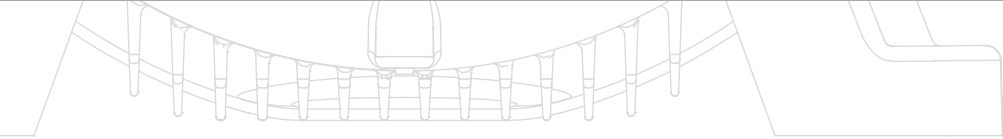
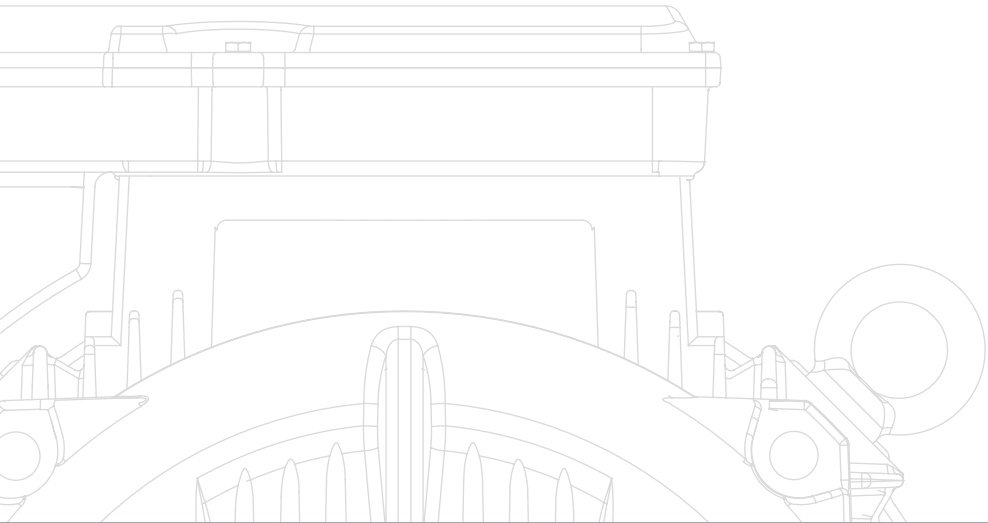
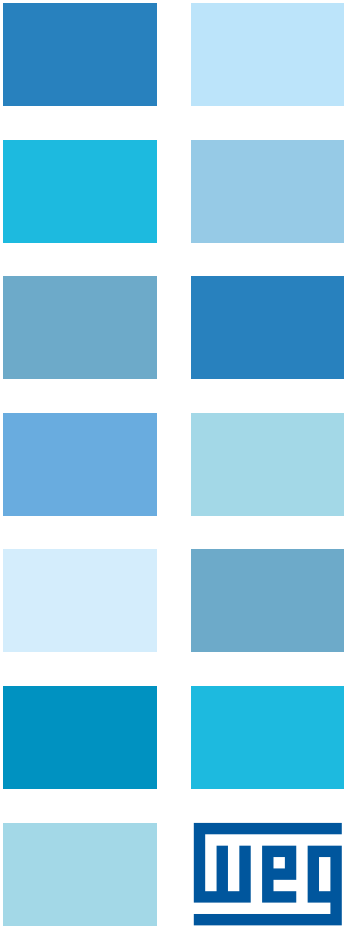


Flat-frame Motors



Antriebstechnik **KATT** Hessen
AKH
WEG Group



WEG Group

WEG is a leading global solutions provider for drive technology, energy generation and distribution, as well as for automation technology and panel building. Founded in 1961 in Brazil by three entrepreneurs of German ancestry, WEG has evolved into one of the most important manufacturers of electric motors worldwide. WEG has more than 30,000 employees, of which 360 are based in Germany. An annual revenue of approx. 3 billion Euros demonstrates WEG's growing success. WEG global presence is supported through its branches established in 29 countries, manufacturing plants and a network of distributors and agents in five continents.



At AKH, diversity says it all

We have been developing innovative electric motors since 1924 and for the most diverse industry branches and applications. And this is why we can offer you today an extremely broad spectrum of products that is as diverse as our customers themselves. This also includes the development of new motors on short call that are specially tailored to your requirements.

Due to our extraordinary degree of vertical integration and highly experienced development team, from an engineering point of view, the sky is the limit. Whether you require motors for the toughest operating conditions such as underwater, vibrating, or sawmill motors or machines of the highest performance for sophisticated tasks such as development test benches in the automotive industry: It is your choice – and we have matching motor. We guarantee it.

