

## 6. Technical data - 2AD 132

### 6.1 Nominal data

Designation	Symbol	Unit	2AD132							
			B		C		D			
Motor size			DS		BS		CS		BD	AS
Nominal power	<sup>1)</sup> $P_n$	kW	10		15		22			
Nominal torque	<sup>1)</sup> $M_n$	Nm	64		96		140			
Base motor speed	$n$	min <sup>-1</sup>	1500							
Peak speed	$n_{max}$	min <sup>-1</sup>	7500							
Nominal current	$I_n$	A <sub>eff</sub>	30	45	65	39	80	54		
Nominal voltage	$U_n$	V <sub>eff</sub>	258	168	167	279	217	290		
Rotor inertia	<sup>2)</sup> $J_M$	kgm <sup>2</sup>	0.054		0.076		0.118			
Thermal time constant	$t_{th}$	min	45		50		55			
Min. connection cross section EN 60204, part 1 / 2/86	A	mm <sup>2</sup>	10		16	10	25	16		
Average sound pressure level at 1 meter (PWM=4kHz)	$L_p$	dB(A)	75							
Mass	<sup>3)</sup> $m$	kg	90		115		135			
Ambient temperature		°C	0 ... 45							
Insulation classification DIN VDE 0530 Teil 1			F							
Balance class DIN ISO 2373	<sup>4)</sup>		R, S, S1							
<sup>1)</sup> Values determined as per DIN VDE 0530, section 1 Characteristic operating curves are available for the listed nominal rates to help in the selection of the AC main spindle motor. These take operating modes S1, S2 and S6 into account. <sup>2)</sup> Values without holding brake. <sup>3)</sup> Values without holding brake, with blower. <sup>4)</sup> See Figure 2.7 "Vibrations in mm/s" for values.										

