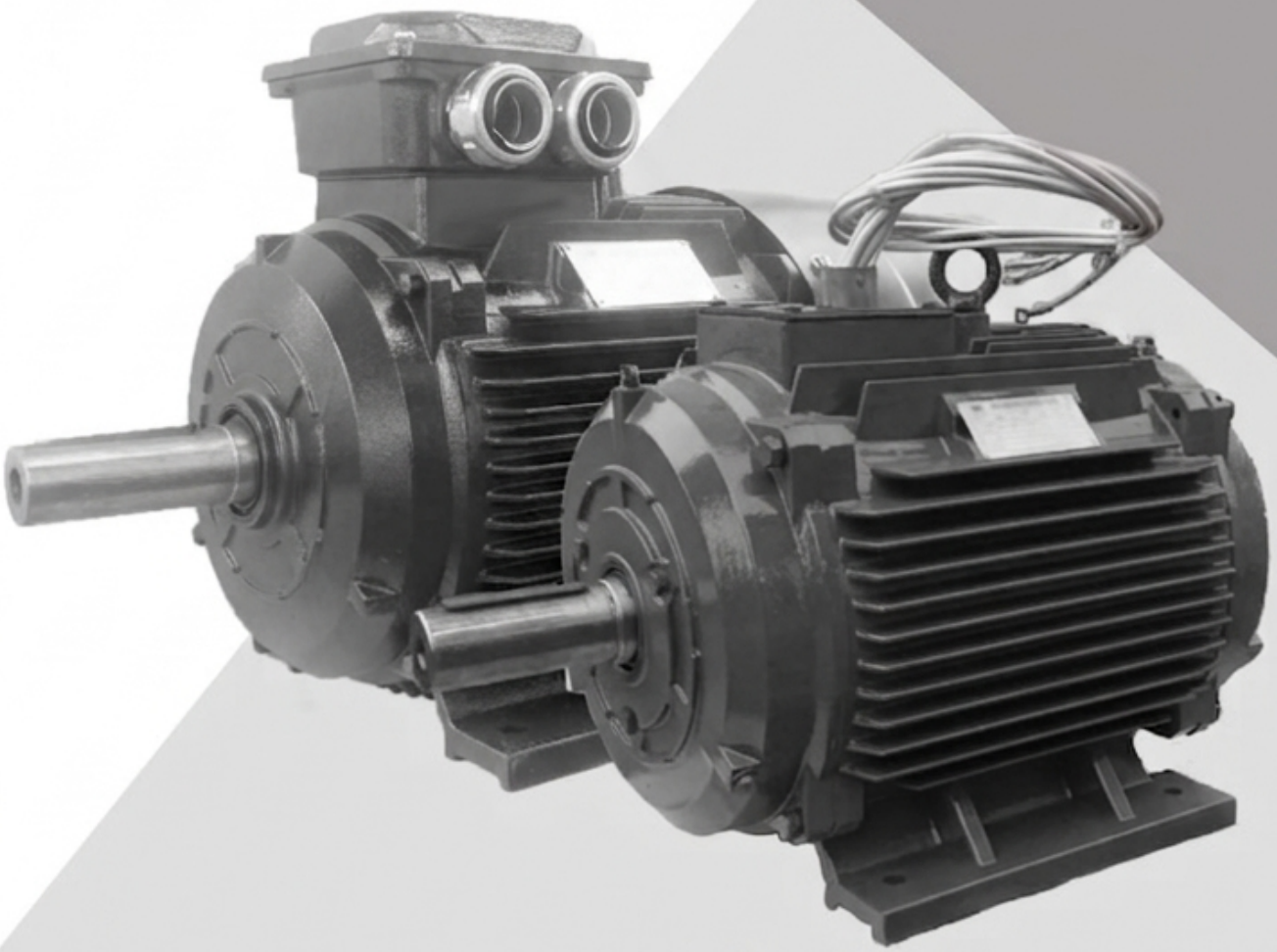
Cvsair®

Smoke Extraction Motors



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SMOKE EXTRACTION MOTORS

SMOKE EXTRACTION MOTORS

CVSAIR RANGE OF SMOKE EXTRACTION MOTORS:

The high quality of Cvsair Smoke Extraction Motors is achieved through a stringent quality control system and by complying with international standards specific to the product, resulting in a modern and reliable motor.
Smoke Extraction Motors can operate at S1 duty (continuous running) at ambient temperature of 40°C and in emergency duty fire condition at S2 duty according to the motor classification of temperature / time combinations. For example, in F400(120) classification, the motor can operate usually at normal operating conditions (at 40°C) and, on emergency cases, for a period of 2 hours (120 minutes) at ambient temperature of 400°C to drive the smoke extraction fans designed to remove heat and smoke from crowded places.
Cvsair offers you a complete line of Smoke Extraction Motors ranging from classes F300 and F400, single-speed or dual -speed, TEFC or TEAO, Foot Mounted or Pad Mounted, etc. as per table below:

Classification	F300(120)	F400(120)
Duty	S1 - 40°C	S1 - 40°C
	S2* - 300°C/2 hours	S2* - 400°C/2 hours
Insulation Class	Insulation Class H; Temperature Rise 80K	
Standard	EN 12101-3	
Frame Material	Cast Iron	
Pole / Frame Sizes available	2, 2/4 pole (frame sizes 71 up to 315) 4, 6, 8, 4/8, 4/6 pole (frame sizes 71 up to 355M/L)	
Construction	TEFC or TEAO (foot or flange mounted / pad mounted)	

*Continuously rated for normal ambient and emergency duty at rated temperature and time.

APPLICATIONS:

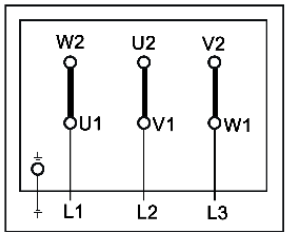
These smoke extraction systems are applied in a broad range of applications including large building, shopping malls, factories, warehouses, enclosed parking lots, tunnels, among others. In the event of a fire, lives depend on the ability of extraction fans - and the electric motors driving them - to disperse toxic fumes and smoke quickly and efficiently.
Smoke extraction motors must be capable of withstanding the high temperatures generated in fire zones and continue to work reliably under these extreme circumstances. Additional advantages include reduction of damage and financial loss by preventing smoke logging, reduction of roof temperatures and delay in fire spreading.

STANDARD FEATURES OF ALL CVSAIR SMOKE EXTRACTION MOTORS:

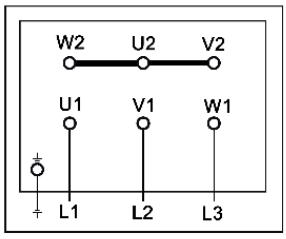
STANDARD SPECIFICATIONS AND FEATURES OF ALL CVSAIR SMOKE EXTRACTION	
MOTORS Item	**Standard Specifications**
Design standards	IEC 60034, IEC 60034-30-1, IEC 60072, IEC 60085, EN 12101-3
Voltage and frequency	Standard voltages available: *50Hz* *60Hz* *2.2kW & below* 220-240V(Δ)/380-415V(Y) 380-415V(Y) *3kW & above* 380-415V(Δ)/660-720V(Y) 380-415V(Δ)
Power conditions	±5% of rated voltage; ±2% of rated frequency
Protection	IP55
Method of starting	Full voltage direct on line starting or star-delta starting VFD starting (for single-speed motors)
Mounting	Horizontal foot and/or flange mounting: B3; B5; B14; B34; B35; V1 Pad mounting
Stator insulation	Class H insulation; Class B temperature rise
Rotor design	Squirrel cage, aluminium conductor with end-ring and wafer blades integrally cast
Environmental conditions	Place: Shadow, non-hazardous Ambient temperature: -20°C to 40°C Relative humidity: Less than 90% RH (non-condensation) Altitude: Less than 1,000m above sea level
Direction of rotation	Standard motors are suitable for operation in either direction of rotation. Direction of rotation of motor can be reversed by interchanging any two phases.
Test procedure	IEC and full voltage measuring starting operation
Shaft	Carbon steel, round shaft with key
Bearing	Motors of frame sizes 160 and below are fitted with life-lubricated bearings. Motors of frame sizes 180 and above are fitted with open bearings and grease nipple.
Painting	Phenolic rust-proof base plus lacquer surface finish
Nameplate	Stainless steel or aluminium
Grounding terminal	Set inside the terminal box
Fan Cover	Pressed Steel

CONNECTION DIAGRAM

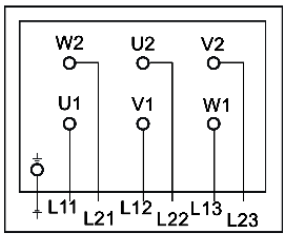
Three-phase motors with cage rotors



Delta Connection

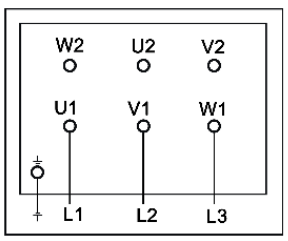


Star Connection

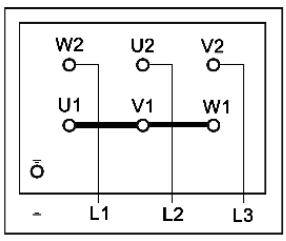


Star-Delta Connection

Multi-speed motors in Dahlander connection (Tapped winding)

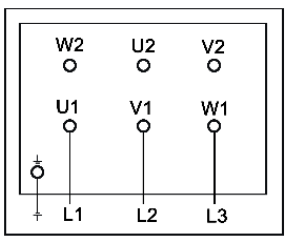


Low Speed

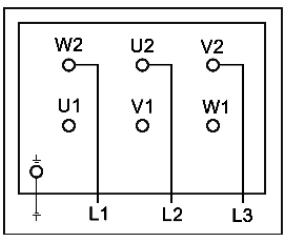


High Speed

Multi-speed motors with 2 separate windings



Low Speed



High Speed

SMOKE EXTRACTION MOTORS

IE3 SINGLE-SPEED MOTORS (300°C / 2 hours or 400°C / 2 hours)