What we can do for you:

- Determining the exact requirements and professional advice for selecting your drive
- Design and construction of special motors in close corporation with your responsible engineers
- Production and comprehensive testing, including documentation
- Construction of prototypes
- Production of cost-optimizing special motors for medium quantities
- On-site service or at our factory provided by an highly experienced service team (including 24-hour Service Hotline)

As part of the Brazilian WEG Group, we extend the latter's product range with high-class special motors since 2014.

Flat-frame Motors

AKH flat-frame motors are AC asynchronous motors in an especially flat and compact design. The motors are characterized by a high power density and high energy efficiency.

Application

Amongst other things, these robust motors are found in band and circular saw systems in sawmills. With assembling of partly multiple, larger saw blades directly on the shaft of the motor, highly efficient systems are realized worldwide with these motors.

Flat-frame motors of IE2 and IE3

The higher efficiency class is achieved without the need of higher motor sizes.

Standard Design

Specifications

- Shaft height: 75 to 212 mm
- Power: up to 170 kW
- Speed range: up to 12.000 rpm
- Duty cycle: S1 (continuous operation)
- Cooling: IC411 (self-ventilated)
- Voltage: 400 V / 50 Hz
- Insulation class: F
- Mounting type acc. to IEC 60034-7
- Degree of protection: IP54
- Vibration severity grade: A
- Ambient temperature: -20 °C to +40 °C

Details standard design

- Shaft end made from C-45
- Balancing with half-key
- Material of motor housing made from aluminium alloy or cast iron
- Bearing shields made from cast iron or steel
- Lifetime lubricated rolling bearings
- Primer RAL 7031

PENK8/1G-02

Voltage: 400 / 690 V

Power: 140 kW S1 (continuous)

Speed range: 2.965 rpm

Efficiency class: IE3 95,3 %

Shaft height: 212 mm



Options

Options electrical design

- Increased rated power for intermittent operation S6
Efficiency classes IE 2, IE 3
- Optimized for frequency converter operation
- Special voltages and -frequencies
- With external fan (IC 416, axial or radial)
- Dimensioning as 2, 4 or 6- pole motors
- Pole-changing motors 4/2 or 8/4-pole
- Insulation class H
- Higher ambient temperature and installation altitude
- Winding temperature monitoring (eg. by thermo switch)
- Anti-condensation heating
- etc.

Options mechanical design

- Manual or automatic regreasing device
- Backlash-free or special high speed spindle bearings
- Special bearings for high radial and axial loads
(eg. by milling cutter)
- Electrically insulated bearings
- Protection class IP55, IP56 with labyrinth seal
- Hollow shaft, rock shaft with tool holders
- Vibration severity grade: B
- Humidity- and tropic proofing
- Housing, bearing shields and terminal box made from
ductile cast iron or steel
- Different lacquer qualities, RAL-color at customer's option
- Special shaft material and special surface treatment
- etc.

Options built-in components

- Holding brake (manual release, wear monitoring)
- Optical or magnetic speed sensors
- Backstop
- Chucking appliance and tool changer
- etc.

Options certificates, special approvals

- GOST
- Germanischer Lloyd
- Various works standards
- etc.

Options shaft design



Extended shaft



Shifting shaft



Collect chuck holder



HSK-tool holder



Clamping flange for saw blade holder



Customer-specific design

Technical Data

AKH flat-frame motors (IE3)

- 3000 rpm
- 400 V, 50 Hz
- S1 - 100 %
- Degree of protection IP54
- IC411 (self-ventilated)