Fig. 6.1: Nominal data 2AD132

Permissible shaft load

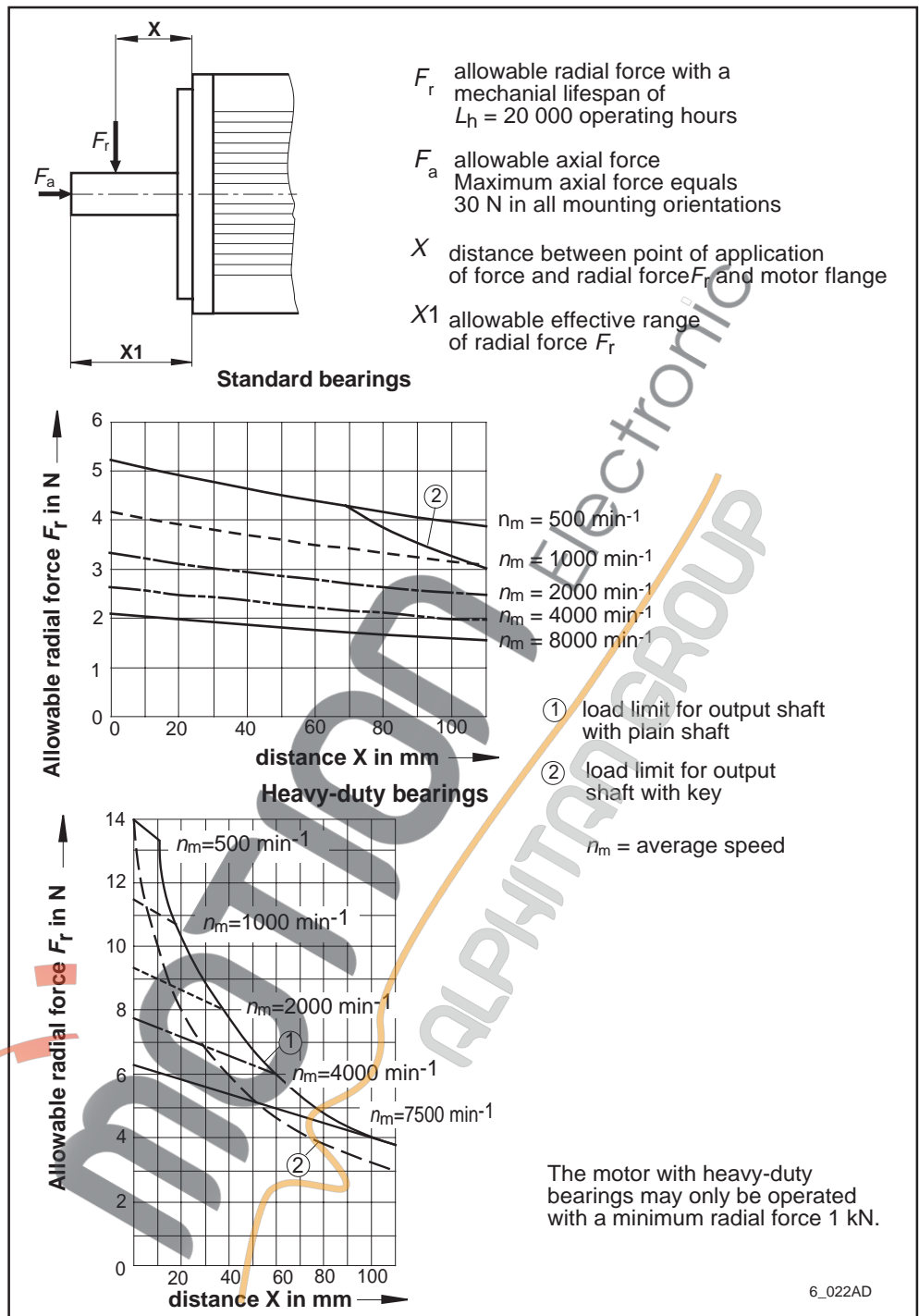


Fig. 6.2: Permissible shaft load 2AD132

Lubricant consumption

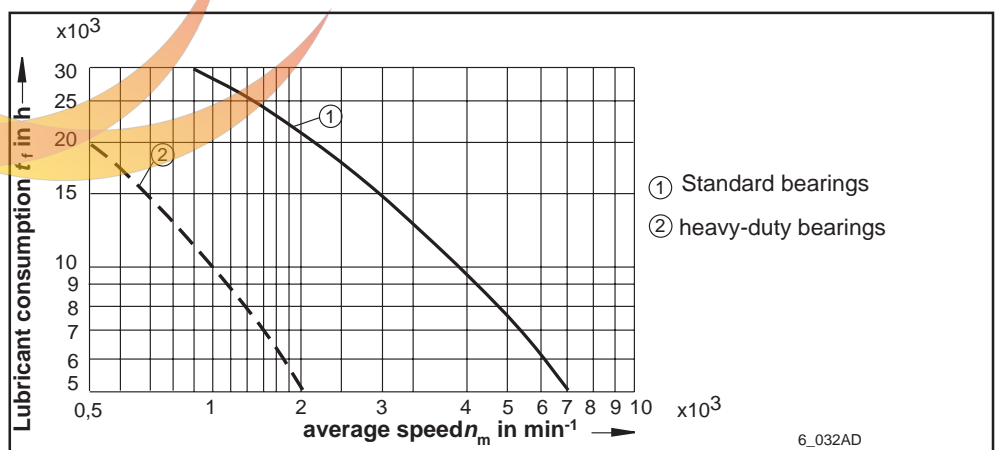


Fig. 6.3: Lubricant consumption duration 2AD132

## 6.2 Holding brake

Designation	Symbol	Unit	Version			
			electrically engaged	electrically released	electrically released heavy-duty	electrically released extra heavy-duty
Operating principle						
Holding torque	$M_h$	Nm	100	30	100	140
Nominal terminal voltage <sup>1)</sup>	$U_n$	V	24 ± 10%			
Nominal current	$I_n$	A	1.5	1.3	1.8	2,8
Moment of inertia	$J_B$	kgm <sup>2</sup>	0.002	0.0018	0.002	
Maximum braking energy	$W_{max}$	Ws	30000			
Peak speed	$n_{max}$	min <sup>-1</sup>	7500 <sup>1)</sup>			
Release delay	$t_l$	ms	140	120	110	
Clamp delay	$t_k$	ms	110	65	70	
Mass	$m$	kg	4			
<p><sup>1)</sup> In the case of electrically-released holding brakes, the maximum speed is determined by the maximum braking energy, <math>W_{max}</math>, of the holding brake. It is calculated as follows:</p> $n_{max} = \sqrt{\frac{2 W_{max}}{J_M + J_B + J_C}} \cdot \frac{30}{3,14}$ <p> <math>J_M</math> rotor inertia  <math>J_B</math> holding brake inertia  <math>J_L</math> load inertia            (attachments to the output shaft))         </p>						