2 Pole – 3000RPM/50Hz

Output	IEC Frame	Rated Speed (RPM)	Full Load Current I_N (A)			Full Load Efficiency η (%)	Full Load Power Factor Cos φ	Full Load Torque T_N (Nm)	Locked Rotor Current I_{LR}/I_n	Locked Rotor Torque T_{LR}/T_N	Break Down Torque T_M/T_N	Moment of Inertia (kgm²)	Weight (kg)
kW			380V	400V	415V								
0.37	71	2750	0.95	0.90	0.87	73.8	0.80	1.28	6.0	2.2	2.3	0.0001	10
0.55	71	2790	1.34	1.28	1.23	77.8	0.80	1.88	6.0	2.2	2.3	0.0005	10
0.75	80	2845	1.70	1.62	1.56	80.7	0.83	2.52	7.0	2.2	2.3	0.001	17
1.1	80	2845	2.41	2.29	2.20	82.7	0.84	3.69	7.4	2.2	2.3	0.002	18
1.5	90S	2855	3.22	3.06	2.95	84.2	0.84	5.02	7.0	2.2	2.3	0.004	23
2.2	90L	2860	4.58	4.35	4.19	85.9	0.85	7.35	7.0	2.2	2.3	0.005	26
3	100L	2870	6.02	5.71	5.51	87.1	0.87	9.98	7.5	2.2	2.5	0.007	34
4	112M	2875	7.84	7.45	7.18	88.1	0.88	13.3	7.5	2.2	2.5	0.011	41
5.5	132S	2925	10.6	10.1	9.75	89.2	0.88	18.0	7.5	2.2	2.5	0.023	60
7.5	132S	2925	14.4	13.7	13.2	90.1	0.88	24.5	7.5	2.2	2.5	0.029	63
11	160M	2935	20.8	19.8	19.1	91.2	0.88	35.8	7.5	2.2	2.5	0.067	109
15	160M	2935	28.2	26.8	25.8	91.9	0.88	48.8	7.5	2.2	2.5	0.077	119
18.5	160L	2940	34.2	32.5	31.3	92.4	0.89	60.1	7.5	2.2	2.2	0.093	136
22	180M	2950	40.5	38.5	37.1	92.7	0.89	71.2	7.5	2.0	2.2	0.157	172
30	200L	2950	54.9	52.1	50.3	93.3	0.89	97.1	7.5	2.0	2.3	0.23	223
37	200L	2950	67.4	64.0	61.7	93.7	0.89	120	7.5	2.0	2.3	0.256	242
45	225M	2965	81.7	77.6	74.8	94.0	0.89	145	7.5	2.0	2.3	0.325	302
55	250M	2970	99.6	94.6	91.2	94.3	0.89	177	7.5	2.0	2.3	0.395	382
75	280S	2975	135	128	124	94.7	0.89	241	7.5	2.0	2.3	0.683	515
90	280M	2980	158	150	145	95.0	0.91	288	7.5	2.0	2.3	0.765	545
110	315S	2975	193	183	177	95.2	0.91	353	7.1	1.8	2.2	1.558	930
132	315M	2975	231	219	212	95.4	0.91	424	7.1	1.8	2.2	1.726	980
160	315L	2980	276	263	253	95.6	0.92	513	7.1	1.8	2.2	1.941	1090
200	315L	2980	345	328	316	95.8	0.92	641	7.1	1.8	2.2	2.212	1190
250	355M	2980	436	414	399	95.8	0.91	801	7.2	1.8	2.2	4.034	1802
315	355L	2980	549	522	503	95.8	0.91	1009	7.2	1.8	2.2	4.645	2017

Note: 1. The data above is based on 400V design, 380V and 415V data is the reference value.
2. Single-speed motors are VFD compatible.
3. Tolerance according to IEC60034-1; Current tolerance: ±3%.
4. All technical details are subject to change without prior notice.

SMOKE EXTRACTION MOTORS

IE3 SINGLE-SPEED MOTORS (300°C / 2 hours or 400°C / 2 hours)

4 Pole – 1500RPM/50Hz

Output	IEC Frame	Rated Speed (RPM)	Full Load Current (A)			Full Load Efficiency η (%)	Full Load Power Factor Cos φ	Full Load Torque T_N (Nm)	Locked Rotor Current I_{LR}/I_n	Locked Rotor Torque T_{LR}/T_N	Break Down Torque T_M/T_N	Moment of Inertia (kgm²)	Weight (kg)
kW			380V	400V	415V								
0.37	71	1350	0.97	0.92	0.89	77.3	0.75	2.62	5.2	2.1	2.2	0.001	11
0.55	80	1410	1.38	1.31	1.26	80.8	0.75	3.72	6.5	2.3	2.3	0.002	19
0.75	80	1410	1.82	1.73	1.66	82.5	0.76	5.08	6.5	2.3	2.3	0.003	19
1.1	90S	1420	2.61	2.48	2.39	84.1	0.76	7.40	6.0	2.3	2.5	0.007	23
1.5	90L	1420	3.43	3.25	3.14	85.3	0.78	10.1	6.0	2.3	2.5	0.009	29
2.2	100L	1440	4.82	4.58	4.41	86.7	0.80	14.6	7.0	2.3	2.3	0.012	35
3	100L	1460	6.42	6.10	5.88	87.7	0.81	19.6	7.0	2.3	2.5	0.015	39
4	112M	1445	8.37	7.95	7.66	88.6	0.82	26.4	7.0	2.3	2.5	0.022	45
5.5	132S	1455	11.4	10.8	10.4	89.6	0.82	36.1	7.0	2.3	2.5	0.05	62
7.5	132M	1460	15.0	14.3	13.7	90.4	0.84	49.1	7.0	2.3	2.5	0.064	74
11	160M	1460	21.8	20.7	19.9	91.4	0.84	71.9	7.0	2.2	2.5	0.124	115
15	160L	1460	29.5	28.0	27.0	92.1	0.84	98.1	7.5	2.2	2.5	0.134	135
18.5	180M	1470	35.3	33.5	32.3	92.6	0.86	120	7.5	2.2	2.5	0.188	170
22	180L	1470	41.8	39.7	38.3	93.0	0.86	143	7.5	2.2	2.5	0.248	184
30	200L	1470	56.6	53.8	51.9	93.6	0.86	195	7.2	2.2	2.5	0.388	235
37	225S	1480	68.8	65.4	63.0	93.9	0.87	239	7.2	2.2	2.5	0.661	290
45	225M	1480	83.4	79.3	76.4	94.2	0.87	290	7.2	2.2	2.3	0.764	326
55	250M	1480	101.5	96.5	93.0	94.6	0.87	355	7.2	2.2	2.5	1.28	385
75	280S	1485	138	131	126	95.0	0.87	482	7.2	2.2	2.5	1.66	515
90	280M	1485	165	157	151	95.2	0.87	579	7.2	2.2	2.5	2.03	733
110	315S	1485	199	189	182	95.4	0.88	707	6.9	2.1	2.2	3.415	931
132	315M	1485	238	226	218	95.6	0.88	849	6.9	2.1	2.2	3.807	1017
160	315L	1485	285	271	261	95.8	0.89	1029	6.9	2.1	2.2	3.423	1085
200	315L	1485	356	338	326	96.0	0.89	1286	6.9	2.1	2.2	3.958	1200
250	355M	1490	440	418	403	96.0	0.90	1602	7.1	2.0	2.2	6.192	1815
315	355L	1490	554	526	507	96.0	0.90	2019	7.1	2.0	2.2	7.273	1984
355	355L	1490	624	593	572	96.0	0.90	2275	7.1	2.0	2.2	8.196	2291

Note:
1. The data above is based on 400V design, 380V and 415V data is the reference value.
2. Single-speed motors are VFD compatible.
3. Tolerance according to IEC60034-1; Current tolerance: ±3%.
4. All technical details are subject to change without prior notice.

SMOKE EXTRACTION MOTORS

IE3 SINGLE-SPEED MOTORS (300°C / 2 hours or 400°C / 2 hours)

6 Pole – 1000RPM/50Hz

Output	IEC Frame	Rated Speed (RPM)	Full Load Current I_N (A)			Full Load Efficiency η (%)	Full Load Power Factor Cos φ	Full Load Torque T_N (Nm)	Locked Rotor Current I_{LR}/I_n	Locked Rotor Torque T_{LR}/T_N	Break Down Torque T_M/T_N	Moment of Inertia (kgm²)	Weight (kg)
kW			380V	400V	415V								
0.18	71	865	0.65	0.62	0.59	63.9	0.66	1.99	4.0	1.9	2.0	0.008	13
0.25	71	865	0.81	0.77	0.75	68.6	0.68	2.76	4.0	1.9	2.0	0.009	14
0.37	80	885	1.09	1.04	1.00	73.5	0.70	3.99	4.7	1.9	2.0	0.0024	14
0.55	80	885	1.50	1.43	1.38	77.2	0.72	5.93	4.7	1.9	2.1	0.0026	16
0.75	90S	925	2.01	1.91	1.84	78.9	0.72	7.74	5.5	2.0	2.3	0.004	24
1.1	90L	920	2.83	2.69	2.59	81.0	0.73	11.4	5.5	2.0	2.3	0.006	26
1.5	100L	930	3.68	3.50	3.37	82.5	0.75	15.4	5.5	2.0	2.2	0.016	34
2.2	112M	945	5.22	4.96	4.78	84.3	0.76	22.2	6.5	2.0	2.2	0.039	40
3	132S	965	7.01	6.66	6.42	85.6	0.76	29.7	6.5	2.1	2.5	0.035	57
4	132M	965	9.21	8.75	8.44	86.8	0.76	39.6	6.5	2.1	2.5	0.043	73
5.5	132M	965	12.3	11.7	11.3	88.0	0.77	54.4	6.5	2.1	2.5	0.056	77
7.5	160M	970	16.6	15.8	15.2	89.1	0.77	73.8	6.5	2.0	2.3	0.14	110
11	160L	970	23.7	22.5	21.7	90.3	0.78	108	6.4	2.0	2.3	0.192	133
15	180L	975	30.9	29.3	28.2	91.2	0.81	147	7.0	2.0	2.3	0.319	174
18.5	200L	980	37.8	36.0	34.7	91.7	0.81	180	7.0	2.1	2.4	0.446	219
22	200L	980	43.7	41.5	40.0	92.2	0.83	214	7.0	2.1	2.4	0.557	228
30	225M	980	58.4	55.5	53.5	92.9	0.84	292	7.0	2.0	2.3	0.832	296
37	250M	980	70.1	66.6	64.2	93.3	0.86	361	7.0	2.1	2.5	1.447	380
45	280S	985	84.8	80.6	77.7	93.7	0.86	436	7.0	2.1	2.5	2.252	470
55	280M	985	103	98.1	94.6	94.1	0.86	533	7.0	2.1	2.5	2.726	545
75	315S	985	140	133	128	94.6	0.86	727	7.0	2.0	2.2	3.984	866
90	315M	985	168	159	153	94.9	0.86	872	7.0	2.0	2.2	4.5	948
110	315L	985	204	194	187	95.1	0.86	1066	6.7	2.0	2.2	5.607	1120
132	315L	985	242	230	221	95.4	0.87	1280	6.7	2.0	2.2	6.935	1185
160	355M	990	292	278	268	95.6	0.87	1543	6.8	1.8	2.0	10.222	1709
200	355M	990	365	346	334	95.8	0.87	1929	6.8	1.8	2.0	11.031	1945
250	355L	990	456	433	417	95.8	0.87	2411	6.8	1.8	2.0	11.897	2092

Note:
1. The data above is based on 400V design, 380V and 415V data is the reference value.
2. Single-speed motors are VFD compatible.
3. Tolerance according to IEC60034-1; Current tolerance: ±3%.
4. All technical details are subject to change without prior notice.