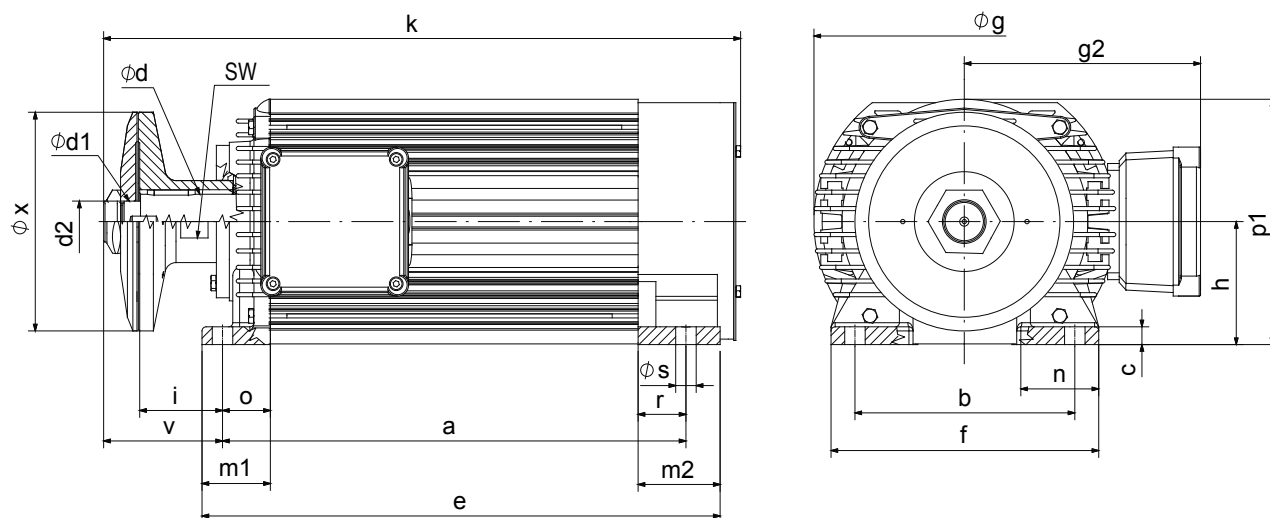
Frame size	Power kW	Rated speed 1/min	Torque Nm	Rated current A	Service factor 1	Efficiency %	Rel. Starting current 1	Rel. Starting torque 1	Rel. Break- down torque 1	Moment of inertia J kgm ²	Weight kg
K3/1	5,5	2930	17,9	11,3	0,77	90,5	9,1	3,0	4,5	0,0090	60
K3/2	7,5	2915	24,6	13,3	0,90	90,1	7,7	2,0	3,2	0,0120	80
K4/0	9,2	2935	29,9	17,6	0,83	90,7	9,5	4,3	4,7	0,0220	85
K4/1	11	2940	35,7	19,5	0,89	91,2	12,2	3,8	4,9	0,0300	95
K4/2	15	2950	48,6	25,61	0,91	92,2	10,9	2,3	4,6	0,0360	120
K4/2	18,5	2965	59,6	35,3	0,81	92,7	11,5	2,9	5,6	0,0380	144
K5/0	22	2965	70,9	36	0,94	92,7	10,5	1,6	4,0	0,1070	232
K5/1	30	2970	96,5	49,5	0,93	93,3	13,4	2,4	5,5	0,1210	250
K5/1	37	2965	119,2	60,8	0,94	93,7	10,9	2,0	4,6	0,1300	271
K5/2	45	2955	145,4	73,8	0,93	94,2	10,7	2,1	4,5	0,1260	300
K6/1	55	2975	176,6	93,1	0,90	94,7	11,3	2,8	5,0	0,2620	410
K6/3	65	2965	209,4	106	0,93	94,6	10,5	2,6	4,7	0,3330	490
K7/0	80	2970	257,2	129	0,93	95,2	9,9	1,6	4,1	0,6150	690
K7/1	90	2970	289,4	145	0,94	95	8,2	1,3	3,6	0,7350	770
K7/2	100	2970	321,6	159,2	0,95	95,1	10,0	1,8	4,8	1,2700	950
K7/3	110	2965	354,3	178	0,94	95,2	8,6	1,7	3,7	1,4500	983
K8/1	120	2980	384,6	193	0,94	95,6	9,5	1,2	4,3	1,2600	1160
K8/1	140	2977	449,1	221	0,94	95,7	8,3	1,1	3,7	1,3500	1250