Fig. 6.4: Technical data of holding brake for 2AD132

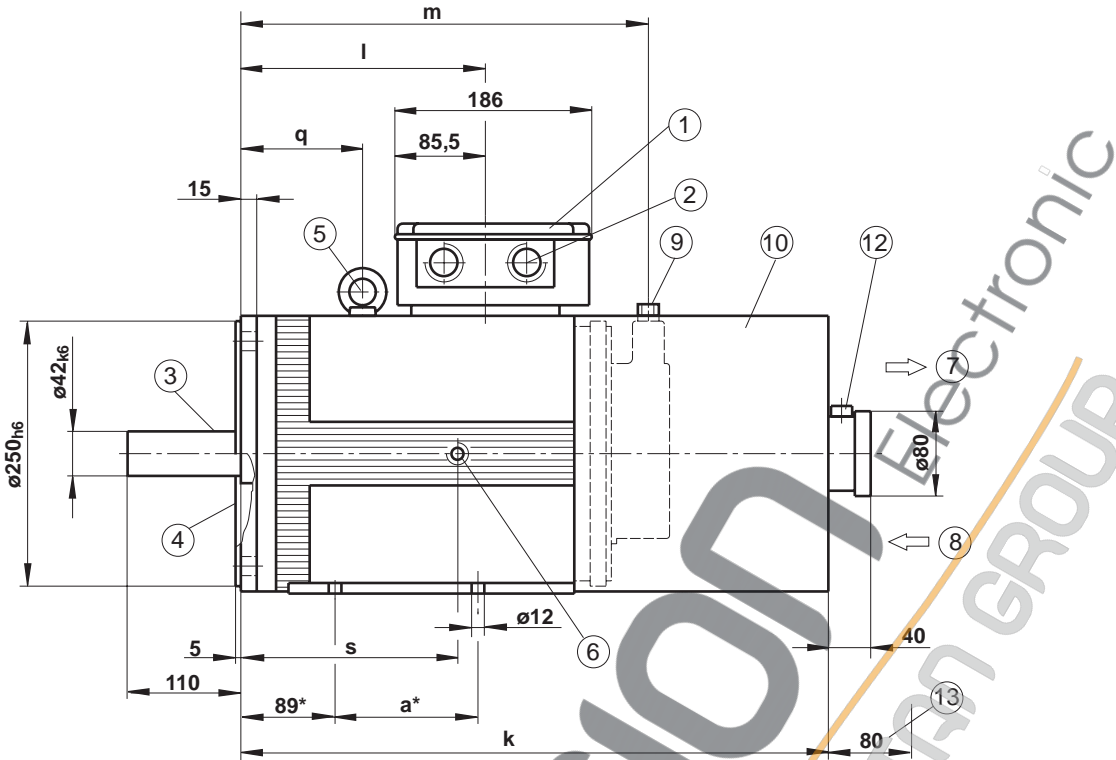
## 6.3 Motor blower

Designation	Symbol	Unit	Version		
			axial blower		radial blower
Air current			B → A blowing recommended	A → B suction	B → A blowing
Power consumption	$S_N$	VA	170 145		330
Nominal voltage	$U_N$	V	3 x 400 V, 50 Hz, ± 15 % 3 x 460 V, 60 Hz, ± 10 %		
Average air volume		V	m <sup>3</sup> /h 1000		