SMOKE EXTRACTION MOTORS

IE3 SINGLE-SPEED MOTORS (300°C / 2 hours or 400°C / 2 hours)

8 Pole – 750RPM/50Hz

Output	IEC Frame	Rated Speed (RPM)	Full Load Current I_N (A)			Full Load Efficiency η (%)	Full Load Power Factor Cos φ	Full Load Torque T_N (Nm)	Locked Rotor Current I_{LR}/I_n	Locked Rotor Torque T_{LR}/T_N	Break Down Torque T_M/T_N	Moment of Inertia (kgm²)	Weight (kg)
kW			380V	400V	415V								
0.18	80	645	0.76	0.73	0.70	58.7	0.61	2.66	3.3	1.8	1.9	0.0022	17
0.25	80	645	0.97	0.92	0.89	64.1	0.61	3.70	3.3	1.8	1.9	0.0025	18
0.37	90S	670	1.35	1.28	1.24	69.3	0.6	5.27	4.0	1.8	1.9	0.0038	25
0.55	90L	670	1.91	1.81	1.75	73	0.6	7.84	4.0	1.8	2.0	0.0058	27
0.75	100L	680	2.27	2.15	2.08	75	0.67	10.5	4.0	1.8	2.0	0.0158	35
1.1	100L	680	3.12	2.96	2.85	77.7	0.69	15.4	5.0	1.8	2.0	0.0223	36
1.5	112M	700	4.14	3.94	3.79	79.7	0.69	20.5	5.0	1.8	2.0	0.0387	40
2.2	132S	710	5.75	5.46	5.26	81.9	0.71	29.6	6.0	1.8	2.0	0.0346	57
3	132M	710	7.48	7.10	6.85	83.5	0.73	40.3	6.0	1.8	2.0	0.0428	62
4	160M	720	9.82	9.33	8.99	84.8	0.73	53.1	6.0	1.9	2.0	0.0557	91
5.5	160M	720	13.1	12.4	12.0	86.2	0.74	72.9	6.0	2.0	2.0	0.138	103
7.5	160L	720	17.4	16.5	15.9	87.3	0.75	99.5	6.0	2.0	2.0	0.191	126
11	180L	730	24.8	23.6	22.7	88.6	0.76	144	6.6	2.0	2.0	0.316	168
15	200L	730	33.5	31.8	30.6	89.6	0.76	196	6.6	2.0	2.0	0.442	222
18.5	225S	730	41.0	39.0	37.6	90.1	0.76	242	6.6	1.9	2.0	0.555	284
22	225M	730	47.3	44.9	43.3	90.6	0.78	288	6.6	1.9	2.0	0.831	310
30	250M	730	63.2	60.0	57.9	91.3	0.79	392	6.6	1.9	2.0	1.445	389
37	280S	735	77.5	73.6	71.0	91.8	0.79	481	6.6	1.9	2.0	2.251	499
45	280M	735	93.9	89.2	86.0	92.2	0.79	585	6.6	1.9	2.0	2.716	583
55	315S	735	112	106	102	92.5	0.81	715	6.6	1.8	2.0	3.977	950
75	315M	735	151	144	138	93.1	0.81	974	6.6	1.8	2.0	4.45	1030
90	315L	735	179	170	163	93.4	0.82	1169	6.6	1.8	2.0	5.557	1124
110	315L	735	218	207	199	93.7	0.82	1429	6.4	1.8	2.0	6.928	1218
132	355M	735	260	247	238	94	0.82	1715	6.4	1.8	2.0	10.133	1800
160	355M	735	311	295	284	94.3	0.83	2079	6.4	1.8	2.0	10.983	1890
200	355L	735	387	368	354	94.6	0.83	2598	6.4	1.8	2.0	11.563	2040

Note: 1. The data above is based on 400V design, 380V and 415V data is the reference value.
2. Single-speed motors are VFD compatible.
3. Tolerance according to IEC60034-1; Current tolerance: ±3%.
4. All technical details are subject to change without prior notice.

SMOKE EXTRACTION MOTORS

IE3 SINGLE-SPEED MOTORS (300°C / 2 hours or 400°C / 2 hours)

2 Pole – 3600RPM/60Hz

Output	IEC Frame	Rated Speed (RPM)	Full Load Current I_N (A)			Full Load Efficiency η (%)	Full Load Power Factor Cos φ	Full Load Torque T_N (Nm)	Locked Rotor Current I_{LR}/I_n	Locked Rotor Torque T_{LR}/T_N	Break Down Torque T_M/T_N	Moment of Inertia (kgm²)	Weight (kg)
kW			380V	400V	415V								
0.37	71	3300	0.96	0.91	0.88	73.4	0.80	1.07	6.0	2.2	2.3	0.0001	10
0.55	71	3348	1.36	1.29	1.25	76.8	0.80	1.57	6.0	2.2	2.3	0.0005	10
0.75	80	3414	1.78	1.69	1.63	77.0	0.83	2.10	7.0	2.2	2.3	0.001	17
1.1	80	3414	2.37	2.25	2.17	84.0	0.84	3.08	7.4	2.2	2.3	0.002	18
1.5	90S	3426	3.17	3.01	2.91	85.5	0.84	4.18	7.0	2.2	2.3	0.004	23
2.2	90L	3432	4.55	4.32	4.16	86.5	0.85	6.12	7.0	2.2	2.3	0.005	26
3	100L	3444	5.93	5.64	5.43	87.0	0.87	8.32	7.5	2.2	2.5	0.007	34
4	112M	3450	7.72	7.33	7.07	88.3	0.88	11.1	7.5	2.2	2.5	0.011	41
5.5	132S	3510	10.5	10.0	9.64	89.5	0.88	15.0	7.5	2.2	2.5	0.023	60
7.5	132S	3510	14.2	13.5	13.0	90.2	0.88	20.4	7.5	2.2	2.5	0.029	63
11	160M	3522	20.9	19.8	19.1	91.0	0.88	29.8	7.5	2.2	2.5	0.067	109
15	160M	3522	28.2	26.8	25.9	91.0	0.88	40.7	7.5	2.2	2.5	0.077	119
18.5	160L	3528	34.4	32.7	31.5	91.7	0.89	50.1	7.5	2.2	2.2	0.093	136
22	180M	3540	40.6	38.6	37.2	91.7	0.89	59.3	7.5	2.0	2.2	0.157	172
30	200L	3540	55.1	52.3	50.4	92.4	0.89	80.9	7.5	2.0	2.3	0.23	223
37	200L	3540	67.5	64.1	61.8	93.0	0.89	99.8	7.5	2.0	2.3	0.256	242
45	225M	3558	82.1	78.0	75.2	93.6	0.89	121	7.5	2.0	2.3	0.325	302
55	250M	3564	99.8	94.8	91.4	93.6	0.89	147	7.5	2.0	2.3	0.395	382
75	280S	3570	135	128	123	94.1	0.89	201	7.5	2.0	2.3	0.683	515
90	280M	3576	158	150	145	95.0	0.91	240	7.5	2.0	2.3	0.765	545
110	315S	3570	193	183	176	95.0	0.91	294	7.1	1.8	2.2	1.558	930
132	315M	3570	231	219	211	95.3	0.91	353	7.1	1.8	2.2	1.726	980
160	315L	3576	276	262	253	95.5	0.92	427	7.1	1.8	2.2	1.941	1090
200	315L	3576	345	328	316	95.8	0.92	534	7.1	1.8	2.2	2.212	1190
250	355M	3576	436	414	399	95.8	0.91	668	7.2	1.8	2.2	4.03	1802
315	355L	3576	549	522	503	95.8	0.91	841	7.2	1.8	2.2	4.61	2017

Note: 1. The data above is based on 400V design, 380V and 415V data is the reference value.
2. Single-speed motors are VFD compatible.
3. Tolerance according to IEC60034-1; Current tolerance: ±3%.
4. All technical details are subject to change without prior notice.

SMOKE EXTRACTION MOTORS

IE3 SINGLE-SPEED MOTORS (300°C / 2 hours or 400°C / 2 hours)

4 Pole – 1800RPM/60Hz

Output	IEC Frame	Rated Speed (RPM)	Full Load Current I_N (A)			Full Load Efficiency η (%)	Full Load Power Factor Cos φ	Full Load Torque T_N (Nm)	Locked Rotor Current I_{LR}/I_n	Locked Rotor Torque T_{LR}/T_N	Break Down Torque T_M/T_N	Moment of Inertia (kgm²)	Weight (kg)
kW			380V	400V	415V								
0.37	71	1620	0.96	0.91	0.88	78.2	0.75	2.18	5.2	2.1	2.2	0.001	11
0.55	80	1692	1.37	1.31	1.26	81.1	0.75	3.10	6.5	2.3	2.3	0.002	19
0.75	80	1692	1.80	1.71	1.64	83.5	0.76	4.23	6.5	2.3	2.3	0.003	19
1.1	90S	1704	2.54	2.42	2.33	86.5	0.76	6.16	6.0	2.3	2.5	0.007	23
1.5	90L	1704	3.38	3.21	3.09	86.5	0.78	8.41	6.0	2.3	2.5	0.009	29
2.2	100L	1728	4.67	4.44	4.27	89.5	0.80	12.2	7.0	2.3	2.3	0.012	35
3	100L	1752	6.29	5.97	5.76	89.5	0.81	16.4	7.0	2.3	2.5	0.015	39
4	112M	1734	8.08	7.68	7.40	89.6	0.82	22.0	7.0	2.3	2.5	0.022	45
5.5	132S	1746	11.1	10.6	10.2	91.7	0.82	30.1	7.0	2.3	2.5	0.05	62
7.5	132M	1752	14.7	13.9	13.4	91.7	0.84	40.9	7.0	2.3	2.5	0.064	74
11	160M	1752	21.4	20.3	19.6	92.4	0.84	60.0	7.0	2.2	2.5	0.124	115
15	160L	1752	29.0	27.5	26.5	93.0	0.84	81.8	7.5	2.2	2.5	0.134	135
18.5	180M	1764	34.9	33.2	32.0	93.6	0.86	100	7.5	2.2	2.5	0.188	170
22	180L	1764	41.3	39.2	37.8	93.6	0.86	119	7.5	2.2	2.5	0.248	184
30	200L	1764	56.1	53.3	51.4	94.1	0.86	162	7.2	2.2	2.5	0.388	235
37	225S	1776	68.0	64.6	62.3	94.5	0.87	199	7.2	2.2	2.5	0.661	290
45	225M	1776	82.4	78.3	75.4	95.0	0.87	242	7.2	2.2	2.3	0.764	326
55	250M	1776	101	95.7	92.2	95.4	0.87	296	7.2	2.2	2.5	1.28	385
75	280S	1782	137	130	126	95.4	0.87	402	7.2	2.2	2.5	1.66	515
90	280M	1782	164	156	150	95.4	0.87	482	7.2	2.2	2.5	2.03	733
110	315S	1782	198	188	181	95.8	0.88	589	6.9	2.1	2.2	3.415	931
132	315M	1782	237	225	217	96.0	0.88	707	6.9	2.1	2.2	3.807	1017
160	315L	1782	284	270	260	96.2	0.89	857	6.9	2.1	2.2	3.423	1085
200	315L	1782	355	337	325	96.2	0.89	1072	6.9	2.1	2.2	3.958	1200
250	355M	1788	439	417	402	96.2	0.90	1335	7.1	2.0	2.2	6.192	1815
315	355L	1788	553	525	506	96.2	0.90	1682	7.1	2.0	2.2	7.273	1984
355	355L	1788	623	592	570	96.2	0.90	1896	7.1	2.0	2.2	8.196	2291

Note:
1. The data above is based on 400V design, 380V and 415V data is the reference value.
2. Single-speed motors are VFD compatible.
3. Tolerance according to IEC60034-1; Current tolerance: ±3%.
4. All technical details are subject to change without prior notice.

