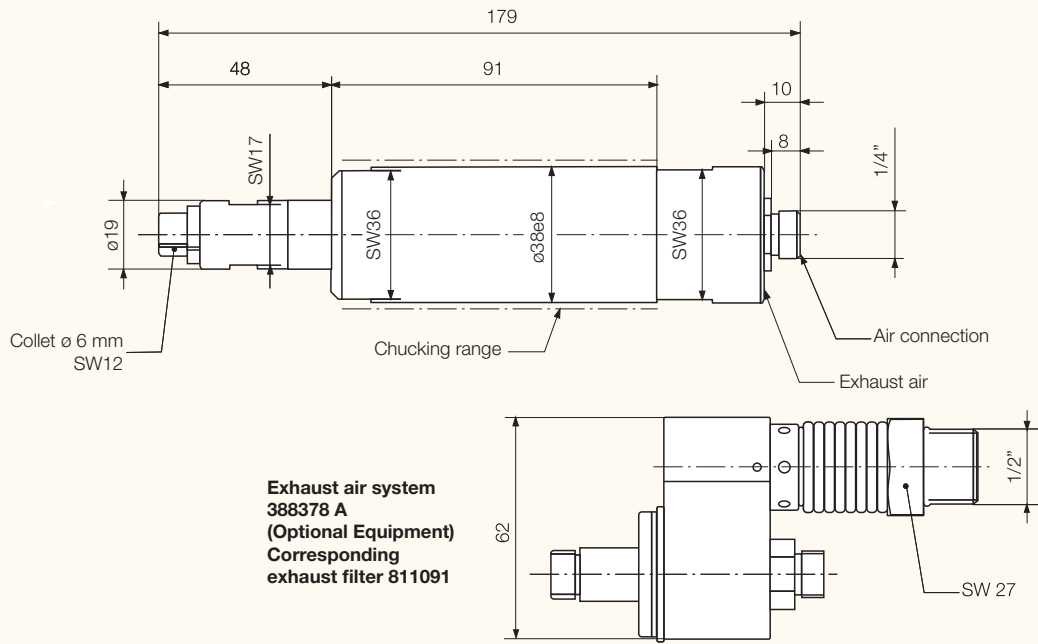
### Standard Equipment

Collet Ø 6 mm	Part no.	312694	6014315	315018	315018
Wrench	Part no.	800403 (12 mm)	800402 (10 mm)	800405 (17 mm)	800405 (17 mm)
Wrench	Part no.	800405 (17 mm)	800410 (14 mm)	800416 (22 mm)	800416 (22 mm)
Exhaust air system		-	✓	✓	✓
Exhaust filter		-	✓	✓	✓

### Optional Equipment

Collet Ø 3 mm	Part no.	312690	6014320	6014317	6014317
Ø 4 mm	Part no.	312692	6014321	6017743	6017743
Ø 5 mm	Part no.	312693	-	6017744	6017744
Ø 6 mm		included in delivery	included in delivery	included in delivery	included in delivery
Ø 7 mm	Part no.	312739	-	-	-
Ø 8 mm	Part no.	312696	-	315073	315073
Ø 8 mm (stainless steel)	Part no.	-	-	6014282	6014282
Ø 9 mm	Part no.	313137	-	315089	315089
Ø 1/8" (3.175 mm)	Part no.	312691	6014320	-	-
Ø 3/16" (4.76 mm)	Part no.	-	6014321	315088	315088
Ø 1/4" (6.35 mm)	Part no.	312695	6014314	315074	315074
Ø 5/16"	Part no.	-	-	315090	315090
Noise level at version without exhaust air system		75 dB (A)	-	-	-
version with exhaust air system and exhaust filter		73 dB(A)	79 dB(A)	79 dB(A)	80 dB(A)
Exhaust air system	Part no.	388378 A	included in delivery	included in delivery	included in delivery
Exhaust filter	Part no.	811091	included in delivery	included in delivery	included in delivery
Maintenance unit with lubricator* Connection thread	Part no.	820454 A G 1/4	820455 A G 1/2	820455 A G 1/2	820455 A G 1/2
Maintenance unit without lubricator* Connection thread	Part no.	822408 A G 1/4	822409 A G 1/2	822409 A G 1/2	822409 A G 1/2
Replacement part set consisting of vanes, sealant rings, o-rings and silencers	Part no.	446088 D	440502 B	440502 C	440502 D