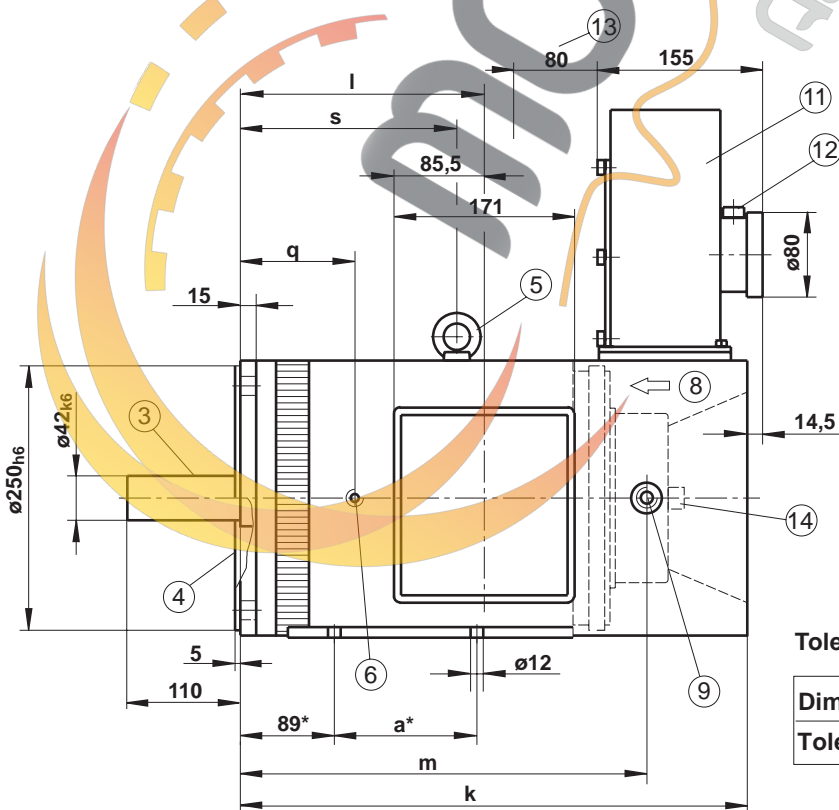
Fig. 6.5: Technical data of motor blower for 2AD132

### 6.4 Dimensional data

Motor with axial blower and feedback type 3, B05, B35



Motor with radial blower and feedback type 3, B05, B35



**Tolerances**

Dim. to	6	30	120	400	1000	2000
Tolerance	±0,1	±0,2	±0,3	±0,5	±0,8	±1,2

6\_06132A

Dim.:	2AD132B	2AD132C	2AD132D
a*	135	205	335
w/o hold. brake	555	625	755
k with hold. brake	617	687	817
w/ hold. brake heavy-duty	663	733	863
l	231	301	431
w/o hold. brake	384,5	454,5	584,5
m with hold. brake	446,5	516,5	646,5
w/ hold. brake heavy-duty	492,5	562,5	692,5
q	115	185	275
s	205	230	275

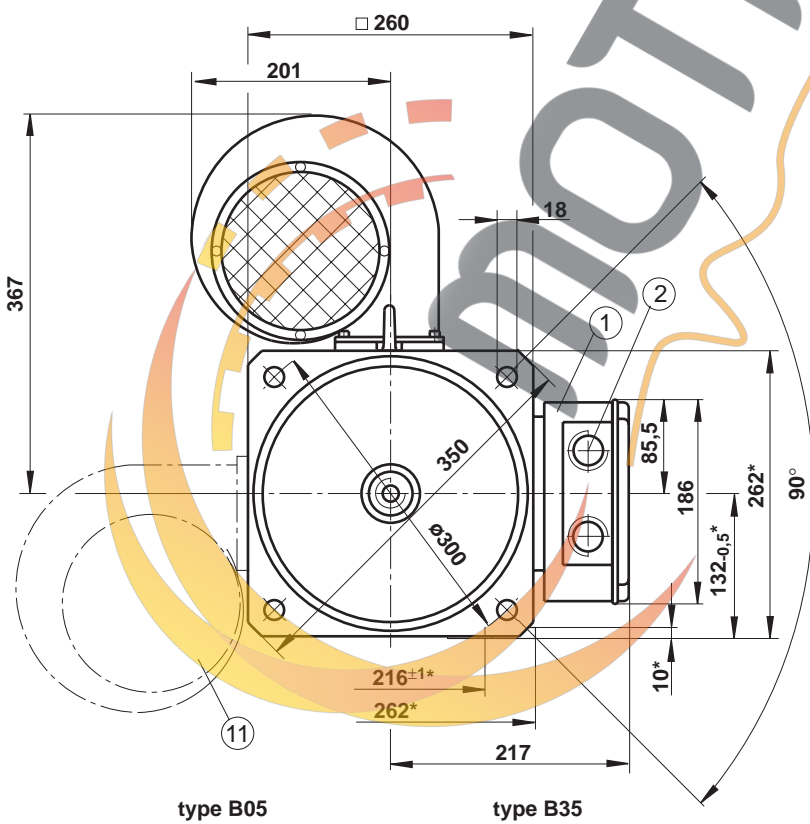
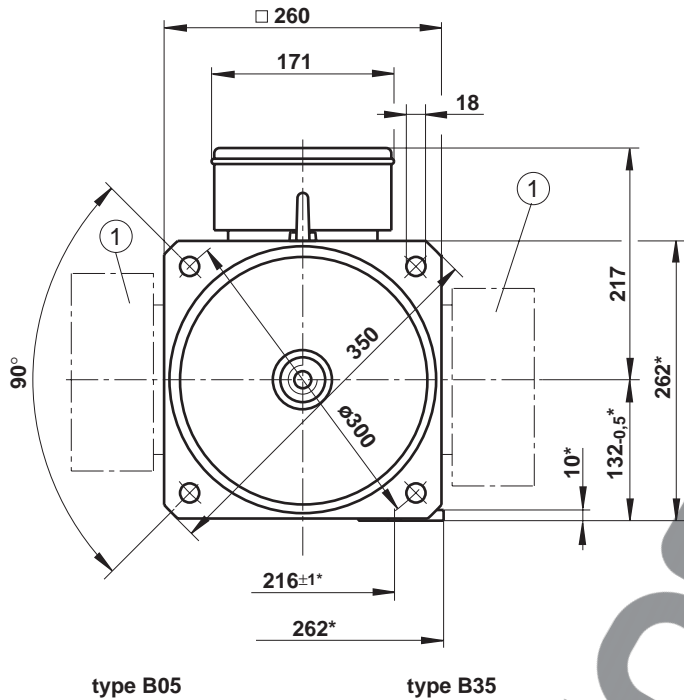
\* with foot mounting only, B35