SMOKE EXTRACTION MOTORS

IE3 SINGLE-SPEED MOTORS (300°C / 2 hours or 400°C / 2 hours)

6 Pole – 1200RPM/60Hz

Output	IEC Frame	Rated Speed (RPM)	Full Load Current I_N (A)			Full Load Efficiency η (%)	Full Load Power Factor Cos φ	Full Load Torque T_N (Nm)	Locked Rotor Current I_{LR}/I_n	Locked Rotor Torque T_{LR}/T_N	Break Down Torque T_M/T_N	Moment of Inertia (kgm²)	Weight (kg)
kW			380V	400V	415V								
0.18	71	1038	0.61	0.58	0.56	67.5	0.66	1.66	4.0	1.9	2.0	0.008	13
0.25	71	1038	0.78	0.74	0.72	71.4	0.68	2.30	4.0	1.9	2.0	0.009	14
0.37	80	1062	1.07	1.01	0.98	75.3	0.70	3.33	4.7	1.9	2.0	0.0024	14
0.55	80	1062	1.42	1.35	1.30	81.7	0.72	4.95	4.7	1.9	2.1	0.0026	16
0.75	90S	1110	1.92	1.82	1.76	82.5	0.72	6.45	5.5	2.0	2.3	0.004	24
1.1	90L	1104	2.62	2.49	2.40	87.5	0.73	9.51	5.5	2.0	2.3	0.006	26
1.5	100L	1116	3.43	3.26	3.14	88.5	0.75	12.8	5.5	2.0	2.2	0.016	34
2.2	112M	1134	4.91	4.67	4.50	89.5	0.76	18.5	6.5	2.0	2.2	0.039	40
3	132S	1158	6.70	6.37	6.14	89.5	0.76	24.7	6.5	2.1	2.5	0.035	57
4	132M	1158	8.92	8.48	8.17	89.6	0.76	33.0	6.5	2.1	2.5	0.043	73
5.5	132M	1158	11.9	11.3	10.9	91.0	0.77	45.4	6.5	2.1	2.5	0.056	77
7.5	160M	1164	16.3	15.4	14.9	91.0	0.77	61.5	6.5	2.0	2.3	0.14	110
11	160L	1164	23.4	22.2	21.4	91.7	0.78	90.2	6.4	2.0	2.3	0.192	133
15	180L	1170	30.7	29.1	28.1	91.7	0.81	122	7.0	2.0	2.3	0.319	174
18.5	200L	1176	37.3	35.4	34.2	93.0	0.81	150	7.0	2.1	2.4	0.446	219
22	200L	1176	43.3	41.1	39.7	93.0	0.83	179	7.0	2.1	2.4	0.557	228
30	225M	1176	57.7	54.8	52.8	94.1	0.84	244	7.0	2.0	2.3	0.832	296
37	250M	1176	69.5	66.0	63.6	94.1	0.86	300	7.0	2.1	2.5	1.447	380
45	280S	1182	84.1	79.9	77.0	94.5	0.86	364	7.0	2.1	2.5	2.252	470
55	280M	1182	103	97.7	94.2	94.5	0.86	444	7.0	2.1	2.5	2.726	545
75	315S	1182	139	133	128	95.0	0.86	606	7.0	2.0	2.2	3.984	866
90	315M	1182	167	159	153	95.0	0.86	727	7.0	2.0	2.2	4.5	948
110	315L	1182	203	193	186	95.8	0.86	889	6.7	2.0	2.2	5.607	1120
132	315L	1182	241	229	220	95.8	0.87	1066	6.7	2.0	2.2	6.935	1185
160	355M	1188	292	277	267	95.8	0.87	1286	6.8	1.8	2.0	10.222	1709
200	355M	1188	365	346	334	95.8	0.87	1608	6.8	1.8	2.0	11.031	1945
250	355L	1188	456	433	417	95.8	0.87	2009	6.8	1.8	2.0	11.897	2092

Note:
1. The data above is based on 400V design, 380V and 415V data is the reference value.
2. Single-speed motors are VFD compatible.
3. Tolerance according to IEC60034-1; Current tolerance: ±3%.
4. All technical details are subject to change without prior notice.

SMOKE EXTRACTION MOTORS

IE3 SINGLE-SPEED MOTORS (300°C / 2 hours or 400°C / 2 hours)

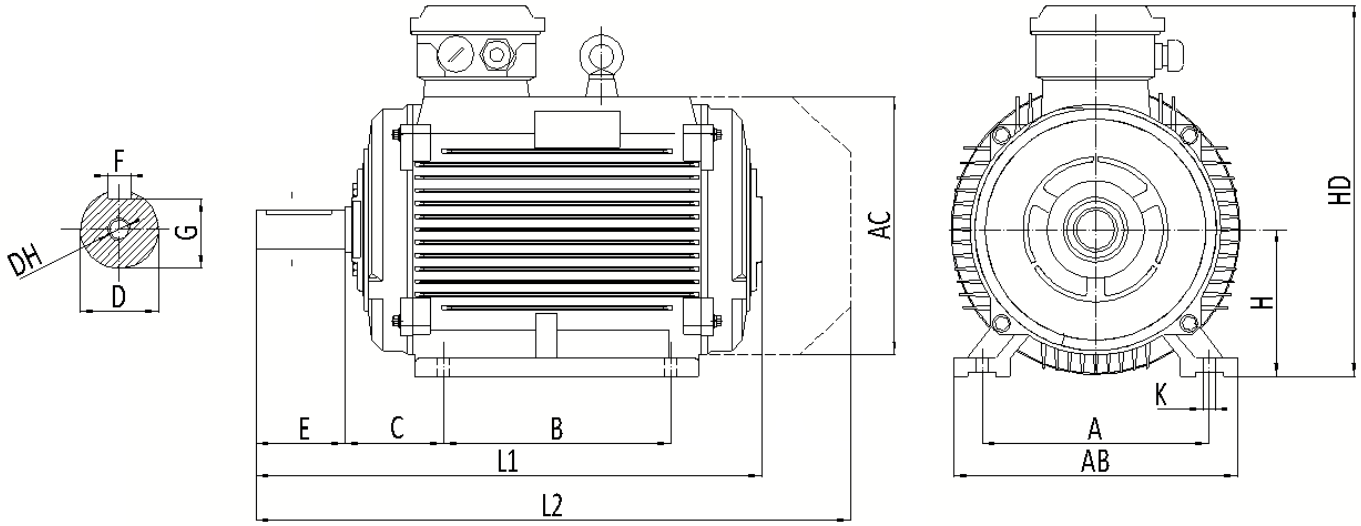
8 Pole – 900RPM/60Hz

Output	IEC Frame	Rated Speed (RPM)	Full Load Current I_N (A)			Full Load Efficiency η (%)	Full Load Power Factor Cos φ	Full Load Torque T_N (Nm)	Locked Rotor Current I_{LR}/I_n	Locked Rotor Torque T_{LR}/T_N	Break Down Torque T_M/T_N	Moment of Inertia (kgm²)	Weight (kg)
kW			380V	400V	415V								
0.18	80	774	0.70	0.67	0.64	64.0	0.61	2.22	3.3	1.8	1.9	0.0022	17
0.25	80	774	0.92	0.87	0.84	68.0	0.61	3.08	3.3	1.8	1.9	0.0025	18
0.37	90S	804	1.30	1.24	1.19	72.0	0.6	4.39	4.0	1.8	1.9	0.0038	25
0.55	90L	804	1.88	1.79	1.72	74.0	0.6	6.53	4.0	1.8	2.0	0.0058	27
0.75	100L	816	2.25	2.14	2.06	75.5	0.67	8.78	4.0	1.8	2.0	0.0158	35
1.1	100L	816	3.09	2.93	2.83	78.5	0.69	12.9	5.0	1.8	2.0	0.0223	36
1.5	112M	840	3.93	3.74	3.60	84.0	0.69	17.1	5.0	1.8	2.0	0.0387	40
2.2	132S	852	5.51	5.23	5.04	85.5	0.71	24.7	6.0	1.8	2.0	0.0346	57
3	132M	852	7.47	7.09	6.84	86.0	0.71	33.6	6.0	1.8	2.0	0.056	62
4	160M	864	8.90	8.46	8.15	86.5	0.73	40.9	6.0	1.9	2.0	0.121	91
5.5	160M	864	13.1	12.4	12.0	86.5	0.74	60.8	6.0	2.0	2.0	0.141	103
7.5	160L	864	17.0	16.1	15.5	89.5	0.75	82.9	6.0	2.0	2.0	0.192	126
11	180L	876	24.6	23.3	22.5	89.5	0.76	120	6.6	2.0	2.0	0.316	168
15	200L	876	33.2	31.6	30.4	90.2	0.76	164	6.6	2.0	2.0	0.442	222
18.5	225S	876	41.0	39.0	37.5	90.2	0.76	202	6.6	1.9	2.0	0.555	284
22	225M	876	46.7	44.4	42.8	91.7	0.78	240	6.6	1.9	2.0	0.831	310
30	250M	876	62.9	59.8	57.6	91.7	0.79	327	6.6	1.9	2.0	1.445	389
37	280S	882	77.0	73.2	70.5	92.4	0.79	401	6.6	1.9	2.0	2.251	499
45	280M	882	93.7	89.0	85.8	92.4	0.79	487	6.6	1.9	2.0	2.716	583
55	315S	882	110	105	101	93.6	0.81	595	6.6	1.8	2.0	3.977	950
75	315M	882	150	143	138	93.6	0.81	812	6.6	1.8	2.0	4.45	1030
90	315L	882	177	168	162	94.1	0.82	974	6.6	1.8	2.0	5.557	1124
110	315L	882	217	206	198	94.1	0.82	1191	6.4	1.8	2.0	6.928	1218
132	355M	882	259	246	237	94.5	0.82	1429	6.4	1.8	2.0	10.133	1800
160	355M	882	310	294	284	94.5	0.83	1732	6.4	1.8	2.0	10.983	1890
200	355L	882	385	366	353	95.0	0.83	2165	6.4	1.8	2.0	11.563	2040

Note: 1. The data above is based on 400V design, 380V and 415V data is the reference value.
2. Single-speed motors are VFD compatible.
3. Tolerance according to IEC60034-1; Current tolerance: ±3%.
4. All technical details are subject to change without prior notice.