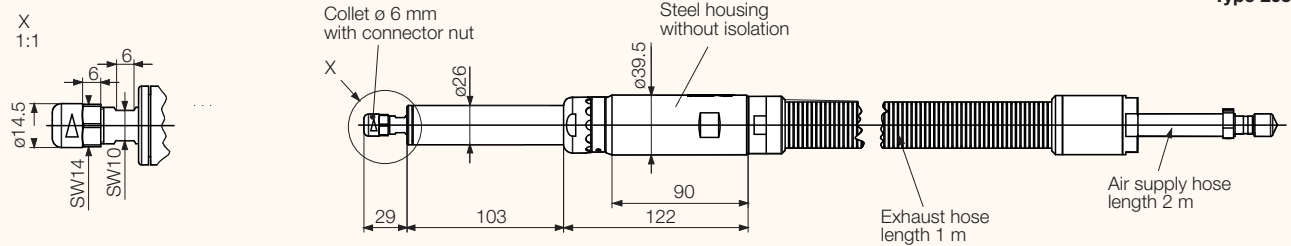
\*) Maintenance unit consists of pressure regulator valve, filter and optionally with or without lubricator



Dimensions in mm

p203428

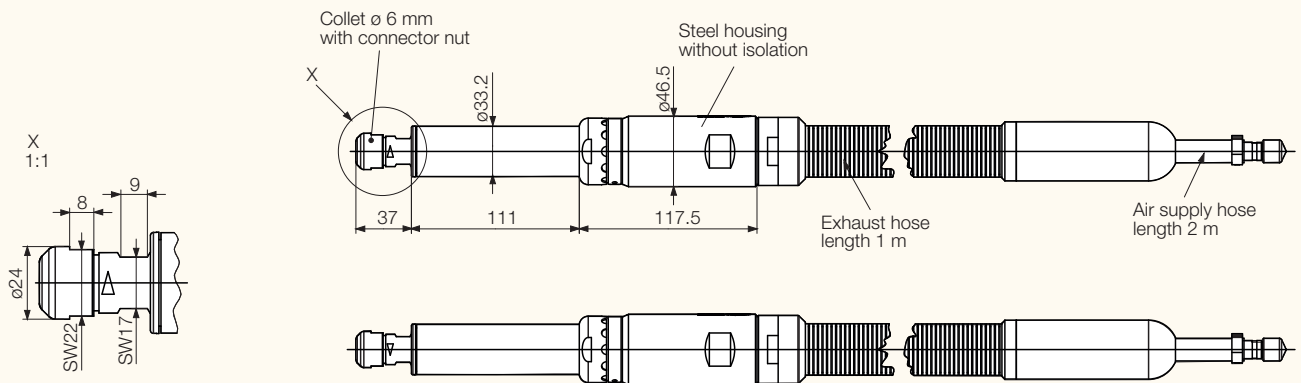
Type 205-20EA



Dimensions in mm

m6077872

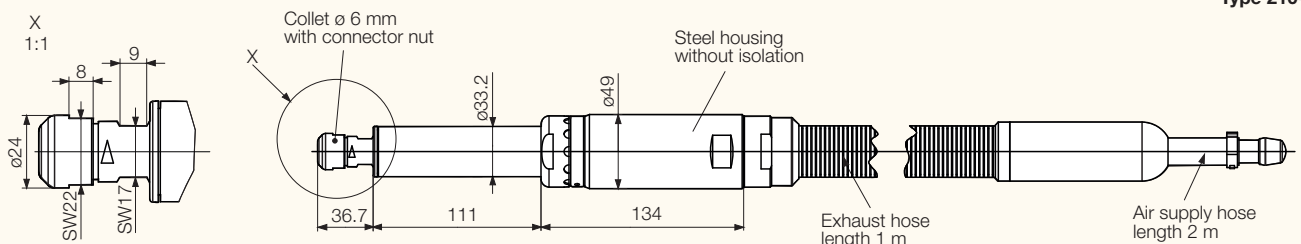
Type 207-19EA



Dimensions in mm

m6077873

Type 210-15EA

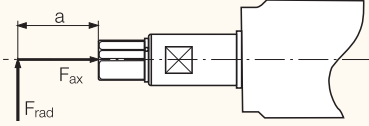


Dimensions in mm

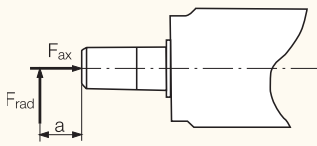
m6077876

## Maximum allowable load on the drive shaft

Collet



Drill chuck



### Motors with collet

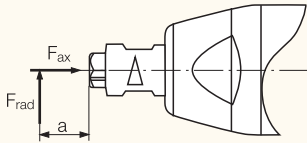
Motor size	Part no.	Fax [N]	Frad [N]	a [mm]
MG 1	302929 A-D	200	75	25
MG 1	314740 C	15	30	25
MG 2	302916 A-F	380	50	25
MG 2	315082 A	15	30	25
MG 2.5	302897 A-F	750	220	25
MG 3	314925 A	25	50	25

max. allowed force

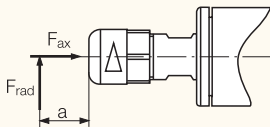
### Motors with drill chuck

Motor size	Part no.	Fax [N]	Frad [N]	a [mm]
MG 2	302912 B-F	380	35	60
MG 2.5	302900 A-F	750	150	70
MG 3	302937 A-D	750	150	70
MG 6	445353 B-D, H	1100	150	80
MG 6	445353 E-G	1100	265	80

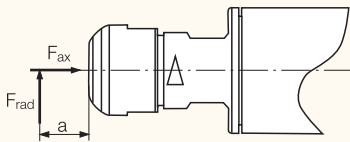
max. allowed force



203-30EA / 203-45EA



205-20EA



207-19EA / 210-15EA

### Grinding motors

Type	Part no.	Fax [N]	Frad [N]	a [mm]
203-30EA	6061173B	20	40	25
203-45EA	6061174B	20	40	25
205-20EA	6061168B	25	50	25
207-19EA	6061169B	40	90	25
210-15EA	6061172B	55	120	25

## Speed standard values (rpm) for HSS spiral drills

Cutting Speed	35 m/min (115 ft./min)	28 m/min (90 ft./min)	25 m/min (80 ft./min)	14 m/min (45 ft./min)	11 m/min (35 ft./min)	7 m/min (23 ft./min)	22 m/min (70 ft./min)	12 m/min (40 ft./min)	50 m/min (165 ft./min)	90 m/min (300 ft./min)	165 m/min (540 ft./min)	210 m/min (690 ft./min)