- ① terminal box as power connection; arrangement can be selected, can be turned by 90 degrees, corresponds to output direction of power connection
- ② cable output: PG 29
- ③ plain shaft end concen. tolerance DIN 42955 - R on front center drill hole DIN 332 - DS M16x36
- ④ flange dimensions per DIN 42948
- ⑤ ring screw M10 - DIN 580
- ⑥ add. thread M10 for ring screw second thread opposite
- ⑦ air flow A → B
- ⑧ air flow B → A
- ⑨ Motor feedback connection type 3 (flange socket), arranged per position of power connection
- ⑩ axial blower
- ⑪ Radial blower; position of radial blower may not be the same as power connection
- ⑫ Motor blower connection: terminal box with cable screw joint
- ⑬ Mounting distance (minimum for pulling in ventilating air)
- ⑭ B-side shaft end: see Fig. 6.9 for dimensions

Dim.	2AD132B	2AD132C	2AD132D
a*	135	205	335
w/o hold. brake	480	550	680
k with hold. brake	542	612	742
w/ hold. brake heavy-duty	588	658	176
l	231	301	431
w/o hold. brake	384,5	454,5	584,5
m with hold. brake	446,5	516,5	646,5
w/ hold. brake heavy-duty	492,5	562,5	692,5
q	115	185	275
s	205	230	275

\* Foot mounting only, B35

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For available version see Fig. 6.3 - type codes