SMOKE EXTRACTION MOTORS

IE3 B3 MOUNTING – MECHANICAL DATA

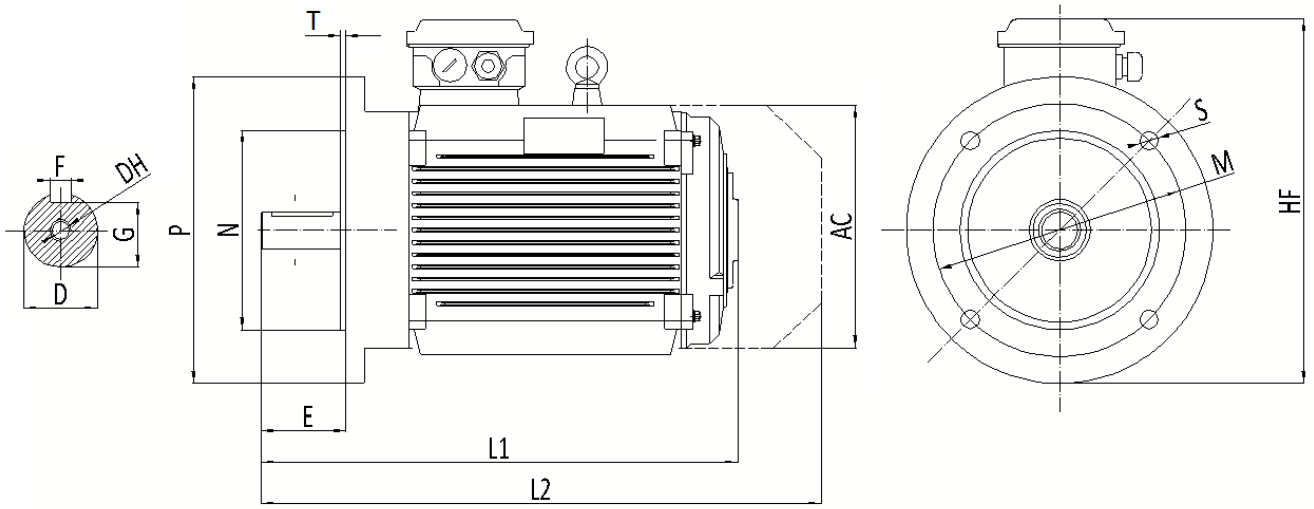


Frame Size	Pole	Mounting Dimensions (mm)										Overall Dimensions (mm)				
		A	B	C	D	E	F	G	H	K	DH	AB	AC	HD	L1	L2
71	2, 4, 6	112	90	45	14	30	5	11	71	7	M5X13	136	139	197	208	247
80	2, 4, 6, 8	125	100	50	19	40	6	15.5	80	10	M6X16	165	168	225	244	280
90S	2, 4, 6, 8	140	100	56	24	50	8	20	90	10	M8X20	180	193	248	262	315
90L	2, 4, 6, 8	140	125	56	24	50	8	20	90	10	M8X20	180	193	248	286	351
100L	2, 4, 6, 8	160	140	63	28	60	8	24	100	12	M8X20	205	217	270	325	376
112M	2, 4, 6, 8	190	140	70	28	60	8	24	112	12	M10X25	230	217	292	336	400
132S	2, 4, 6, 8	216	140	89	38	80	10	33	132	12	M12X30	270	258	331	367	470
132M	2, 4, 6, 8	216	178	89	38	80	10	33	132	12	M12X30	270	258	331	405	510
160M	2, 4, 6, 8	254	210	108	42	110	12	37	160	15	M16X36	320	330	414	532	610
160L	2, 4, 6, 8	254	254	108	42	110	12	37	160	15	M16X36	320	330	414	576	655
180M	2, 4, 6, 8	279	241	121	48	110	14	42.5	180	15	M16X36	355	380	447	584	690
180L	2, 4, 6, 8	279	279	121	48	110	14	42.5	180	15	M16X36	355	380	447	622	730
200L	2, 4, 6, 8	318	305	133	55	110	16	49	200	19	M20X40	395	420	505	668	760
225S	4, 6, 8	356	286	149	60	140	18	53	225	19	M20X40	435	470	545	703	810
225M	2	356	311	149	55	110	16	49	225	19	M20X40	435	470	545	698	805
	4, 6, 8	356	311	149	60	140	18	53	225	19	M20X40	435	470	545	728	835
250M	2	406	349	168	60	140	18	53	250	24	M20X40	490	510	615	805	910
	4, 6, 8	406	349	168	65	140	18	58	250	24	M20X40	490	510	615	805	910
280S	2	457	368	190	65	140	18	58	280	24	M20X40	550	580	665	846	985
	4, 6, 8	457	368	190	75	140	20	67.5	280	24	M20X40	550	580	665	850	985
280M	2	457	419	190	65	140	18	58	280	24	M20X40	550	580	665	897	1035
	4, 6, 8	457	419	190	75	140	20	67.5	280	24	M20X40	550	580	665	901	1035
315S	2	508	406	216	65	140	18	58	315	28	M20X40	635	645	845	1028	1190
	4, 6, 8	508	406	216	80	170	22	71	315	28	M20X40	635	645	845	1058	1220
315M	2	508	457	216	65	140	18	58	315	28	M20X40	635	645	845	1138	1300
	4, 6, 8	508	457	216	80	170	22	71	315	28	M20X40	635	645	845	1168	1330
315L	2	508	508	216	65	140	18	58	315	28	M20X40	635	645	845	1138	1300
	4, 6, 8	508	508	216	80	170	22	71	315	28	M20X40	635	645	845	1168	1330
355M	2	610	560	254	75	140	20	67.5	355	28	M20X40	735	735	1000	1325	1525
	4, 6, 8	610	560	254	95	170	25	86	355	28	M20X40	735	735	1000	1355	1555
355L	2	610	630	254	75	140	20	67.5	355	28	M20X40	735	735	1000	1325	1525
	4, 6, 8	610	630	254	95	170	25	86	355	28	M20X40	735	735	1000	1355	1555

All technical details are subject to change without any prior notice.

SMOKE EXTRACTION MOTORS

IE3 B5 MOUNTING – MECHANICAL DATA

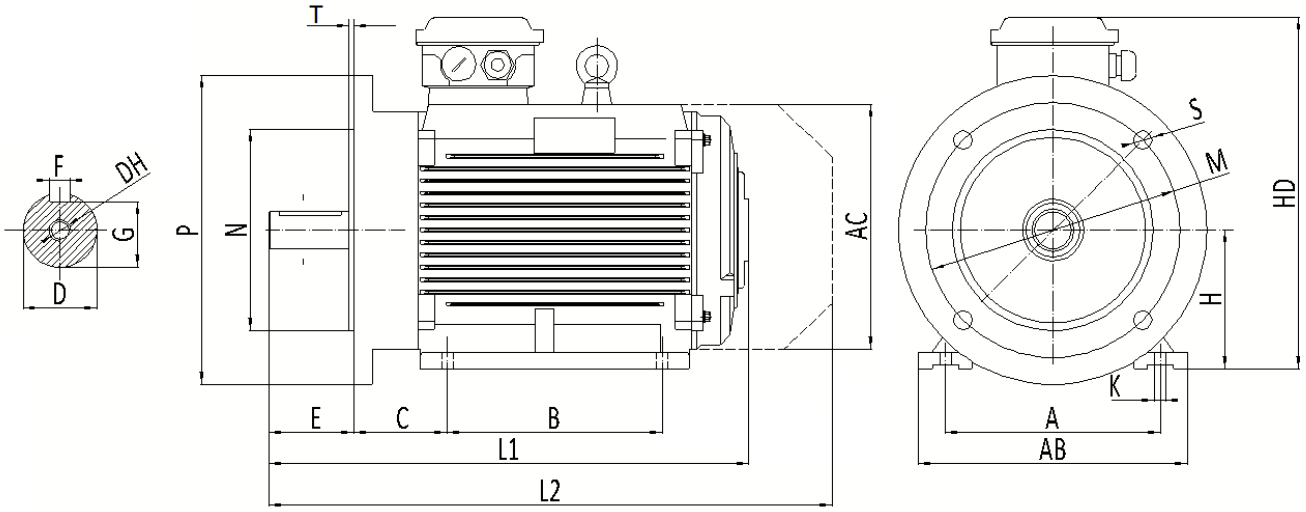


Frame Size	Pole	Mounting Dimensions (mm)											Overall Dimensions (mm)			
		E	F	G	H	K	M	N	P	S	T	DH	AC	HF	L1	L2
71	2, 4, 6	30	5	11	71	7	130	110	160	4-Φ10	3.5	M5X13	139	197	208	247
80	2, 4, 6, 8	40	6	16	80	10	165	130	200	4-Φ12	3.5	M6X16	168	225	244	280
90S	2, 4, 6, 8	50	8	20	90	10	165	130	200	4-Φ12	3.5	M8X20	193	248	262	315
90L	2, 4, 6, 8	50	8	20	90	10	165	130	200	4-Φ12	3.5	M8X20	193	248	286	351
100L	2, 4, 6, 8	60	8	24	100	12	215	180	250	4-Φ15	4	M8X20	217	270	325	376
112M	2, 4, 6, 8	60	8	24	112	12	215	180	250	4-Φ15	4	M10X25	220	292	336	400
132S	2, 4, 6, 8	80	10	33	132	12	265	230	300	4-Φ15	4	M12X30	258	331	367	470
132M	2, 4, 6, 8	80	10	33	132	12	265	230	300	4-Φ15	4	M12X30	258	331	405	510
160M	2, 4, 6, 8	110	12	37	160	15	300	250	350	4-Φ19	5	M16X36	330	414	532	610
160L	2, 4, 6, 8	110	12	37	160	15	300	250	350	4-Φ19	5	M16X36	330	414	576	655
180M	2, 4, 6, 8	110	14	43	180	15	300	250	350	4-Φ19	5	M16X36	380	447	584	690
180L	2, 4, 6, 8	110	14	43	180	15	300	250	350	4-Φ19	5	M16X36	380	447	622	730
200L	2, 4, 6, 8	110	16	49	200	19	350	300	400	4-Φ19	5	M20X40	420	505	668	760
225S	4, 6, 8	140	18	53	225	19	400	350	450	8-Φ19	5	M20X40	470	545	703	810
225M	2	110	16	49	225	19	400	350	450	8-Φ19	5	M20X40	470	545	698	805
	4, 6, 8	140	18	53	225	19	400	350	450	8-Φ19	5	M20X40	470	545	728	835
250M	2	140	18	53	250	24	500	450	550	8-Φ19	5	M20X40	510	615	805	910
	4, 6, 8	140	18	58	250	24	500	450	550	8-Φ19	5	M20X40	510	615	805	910
280S	2	140	18	58	280	24	500	450	550	8-Φ19	5	M20X40	580	665	846	985
	4, 6, 8	140	20	68	280	24	500	450	550	8-Φ19	5	M20X40	580	665	850	985
280M	2	140	18	58	280	24	500	450	550	8-Φ19	5	M20X40	580	665	897	1035
	4, 6, 8	140	20	68	280	24	500	450	550	8-Φ19	5	M20X40	580	665	901	1035

All technical details are subject to change without any prior notice.