Drill dia. mm/in.	Carbon steel			Alloy steel		Stainless steel	Cast-Iron		Copper Bronze Brass	Leightweight-Metal common alloy mid brass <sup>1)</sup> hard		Magnesium-Alloy <sup>2)</sup>
	up to 500 N/mm <sup>2</sup> (30 long tons/ sq. in.)	500 - 700 N/mm <sup>2</sup> (30 - 45 long tons/ sq. in.)	above 700 N/mm <sup>2</sup> (45 long tons/ sq. in.)	700 - 900 N/mm <sup>2</sup> (45 - 55 long tons/ sq. in.)	900 - 1100 N/mm <sup>2</sup> (55 - 70 long tons/ sq. in.)		up to 180 N/mm <sup>2</sup> (10 long tons/ sq. in.)	above 180 N/mm <sup>2</sup> (10 long tons/ sq. in.)				
1 / 0.04	11000	8800	7800	4400	3400	2200	7000	3800	16000	28000	52000	66000
2 / <sup>5</sup> / <sub>64</sub>	5500	4400	3900	2200	1700	1100	3500	1900	8000	14000	26000	33000
3 / <sup>1</sup> / <sub>8</sub>	3700	3000	2600	1500	1100	730	2300	1300	5300	9000	17300	22000
4 / <sup>5</sup> / <sub>32</sub>	2800	2200	2000	1100	850	550	1700	950	4000	7000	13000	16500
5 / <sup>13</sup> / <sub>64</sub>	2200	1800	1600	880	680	440	1400	760	3200	5600	10400	13200
6 / <sup>15</sup> / <sub>64</sub>	1900	1500	1300	735	570	365	1200	630	2700	4800	8700	11000
7 / <sup>9</sup> / <sub>32</sub>	1600	1300	1100	630	485	315	1000	540	2300	4000	7400	9400
8 / <sup>5</sup> / <sub>16</sub>	1400	1100	975	550	425	275	875	475	2000	3500	6500	8300
9 / <sup>23</sup> / <sub>64</sub>	1200	975	865	490	380	245	780	420	1800	3100	5800	7400
10 / <sup>25</sup> / <sub>64</sub>	1100	880	780	440	340	220	700	380	1600	2800	5200	6600