Fig. 6.6: Dimensional data 2AD132

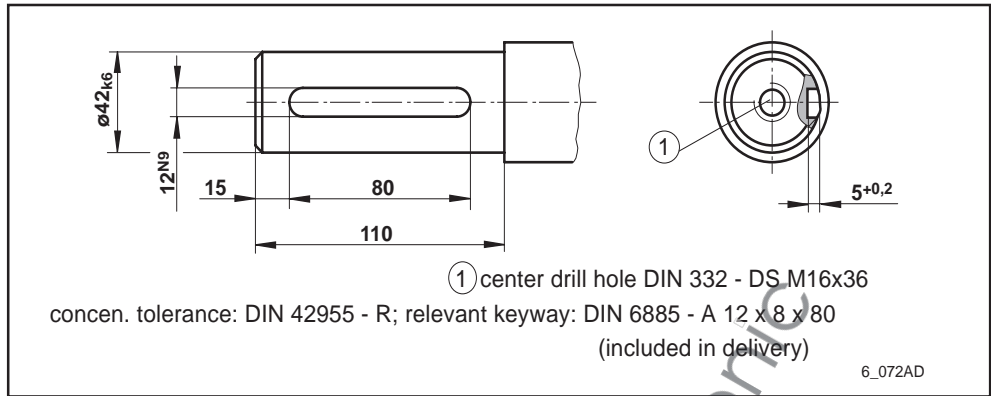


Fig. 6.7: Output shaft with key for 2AD132

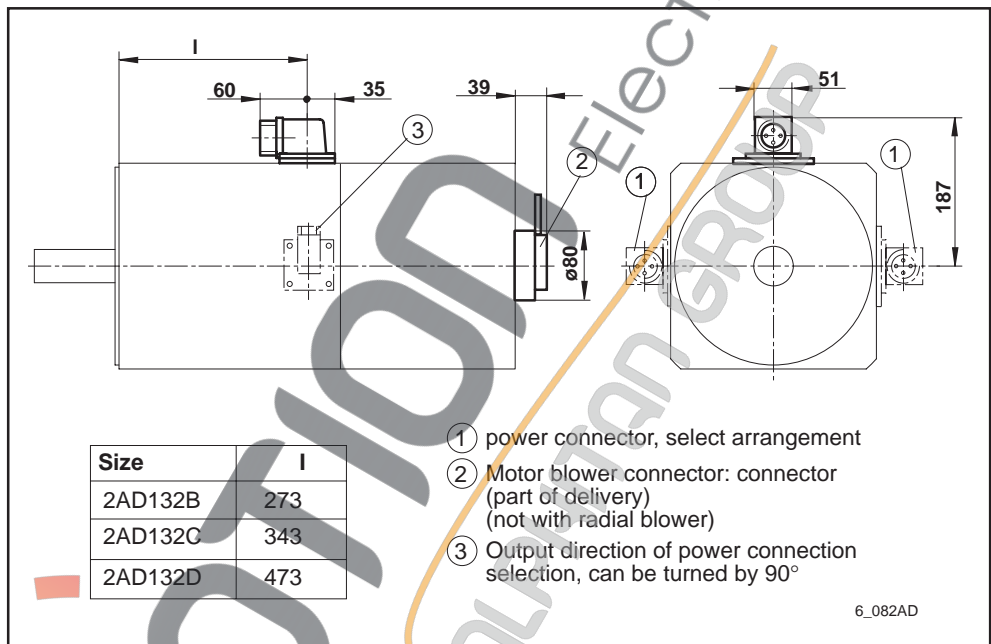


Fig. 6.8: Power connector 2AD132

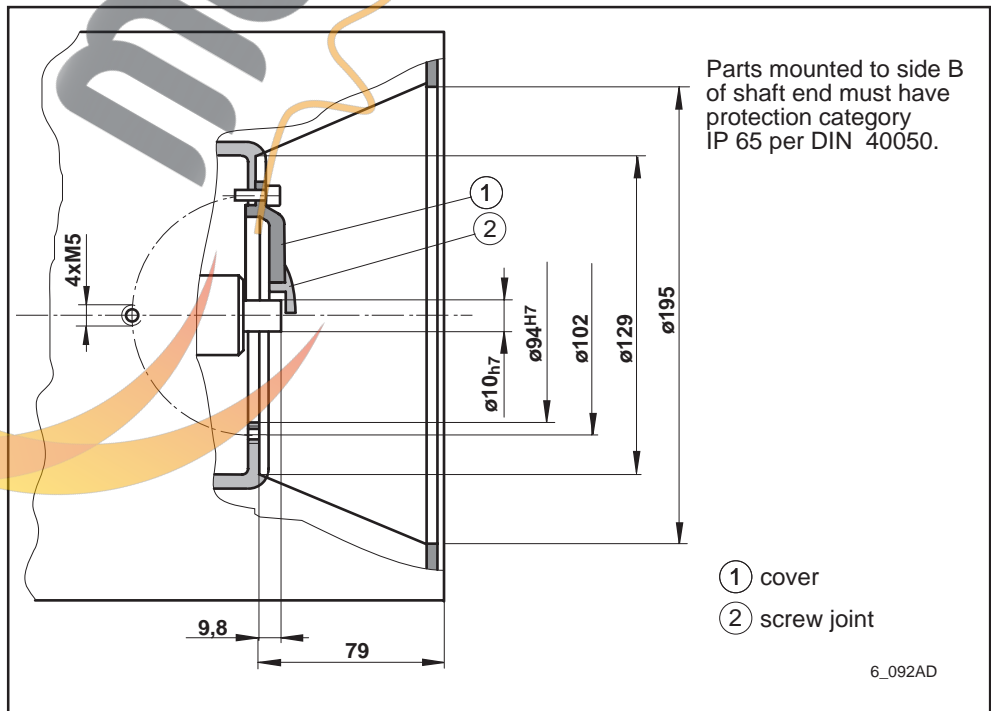


Fig. 6.9: Side B shaft end 2AD132