SMOKE EXTRACTION MOTORS

IE3 B35 MOUNTING – MECHANICAL DATA



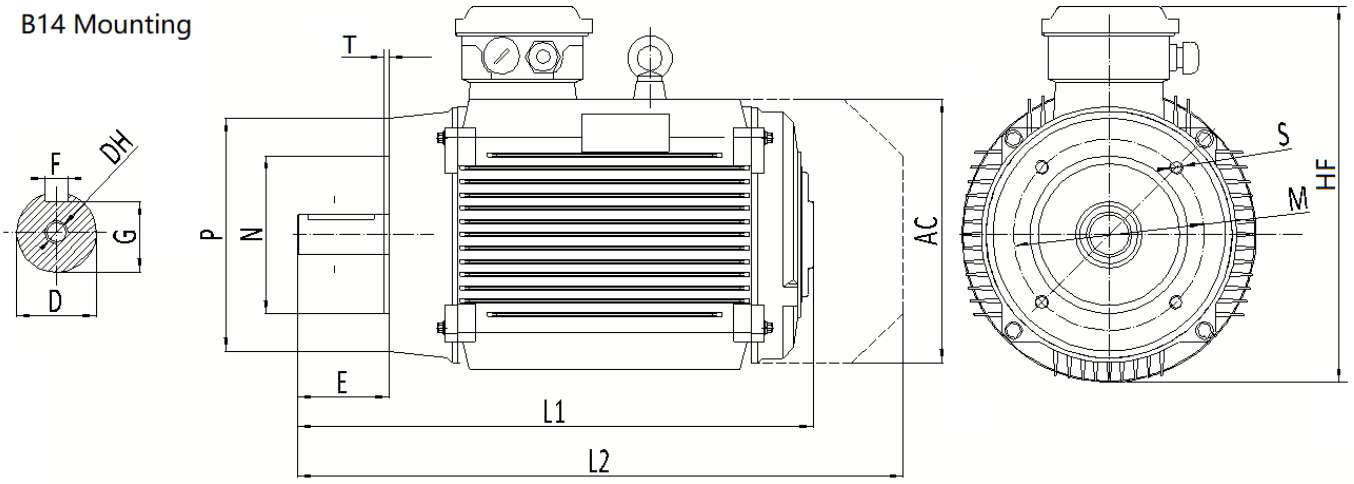
Frame Size	Pole	Mounting Dimensions (mm)															Overall Dimensions (mm)				
		A	B	C	D	E	F	G	H	K	M	N	P	S	T	DH	AB	AC	HD	L1	L2
71	2, 4, 6	112	90	45	14	30	5	11	71	7	130	110	160	4-Φ10	3.5	M5X13	136	139	197	208	247
80	2, 4, 6, 8	125	100	50	19	40	6	15.5	80	10	165	130	200	4-Φ12	3.5	M6X16	165	168	225	244	280
90S	2, 4, 6, 8	140	100	56	24	50	8	20	90	10	165	130	200	4-Φ12	3.5	M8X20	180	193	248	262	315
90L	2, 4, 6, 8	140	125	56	24	50	8	20	90	10	165	130	200	4-Φ12	3.5	M8X20	180	193	248	286	340
100L	2, 4, 6, 8	160	140	63	28	60	8	24	100	12	215	180	250	4-Φ15	4	M8X20	205	217	270	325	376
112M	2, 4, 6, 8	190	140	70	28	60	8	24	112	12	215	180	250	4-Φ15	4	M10X25	230	217	292	336	400
132S	2, 4, 6, 8	216	140	89	38	80	10	33	132	12	265	230	300	4-Φ15	4	M12X30	270	258	331	367	470
132M	2, 4, 6, 8	216	178	89	38	80	10	33	132	12	265	230	300	4-Φ15	4	M12X30	270	258	331	405	510
160M	2, 4, 6, 8	254	210	108	42	110	12	37	160	15	300	250	350	4-Φ19	5	M16X36	320	330	414	532	610
160L	2, 4, 6, 8	254	254	108	42	110	12	37	160	15	300	250	350	4-Φ19	5	M16X36	320	330	414	576	655
180M	2, 4, 6, 8	279	241	121	48	110	14	42.5	180	15	300	250	350	4-Φ19	5	M16X36	355	380	447	584	690
180L	2, 4, 6, 8	279	279	121	48	110	14	42.5	180	15	300	250	350	4-Φ19	5	M16X36	355	380	447	622	730
200L	2, 4, 6, 8	318	305	133	55	110	16	49	200	19	350	300	400	4-Φ19	5	M20X40	395	420	505	668	760
225S	4, 6, 8	356	286	149	60	140	18	53	225	19	400	350	450	8-Φ19	5	M20X40	435	470	545	703	810
225M	2	356	311	149	55	110	16	49	225	19	400	350	450	8-Φ19	5	M20X40	435	470	545	698	805
	4, 6, 8	356	311	149	60	140	18	53	225	19	400	350	450	8-Φ19	5	M20X40	435	470	545	728	835
250M	2	406	349	168	60	140	18	53	250	24	500	450	550	8-Φ19	5	M20X40	490	510	615	805	910
	4, 6, 8	406	349	168	65	140	18	58	250	24	500	450	550	8-Φ19	5	M20X40	490	510	615	805	910
280S	2	457	368	190	65	140	18	58	280	24	500	450	550	8-Φ19	5	M20X40	550	580	665	846	985
	4, 6, 8	457	368	190	75	140	20	67.5	280	24	500	450	550	8-Φ19	5	M20X40	550	580	665	850	985
280M	2	457	419	190	65	140	18	58	280	24	500	450	550	8-Φ19	5	M20X40	550	580	665	897	1035
	4, 6, 8	457	419	190	75	140	20	67.5	280	24	500	450	550	8-Φ19	5	M20X40	550	580	665	901	1035
315S	2	508	406	216	65	140	18	58	315	28	600	550	660	8-Φ24	6	M20X40	635	645	845	1028	1190
	4, 6, 8	508	406	216	80	170	22	71	315	28	600	550	660	8-Φ24	6	M20X40	635	645	845	1058	1220
315M	2	508	457	216	65	140	18	58	315	28	600	550	660	8-Φ24	6	M20X40	635	645	845	1138	1300
	4, 6, 8	508	457	216	80	170	22	71	315	28	600	550	660	8-Φ24	6	M20X40	635	645	845	1168	1330
315L	2	508	508	216	65	140	18	58	315	28	600	550	660	8-Φ24	6	M20X40	635	645	845	1138	1300
	4, 6, 8	508	508	216	80	170	22	71	315	28	600	550	660	8-Φ24	6	M20X40	635	645	845	1168	1330
355M	2	610	560	254	75	140	20	67.5	355	28	740	680	800	8-Φ24	6	M20X40	735	735	1000	1325	1525
	4, 6, 8	610	560	254	95	170	25	86	355	28	740	680	800	8-Φ24	6	M20X40	735	735	1000	1355	1555
355L	2	610	630	254	75	140	20	67.5	355	28	740	680	800	8-Φ24	6	M20X40	735	735	1000	1325	1525
	4, 6, 8	610	630	254	95	170	25	86	355	28	740	680	800	8-Φ24	6	M20X40	735	735	1000	1355	1555

All technical details are subject to change without any prior notice.

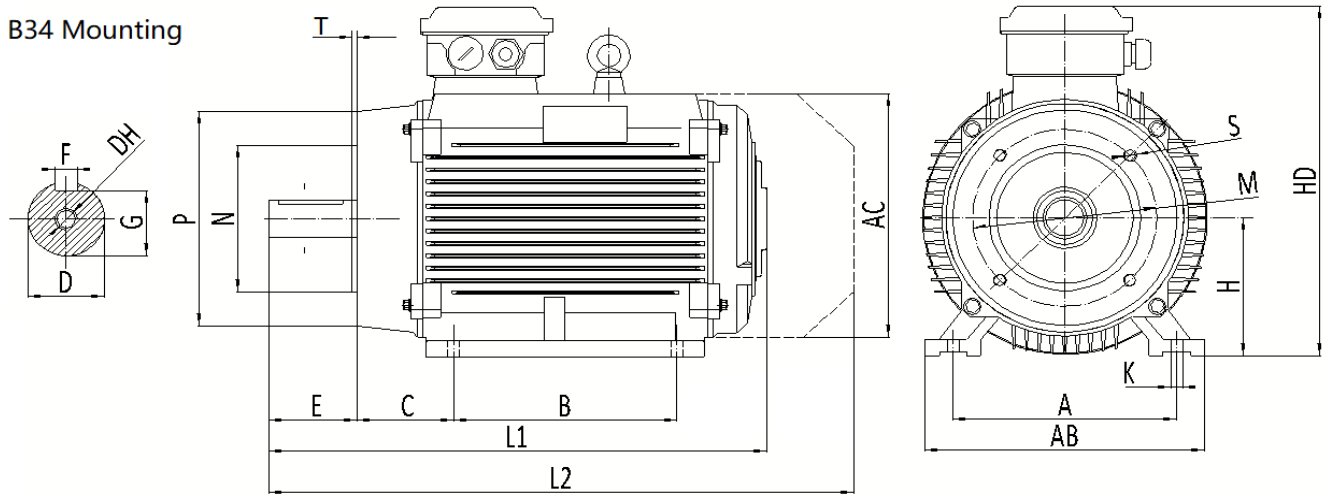
SMOKE EXTRACTION MOTORS

IE3 B14/B34 MOUNTING – MECHANICAL DATA

B14 Mounting



B34 Mounting



Frame Size	Pole	Mounting Dimensions (mm)															Overall Dimensions (mm)				
		A	B	C	D	E	F	G	H	K	M	N	P	S	T	DH	AB	AC	HD	L1	L2
71	2, 4, 6	112	90	45	14	30	5	11	71	7	85	70	105	4-M6	2.5	M5X13	136	139	197	208	247
80	2, 4, 6, 8	125	100	50	19	40	6	16	80	10	100	80	120	4-M6	3	M6X16	165	168	225	244	280
90S	2, 4, 6, 8	140	100	56	24	50	8	20	90	10	115	95	140	4-M8	3	M8X20	180	193	248	262	315
90L	2, 4, 6, 8	140	125	56	24	50	8	20	90	10	115	95	140	4-M8	3	M8X20	180	193	248	286	351
100L	2, 4, 6, 8	160	140	63	28	60	8	24	100	12	130	110	160	4-M8	3.5	M8X20	205	217	270	325	376
112M	2, 4, 6, 8	190	140	70	28	60	8	24	112	12	130	110	160	4-M8	3.5	M10X25	230	217	292	336	400
132S	2, 4, 6, 8	216	140	89	38	80	10	33	132	12	165	130	200	4-M10	4	M12X30	270	258	331	367	470
132M	2, 4, 6, 8	216	178	89	38	80	10	33	132	12	165	130	200	4-M10	4	M12X30	270	258	331	405	510
160M	2, 4, 6, 8	254	210	108	42	110	12	37	160	15	215	180	250	4-M12	4	M16X30	320	330	414	532	610
160L	2, 4, 6, 8	254	254	108	42	110	12	37	160	15	215	180	250	4-M12	4	M16X30	320	330	414	576	655

All technical details are subject to change without any prior notice.

SMOKE EXTRACTION MOTORS

DUAL-SPEED MOTORS (300°C / 2 hours or 400°C / 2 hours)