1) Speed for machining of thermoset plastics, laminates and hard laminates, however instead of the HSS-drills we recommend high-speed steel drills made with hard-metal K 10

2) for thermoplastics use approx. double the value

Tell us your operational conditions and our application consultants will be happy to help:

<b>Application:</b>	<input type="text"/>		
<b>In what kind of environment will the motor be installed?</b>	<b>ATEX requirement / explosion safety?</b>	<input type="checkbox"/> yes	<input type="checkbox"/> no
	if yes, which safety class:	<input type="text"/>	
	<b>food industry conformity?</b>	<input type="checkbox"/> yes	<input type="checkbox"/> no
	<b>sterilisable?</b>	<input type="checkbox"/> yes	<input type="checkbox"/> no
	<b>acid resistant?</b>	<input type="checkbox"/> yes	<input type="checkbox"/> no
	<b>steam resistant?</b>	<input type="checkbox"/> yes	<input type="checkbox"/> no
<b>Application conditions:</b>	<b>constant operation (24 hrs, non-stop)</b>	<input type="checkbox"/> yes	<input type="checkbox"/> no
	<b>duty cycle in hrs/day:</b>	<input type="text"/>	
	<b>days/year:</b>	<input type="text"/>	
	<b>cycle time (s):</b>	<input type="text"/>	
	<b>motor loaded to stall?</b>	<input type="checkbox"/> yes	<input type="checkbox"/> no
	<b>self-locking?</b>	<input type="checkbox"/> yes	<input type="checkbox"/> no
<b>Required turn direction:</b>	<input type="checkbox"/> left	<input type="checkbox"/> right	<input type="checkbox"/> reversible
	(view from air inlet)		
<b>Motor performance:</b>	<b>power:</b>	<input type="text"/>	<b>W</b>
	<b>nominal torque:</b>	<input type="text"/>	<b>Nm</b>
	<b>nominal speed:</b>	<input type="text"/>	<b>rpm</b>
<b>Performance influencing application conditions:</b>	<b>operating pressure (at motor inlet):</b>	<input type="text"/>	<b>bar</b>
	<b>operation with lubricated air possible?</b>	<input type="checkbox"/> yes	<input type="checkbox"/> no
	<b>smallest opening cross-section of connection pieces and hoses?</b>	<input type="text"/>	<b>mm</b>
<b>External motor design:</b>	<input type="checkbox"/> standard steel	<input type="checkbox"/> non-corrosive	<input type="checkbox"/> aluminium
	<input type="checkbox"/> plastics	<input type="checkbox"/> ceramics	
	<b>other:</b>	<input type="text"/>	
<b>Drive spindle design:</b>	<b>drive shaft requirements:</b>	<input type="text"/>	
	(e. g. keyed shafts, square end, hexagonal, collet, drill chuck taper, etc.)		
	<b>required dimensions:</b>	<input type="text"/>	
<b>Motor fixture design:</b>	<b>mounting requirements:</b> (bracket, flange, etc.)	<input type="text"/>	
	<b>required dimensions:</b>	<input type="text"/>	
<b>Additional components:</b>	<input type="checkbox"/> holding brake	<input type="checkbox"/> operational brake	
	<b>gear box:</b>	<input type="text"/>	
<b>Price range:</b>	<input type="text"/>		
<b>Annual requirement:</b>	<input type="text"/>		





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CERTIFIED AS PER DIN EN ISO 9001

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