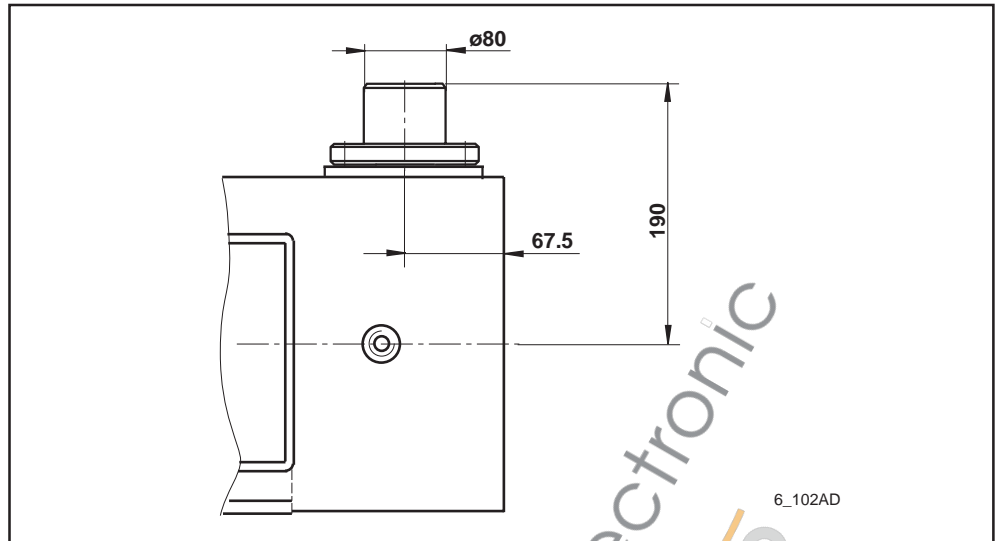


Fig. 6.10: 2AD132 with accessories M01 mounted 2AD132/134 (blower support base)

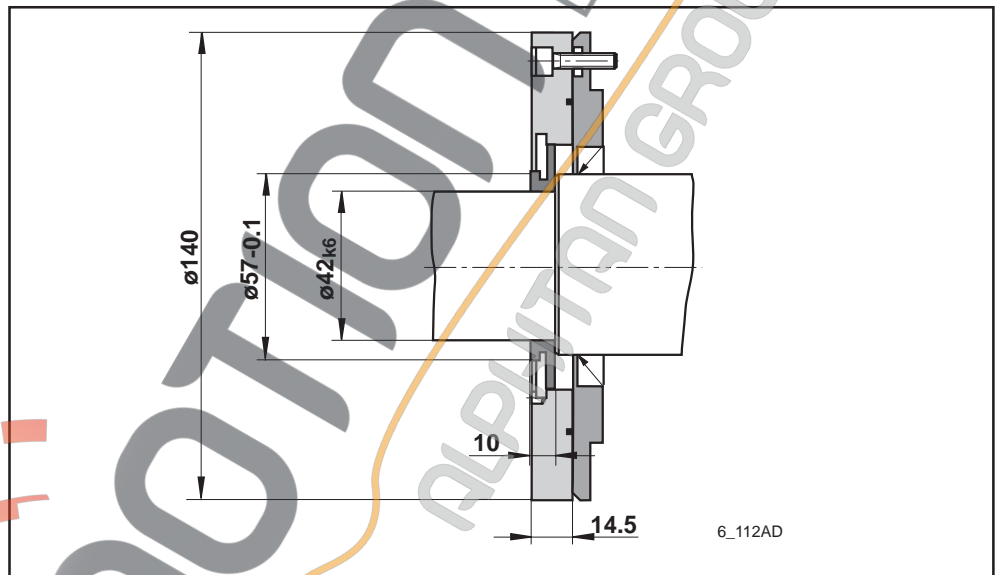


Fig. 6.11: 2AD132 with accessories M02 mounted 2AD132/134 (Labyrinth seal)