2/4 Pole – 3000/1500RPM/50Hz – YY/Y Connection – Dahlander Winding

Output	IEC Frame	Rated Speed (RPM)	Full Load Current I_N (A)			Full Load Efficiency η (%)	Full Load Power Factor Cos φ	Full Load Torque T_N (Nm)	Locked Rotor Current I_{LR}/I_n	Locked Rotor Torque T_{LR}/T_N	Break Down Torque T_M/T_N	Moment of Inertia (kgm²)	Weight (kg)
kW			380V	400V	415V								
0.8	80	2750	2.17	2.06	1.99	70.0	0.80	2.78	3.3	1.8	1.4	0.001	14.5
0.2		1350	0.97	0.92	0.88	57.2	0.55	1.41	4.3	2.1	1.9		
1.10	80	2850	2.62	2.49	2.40	75.0	0.85	3.69	4.1	1.5	2.2	0.0011	16.0
0.25		1440	1.01	0.96	0.93	56.0	0.67	1.66	3.5	2.3	1.6		
1.50	90S	2850	3.61	3.43	3.31	77.0	0.82	5.03	5.0	2.1	2.2	0.0023	19.3
0.37		1440	1.40	1.33	1.28	66.0	0.61	2.45	4.1	2.3	1.6		
2.2	90L	2860	4.92	4.67	4.50	80.0	0.85	7.35	5.3	2.3	2.0	0.003	22.8
0.5		1460	1.75	1.66	1.60	68.0	0.64	3.27	4.2	2.5	1.4		
2.50	100L	2860	5.55	5.27	5.08	80.5	0.85	8.35	5.4	2.3	2.3	0.006	32.7
0.65		1460	2.14	2.03	1.96	71.0	0.65	4.25	4.4	2.4	1.9		
3.1	100L	2875	6.68	6.35	6.12	81.0	0.87	10.3	5.9	2.1	2.6	0.007	33
0.8		1450	2.60	2.47	2.38	72.0	0.65	5.27	4.4	1.2	2.1		
4.4	112M	2875	9.26	8.80	8.48	83.0	0.87	14.6	6.3	2.2	2.8	0.0075	38.8
1.1		1450	3.18	3.02	2.91	75.0	0.70	7.24	4.8	1.4	2.8		
6.0	132S	2875	12.6	11.9	11.5	83.5	0.87	19.9	6.3	2.2	2.8	0.017	53.4
1.5		1450	4.28	4.07	3.92	76.0	0.70	9.88	4.8	1.4	2.8		
8	132M	2875	17.0	16.2	15.6	84.0	0.85	26.6	6.3	2.2	2.8	0.018	66.8
2		1450	5.64	5.36	5.16	77.0	0.70	13.2	4.8	1.4	2.8		
12	160M	2880	23.8	22.6	21.8	86.0	0.89	39.8	7.0	1.9	2.3	0.06	109
3		1455	7.60	7.22	6.96	80.0	0.75	19.7	6.0	1.9	2.8		
16	160L	2880	31.4	29.8	28.8	87.0	0.89	53.1	7.0	2.0	2.6	0.078	125
4		1455	9.50	9.03	8.70	82.0	0.78	26.3	6.0	2.6	3		
20.0	180M	2890	38.8	36.9	35.5	89.0	0.88	66.1	7.0	2.5	2.7	0.118	152
5.5		1455	12.8	12.1	11.7	84.0	0.78	36.1	6.5	2.7	3.3		
25.0	180L	2910	48.0	45.6	43.9	90.0	0.88	82.0	5.9	1.5	2.3	0.133	172
6.3		1465	14.4	13.7	13.2	85.0	0.78	41.1	6.1	2.4	2.8		
33.0	200L	2930	62.6	59.5	57.3	90.0	0.89	108	6.6	1.8	2.4	0.205	219
8.5		1465	19.4	18.4	17.7	86.0	0.78	55.4	6.3	2.5	2.8		
37	225S	2930	69.8	66.3	63.9	90.5	0.89	121	6.6	2.3	2.9	0.56	274
9		1465	19.5	18.5	17.9	86.5	0.81	58.7	6.3	2.5	2.8		
46	225M	2940	84.0	79.8	76.9	92.5	0.90	149	7.0	2.1	2.6	0.651	311
12		1470	25.9	24.6	23.7	87.0	0.81	78.0	5.3	2.1	2.3		
55	250M	2950	99.3	94.3	90.9	93.5	0.90	178	7.1	2.0	2.5	1.051	388
15		1470	32.2	30.6	29.4	87.5	0.81	97.4	6.2	2.0	2.2		
75	280S	2955	134	127	123	94.5	0.90	242	7.4	2.0	2.6	1.571	476
20		1475	42.1	40.0	38.6	88.0	0.82	129	6.2	2.0	2.3		
90	280M	2955	161	153	147	94.5	0.90	291	7.7	2.2	3.0	1.813	510
24		1475	50.0	47.5	45.8	89.0	0.82	155	5.6	2.1	2.5		
110	315S	2965	197	187	180	94.5	0.90	354	7.3	2.0	2.6	3.247	930
27		1475	55.6	52.8	50.9	90.0	0.82	175	5.4	2.0	2.2		
132	315M	2965	236	224	216	94.5	0.90	425	8.9	2.3	3.1	3.527	1010
33		1480	67.2	63.8	61.5	91.0	0.82	213	5.5	2.0	2.2		
145	315L	2966	259	246	237	94.5	0.90	467	8.9	2.3	3.1	4.087	1070
37		1481	75.3	71.6	69.0	91.0	0.82	239	5.6	2.1	2.3		

Note: 1. The data above is based on 400V design, 380V and 415V data is the reference value.
2. Tolerance according to IEC60034-1; Current tolerance: ±3%
3. All technical details are subject to change without prior notice.

SMOKE EXTRACTION MOTORS

DUAL-SPEED MOTORS (300°C / 2 hours or 400°C / 2 hours)

4/8 Pole – 1500/750RPM/50Hz – YY/Y Connection – Dahlander Winding

Output	IEC Frame	Rated Speed (RPM)	Full Load Current I_N (A)			Full Load Efficiency η (%)	Full Load Power Factor Cos φ	Full Load Torque T_N (Nm)	Locked Rotor Current I_{LR}/I_n	Locked Rotor Torque T_{LR}/T_N	Break Down Torque T_M/T_N	Moment of Inertia (kgm²)	Weight (kg)
kW			380V	400V	415V								
0.60	80	1350	1.69	1.61	1.55	69.0	0.78	4.24	3.8	2.0	2.0	0.0024	14.5
0.15		710	1.20	1.14	1.10	38.0	0.50	2.02	2.4	1.4	1.4		
0.8	80	1350	2.20	2.09	2.01	70.0	0.79	5.66	3.8	2.0	2.0	0.0026	15.8
0.2		710	1.48	1.41	1.36	38.0	0.54	2.69	2.4	1.4	1.4		
1.2	90S	1350	2.92	2.78	2.68	78.0	0.80	8.49	4.2	1.8	2.3	0.004	19.3
0.3		710	1.61	1.53	1.47	45.0	0.63	4.03	2.4	1.2	1.9		
1.6	90L	1390	3.85	3.66	3.52	78.0	0.81	11.0	4.5	2.2	2.6	0.0056	22.5
0.4		700	1.99	1.89	1.82	51.0	0.60	5.46	2.2	1.5	2.1		
2.20	100L	1390	5.29	5.03	4.84	78.0	0.81	15.1	4.6	1.8	2.4	0.01	30.5
0.55		700	2.40	2.28	2.20	57.0	0.61	7.50	2.7	1.2	1.9		
2.8	100L	1430	6.65	6.32	6.09	79.0	0.81	18.7	4.6	1.8	2.4	0.0121	34.3
0.7		720	2.68	2.55	2.46	61.0	0.65	9.28	2.7	1.2	1.9		
3.8	112M	1430	8.59	8.16	7.86	82.0	0.82	25.4	4.6	1.8	2.4	0.016	42.6
1.0		720	3.54	3.36	3.24	66.0	0.65	13.3	2.7	1.2	1.9		
5.0	132S	1430	11.0	10.5	10.1	83.0	0.83	33.4	6.8	1.6	2.5	0.037	55.5
1.3		720	4.15	3.94	3.80	68.0	0.70	17.2	4.4	1.7	2.7		
7.2	132M	1430	15.7	14.9	14.4	84.0	0.83	48.1	7.6	2.0	2.8	0.047	66.8
1.8		720	5.68	5.39	5.20	73.0	0.66	23.9	3.6	1.4	2.7		
11	160M	1460	22.3	21.2	20.5	88.0	0.85	71.9	6.9	2.0	2.7	0.116	104
3		730	8.34	7.92	7.63	77.0	0.71	39.2	3.7	1.4	2.3		
14.0	160L	1460	28.4	27.0	26.0	88.0	0.85	91.6	6.9	2.2	2.7	0.151	125
3.5		730	9.59	9.11	8.78	77.0	0.72	45.8	3.9	1.5	2.3		
17.0	180M	1460	35.3	33.6	32.4	87.0	0.84	111	7.6	2.0	2.8	0.223	152
4.3		730	11.8	11.2	10.8	78.0	0.71	56.2	3.6	1.4	2.7		
20	180L	1460	39.9	38.0	36.6	89.5	0.85	131	6.9	2.0	2.7	0.267	172
5		735	13.2	12.6	12.1	81.0	0.71	65.0	3.7	1.4	2.3		
28.0	200L	1460	55.9	53.1	51.2	89.5	0.85	183	6.9	2.2	2.4	0.421	219
6.5		735	18.5	17.6	17.0	82.0	0.65	84.4	4.2	1.9	1.9		
30	200L	1460	58.9	56.0	54.0	91.0	0.85	196	7.8	2.2	2.7	0.464	219
8		735	22.5	21.4	20.6	83.0	0.65	104	4.2	1.5	2.3		
37.0	225S	1470	74.4	70.6	68.1	90.0	0.84	240	7.8	2.5	3.0	0.687	274
9.2		735	22.0	20.9	20.1	83.8	0.76	120	5.0	2.2	2.3		
44	225M	1470	86.5	82.2	79.2	92.0	0.84	286	7.8	2.5	3.0	0.725	311
11		735	25.9	24.6	23.7	85.0	0.76	143	5.0	2.2	2.3		
55.0	250M	1470	105	99.7	96.1	91.5	0.87	357	7.9	2.6	2.7	0.95	388
14.7		735	34.8	33.1	31.9	85.5	0.75	191	4.7	2.1	2.0		
68	280S	1470	128	122	117	91.5	0.88	442	7.0	2.0	2.3	1.92	476
17		735	38.7	36.8	35.4	86.7	0.77	221	4.5	1.7	1.9		
80	280M	1470	150	143	137	92.0	0.88	520	7.0	2.0	2.6	2.411	510
20		735	48.6	46.2	44.5	88.0	0.71	260	4.2	1.7	2.3		
110	315S	1475	204	194	187	93.0	0.88	712	7.0	2.0	2.6	5.607	930
27		735	65.9	62.6	60.3	89.0	0.70	351	4.2	1.7	2.3		
130	315M	1475	241	229	221	93.0	0.88	842	7.0	2.2	2.4	6.64	1070
33		735	80.5	76.5	73.7	89.0	0.70	429	4.2	1.9	1.9		
160	315L	1475	297	282	272	93.0	0.88	1036	7.5	2.6	2.5	7.332	1170
40		735	97.6	92.7	89.3	89.0	0.70	520	5.0	1.9	1.8		

Note: 1. The data above is based on 400V design, 380V and 415V data is the reference value.
2. Tolerance according to IEC60034-1; Current tolerance: ±3%
3. All technical details are subject to change without prior notice.