Note: Executions with higher power and for special requirements on request



Drawings

Aluminium housing, mounting IM B3



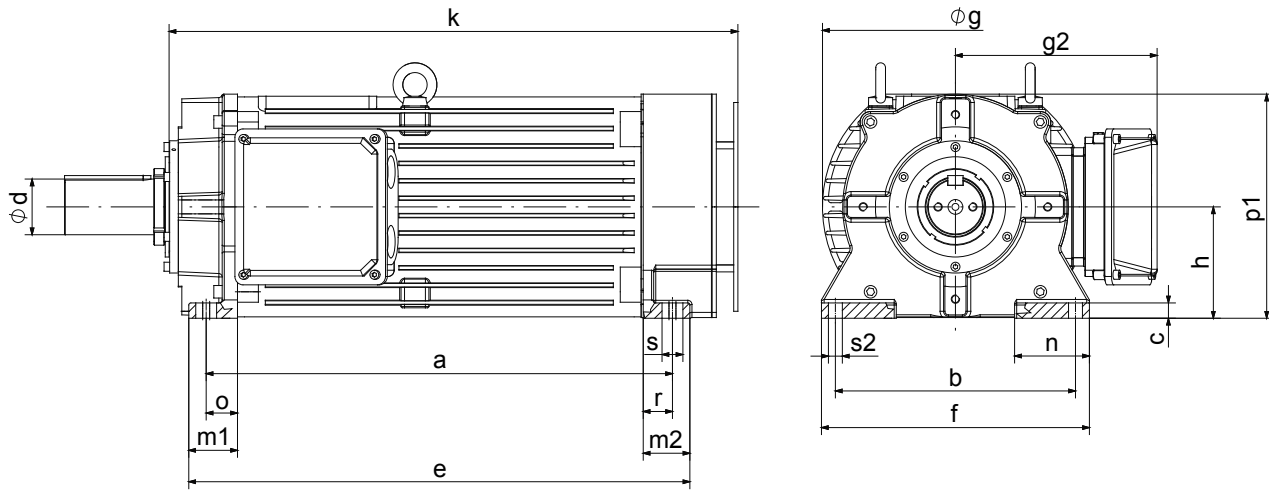
Type	a	b	c	d	d1	d2	e	f	g	g2	h
...K3/0A	310	160	13	40	30	M30	350	195	218	165	90
...K3/1A	350	160	13	40	30	M30	390	195	218	165	90
...K3/2A	410	160	13	40	30	M30	450	195	218	165	90
...K3/3A	450	160	13	40	30	M30	490	195	218	165	90
...K4/0A	395	180	13	40	40	M38x1,5	436	223	263	193	110
...K4/1A	495	180	13	40	40	M38x1,5	536	223	263	193	110
...K4/2A	595	180	13	40	40	M38x1,5	636	223	263	193	110

Typ	i	k	m1	m2	n	o	p1	r	s	v	x	SW
...K3/0A	61	502	50	60	60	35	179	35	15	107	160	56
...K3/1A	61	542	50	60	60	35	179	35	15	107	160	56
...K3/2A	61	602	50	60	60	35	179	35	15	107	160	56
...K3/3A	61	642	50	60	60	35	179	35	15	107	160	56
...K4/0A	45	593	70	66	61,5	55	219	40	15	100	200	56
...K4/1A	45	693	70	66	61,5	55	219	40	15	100	200	56
...K4/2A	45	793	70	66	61,5	55	219	40	15	100	200	56

Note: Possible terminal box positions at the drive end, at the non-drive end, on the right / left side or on the top
 Left-handed or right-handed thread (d2) is possible
 Flat-frame motors with double bearing or special models are available on request
 Smaller types of flat-frame motors and circular saw motors with brakes are available on request



Iron cast housing, mounting IM B3



Type	a	b	c	d max.	e	f	g	g2	h
...K5/0G	724	220	22	60	722	274	306	203	132
...K5/1G	774	220	22	60	822	274	306	203	132
...K5/2G	874	220	22	60	922	274	306	203	132
...K6/0G	670	345	22	80	720	390	382	273	160
...K7/0G	815	390	24	100	895	448	456	326	190
...K7/1G	940	390	24	100	1020	448	456	326	190
...K7/2G	1120	390	24	100	1200	448	456	326	190
...K7/3G	1170	390	24	100	1250	448	456	326	190
...K8/0G	1265	460	27	100	1357	530	520	363	212
...K8/1G									
...K8/2G									

Typ	k	m1	m2	n	o	p1	r	s	s2
...K5/0G	772	80	125	80	57	263	100	18	-
...K5/1G	822	80	125	80	57	263	100	18	-
...K5/2G	922	80	125	80	57	263	100	18	-
...K6/0G	824	70	67	110	45	332	45	30	20
...K7/0G	1007	100	100	101	60	380	60	36	26
...K7/1G	1132	100	100	101	60	380	60	36	26
...K7/2G	1312	100	100	101	60	380	60	36	26
...K7/3G	1362	100	100	101	60	380	60	36	26
...K8/0G	1482	133	133	100	92	432	82	36	26
...K8/1G									
...K8/2G									

Note: Possible terminal box positions at the drive end, at the non-drive end, on the right or on the left side
 Shaft end according to your requirements
 Flat-frame motors with double bearing or special models are available on request
 Flat-frame motors with brakes are available on request





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