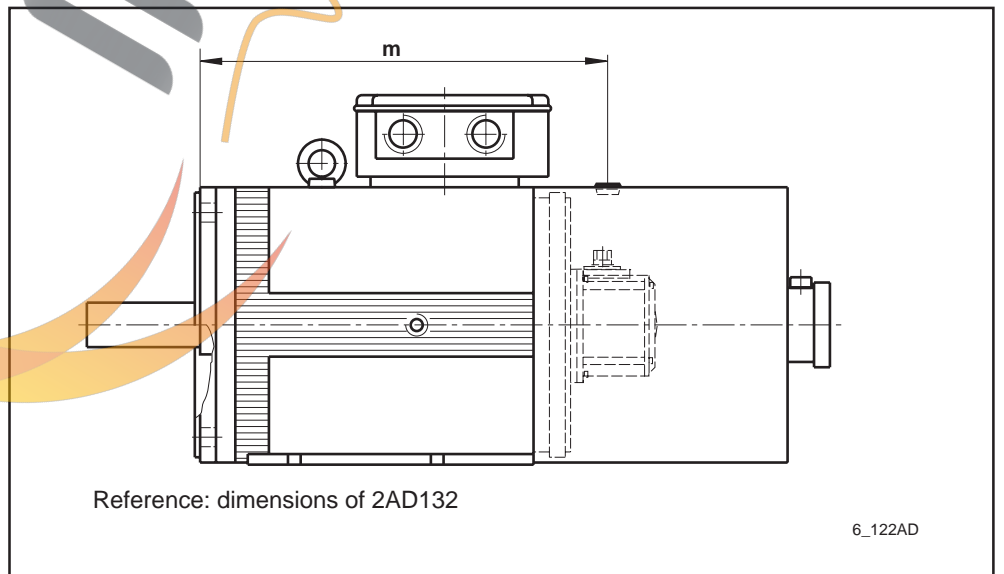


Fig. 6.12: 2AD132 with feedback types 6, 7

### 6.5 Type codes

Type codes: Example: 2AD132C-B35OB1-BS03-A2N1

1. Designation:	2AD	
2. Motor size:	132	
3. Motor length:	B, C, D	
4. Construction:		
Flange mounting	B05	
Flange and foot mounting	B35	
5. Power terminal position:		
top	O	
left	L	
right	R	
6. Power terminal output direction :		
	terminal box connection (terminal box on blower)	connector (connector on blower)
to side A	A	C
to side B	B	-
to the right *	R	E
to the left *	L	F
7. Cooling mode:		
Axial blower (air flow B --> A)	1	
Axial blower (air flow A --> B)	2	
Radial blower (air flow B --> A), blower top **)	3	
Radial blower (air flow B --> A), blower right **)	6	
Radial blower (air flow B --> A), blower below **)	7	
Radial blower (air flow B --> A), blower left **)	8	
8. Windings designation:		
2AD132B	BS, DS	
2AD132C	BS, CS	
2AD132D	AS, BD	
9. Holding brake:		
no holding brake	0	
electrically engaged	1	
electrically released	2	
electrically released, heavy-duty	3	
electrically released, extra heavy-duty	4	
10. Motor feedback:		
with high-resolution motor feedback	3	
Digital servo feedback	6	
Digital servo feedback with integral multiturn absolute encoder	7	
11. Output shaft:		
	smooth shaft	with key balanced with entire key    balanced with half key
without shaft seal	A	B                      E
with shaft seal	C	D                      H
12. Side B shaft end:		
without	2	
with (for mounted encoder - incremental and absolute) ***)	3	
13. Bearings:		
standard	N	
heavy-duty	V	
14. Vibration severity grade		
R	1	
S	2	
S1 ****)	3	

\*) View from front looking towards motor shaft, direction depends on power terminal.  
 \*\*) Position of blower may not be same as that of power terminal.  
 \*\*\*) Only available with radial blower and motor feedback "3"  
 \*\*\*\*) not available with heavy-duty bearings

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Fig. 6.13: Type codes 2AD132