SMOKE EXTRACTION MOTORS

DUAL-SPEED MOTORS (300°C / 2 hours or 400°C / 2 hours)

4/6 Pole –1500/1000RPM/50Hz – Y/Y Connection – Separate Winding

Output	IEC Frame	Rated Speed (RPM)	Full Load Current I_N (A)			Full Load Efficiency η (%)	Full Load Power Factor Cos φ	Full Load Torque T_N (Nm)	Locked Rotor Current I_{LR}/I_n	Locked Rotor Torque T_{LR}/T_N	Break Down Torque T_M/T_N	Moment of Inertia (kgm²)	Weight (kg)
kW			380V	400V	415V								
0.55	80	1350	1.51	1.44	1.38	70.0	0.79	3.89	2.9	1.4	1.4	0.0016	14.5
0.20		930	1.03	0.98	0.94	50.0	0.59	2.05	3.1	1.5	1.5		
0.75	80	1350	2.02	1.92	1.85	72.0	0.79	5.31	2.9	1.4	1.4	0.0019	15.8
0.25		930	1.08	1.03	0.99	55.0	0.64	2.57	3.1	1.5	1.5		
1.1	90S	1350	2.80	2.66	2.57	74.5	0.80	7.78	4.2	1.8	2.2	0.0029	19.3
0.3		940	1.23	1.17	1.13	57.0	0.65	3.05	2.6	1.0	1.7		
1.50	90L	1390	3.70	3.51	3.39	77.0	0.80	10.3	4.2	1.8	2.2	0.0034	22.5
0.37		960	1.40	1.33	1.28	70.0	0.67	3.68	2.6	1.0	1.7		
1.7	100L	1390	4.09	3.89	3.75	77.0	0.82	11.7	5.6	1.8	2.2	0.0085	30.5
0.6		960	2.00	1.90	1.83	67.0	0.68	5.97	3.5	1.0	1.7		
2.2	100L	1390	5.16	4.90	4.72	79.0	0.82	15.1	5.6	1.8	2.2	0.0133	30.5
0.7		960	2.33	2.22	2.14	67.0	0.68	6.96	3.5	1.0	1.7		
3	112M	1430	7.04	6.68	6.44	79.0	0.82	20.0	6.0	1.3	2.3	0.014	42.6
1		960	3.06	2.90	2.80	71.0	0.70	9.95	4.0	1.0	2.2		
4.5	132S	1430	9.69	9.21	8.87	84.0	0.84	30.0	6.5	1.5	2.3	0.032	55.5
1.5		975	4.05	3.85	3.71	76.0	0.74	14.7	4.2	1.0	2.2		
6.0	132M	1460	12.7	12.1	11.6	84.5	0.85	39.2	7.1	1.8	2.5	0.04	66.8
2.2		960	6.04	5.73	5.53	78.0	0.71	21.9	4.5	1.3	2.0		
5.5	160M	1460	11.6	11.1	10.7	84.5	0.85	36.0	6.4	1.8	2.5	0.101	104
2.5		960	6.86	6.52	6.28	78.0	0.71	24.9	4.1	1.3	2.0		
10.0	160M	1460	20.4	19.4	18.7	86.5	0.86	65.4	6.4	2.0	2.5	0.121	104
3.3		965	8.53	8.10	7.81	80.0	0.74	32.7	4.1	1.3	1.7		
7.5	160M	1460	15.1	14.4	13.9	86.5	0.87	49.1	6.4	2.0	2.5	0.101	104
3.5		965	8.75	8.31	8.01	80.0	0.76	34.6	4.1	1.3	1.7		
14.0	160L	1460	28.1	26.7	25.7	87.0	0.87	91.6	6.9	2.2	2.6	0.127	125
4.5		965	11.0	10.4	10.1	82.0	0.76	44.5	4.6	1.5	1.9		
11	180M	1470	22.1	21.0	20.2	87.0	0.87	71.5	6.3	2.2	2.6	0.177	152
5		980	12.2	11.6	11.2	82.0	0.76	48.7	4.6	1.5	1.9		
16.0	180M	1470	31.9	30.3	29.2	87.5	0.87	104	6.3	2.2	2.6	0.181	152
6.5		980	15.4	14.6	14.1	84.5	0.76	63.3	4.6	1.5	1.9		
20.0	180L	1470	38.6	36.7	35.3	89.5	0.88	130	7.2	2.4	2.7	0.192	172
8.5		980	19.2	18.3	17.6	85.0	0.79	82.8	5.0	1.8	2.0		
26	200L	1470	50.5	47.9	46.2	90.0	0.87	169	7.7	1.6	2.7	0.33	219
9		980	20.4	19.4	18.7	85.0	0.79	87.7	7.8	1.7	2.9		
34	225M	1470	66.7	63.4	61.1	90.0	0.86	221	7.7	1.7	2.8	0.563	274
12		980	28.3	26.9	25.9	87.0	0.74	117	6.8	1.4	2.9		
40	225M	1475	77.7	73.8	71.1	91.0	0.86	259	7.7	1.7	2.8	0.652	311
14		985	32.9	31.3	30.2	88.5	0.73	136	6.8	1.4	2.9		
50	250M	1475	93.3	88.6	85.4	91.5	0.89	324	7.5	1.6	2.8	1.051	388
18		985	36.2	34.4	33.2	88.8	0.85	174	7.3	1.9	2.9		
70	280M	1475	130	123	119	92.0	0.89	453	7.7	1.5	2.7	1.654	476
25		985	54.6	51.9	50.0	90.3	0.77	242	6.7	1.3	2.3		
80	280M	1475	155	148	142	92.0	0.85	518	7.7	1.5	2.7	1.812	510
28		985	59.2	56.2	54.2	89.9	0.80	271	6.7	1.3	2.3		
95	315M	1475	183	173	167	92.5	0.86	615	8.4	1.7	3.0	3.247	930
34		985	68.1	64.7	62.4	90.3	0.84	330	6.8	1.4	2.3		
115	315M	1475	222	211	204	93.0	0.85	744	8.4	1.7	3.0	3.527	1010
40		985	80.0	76.0	73.2	90.5	0.84	388	6.8	1.4	2.3		
125	315L	1475	239	227	219	93.0	0.86	809	8.4	1.7	3.0	4.087	1070
45		985	89.5	85.0	81.9	91.0	0.84	436	6.8	1.4	2.3		
145	315L	1475	266	253	244	93.0	0.89	939	8.4	1.7	3.0	4.927	1170
55		985	108	103	99.6	91.5	0.84	533	6.8	1.4	2.3		

Note: 1. The data above is based on 400V design, 380V and 415V data is the reference value.
2. Tolerance according to IEC60034-1; Current tolerance: ±3%
3. All technical details are subject to change without prior notice.

SMOKE EXTRACTION MOTORS

DUAL-SPEED MOTORS (300°C / 2 hours or 400°C / 2 hours)

2/4 Pole – 3600/1800RPM/60Hz – YY/Y Connection – Dahlander Winding

Output	IEC Frame	Rated Speed (RPM)	Full Load Current I_N (A)			Full Load Efficiency η (%)	Full Load Power Factor Cos φ	Full Load Torque T_N (Nm)	Locked Rotor Current I_{LR}/I_n	Locked Rotor Torque T_{LR}/T_N	Break Down Torque T_M/T_N	Moment of Inertia (kgm²)	Weight (kg)
kW			380V	400V	415V								
0.8	80	3300	2.17	2.06	1.99	70.0	0.80	2.31	3.3	1.8	1.4	0.001	14.5
0.2		1620	0.97	0.92	0.88	57.2	0.55	1.18	4.3	2.1	1.9		
1.10	80	3420	2.62	2.49	2.40	75.0	0.85	3.07	4.1	1.5	2.2	0.0011	16.0
0.25		1728	1.01	0.96	0.93	56.0	0.67	1.38	3.5	2.3	1.6		
1.50	90S	3420	3.61	3.43	3.31	77.0	0.82	4.19	5.0	2.1	2.2	0.0023	19.3
0.37		1728	1.40	1.33	1.28	66.0	0.61	2.04	4.1	2.3	1.6		
2.2	90L	3432	4.92	4.67	4.50	80.0	0.85	6.12	5.3	2.3	2.0	0.003	22.8
0.5		1752	1.75	1.66	1.60	68.0	0.64	2.73	4.2	2.5	1.4		
2.50	100L	3432	5.55	5.27	5.08	80.5	0.85	6.96	5.4	2.3	2.3	0.006	32.7
0.65		1752	2.14	2.03	1.96	71.0	0.65	3.54	4.4	2.4	1.9		
3.1	100L	3450	6.68	6.35	6.12	81.0	0.87	8.58	5.9	2.1	2.6	0.007	33
0.8		1740	2.60	2.47	2.38	72.0	0.65	4.39	4.4	1.2	2.1		
4.4	112M	3450	9.26	8.80	8.48	83.0	0.87	12.2	6.3	2.2	2.8	0.0075	38.8
1.1		1740	3.18	3.02	2.91	75.0	0.70	6.04	4.8	1.4	2.8		
6.0	132S	3450	12.6	11.9	11.5	83.5	0.87	16.6	6.3	2.2	2.8	0.017	53.4
1.5		1740	4.28	4.07	3.92	76.0	0.70	8.23	4.8	1.4	2.8		
8	132M	3450	17.0	16.2	15.6	84.0	0.85	22.1	6.3	2.2	2.8	0.018	66.8
2		1740	5.64	5.36	5.16	77.0	0.70	11.0	4.8	1.4	2.8		
12	160M	3456	23.8	22.6	21.8	86.0	0.89	33.2	7.0	1.9	2.3	0.06	109
3		1746	7.60	7.22	6.96	80.0	0.75	16.4	6.0	1.9	2.8		
16	160L	3456	31.4	29.8	28.8	87.0	0.89	44.2	7.0	2.0	2.6	0.078	125
4		1746	9.50	9.03	8.70	82.0	0.78	21.9	6.0	2.6	3		
20.0	180M	3468	38.8	36.9	35.5	89.0	0.88	55.1	7.0	2.5	2.7	0.118	152
5.5		1746	12.8	12.1	11.7	84.0	0.78	30.1	6.5	2.7	3.3		
25.0	180L	3492	48.0	45.6	43.9	90.0	0.88	68.4	5.9	1.5	2.3	0.133	172
6.3		1758	14.4	13.7	13.2	85.0	0.78	34.2	6.1	2.4	2.8		
33.0	200L	3516	62.6	59.5	57.3	90.0	0.89	89.6	6.6	1.8	2.4	0.205	219
8.5		1758	19.4	18.4	17.7	86.0	0.78	46.2	6.3	2.5	2.8		
37	225S	3516	69.8	66.3	63.9	90.5	0.89	100	6.6	2.3	2.9	0.56	274
9		1758	19.5	18.5	17.9	86.5	0.81	48.9	6.3	2.5	2.8		
46	225M	3528	84.0	79.8	76.9	92.5	0.90	125	7.0	2.1	2.6	0.651	311
12		1764	25.9	24.6	23.7	87.0	0.81	65.0	5.3	2.1	2.3		
55	250M	3540	99.3	94.3	90.9	93.5	0.90	148	7.1	2.0	2.5	1.051	388
15		1764	32.2	30.6	29.4	87.5	0.81	81.2	6.2	2.0	2.2		
75	280S	3546	134	127	123	94.5	0.90	202	7.4	2.0	2.6	1.571	476
20		1770	42.1	40.0	38.6	88.0	0.82	108	6.2	2.0	2.3		
90	280M	3546	161	153	147	94.5	0.90	242	7.7	2.2	3.0	1.813	510
24		1770	50.0	47.5	45.8	89.0	0.82	129	5.6	2.1	2.5		
110	315S	3558	197	187	180	94.5	0.90	295	7.3	2.0	2.6	3.247	930
27		1770	55.6	52.8	50.9	90.0	0.82	146	5.4	2.0	2.2		
132	315M	3558	236	224	216	94.5	0.90	354	8.9	2.3	3.1	3.527	1010
33		1776	67.2	63.8	61.5	91.0	0.82	177	5.5	2.0	2.2		
145	315L	3559	259	246	237	94.5	0.90	389	8.9	2.3	3.1	4.087	1070
37		1777	75.3	71.6	69.0	91.0	0.82	199	5.6	2.1	2.3		

Note: 1. The data above is based on 400V design, 380V and 415V data is the reference value.
2. Tolerance according to IEC60034-1; Current tolerance: ±3%
3. All technical details are subject to change without prior notice.

SMOKE EXTRACTION MOTORS

DUAL-SPEED MOTORS (300°C / 2 hours or 400°C / 2 hours)

4/8 Pole – 1800/900RPM/60Hz – YY/Y Connection – Dahlander Winding

Output	IEC Frame	Rated Speed (RPM)	Full Load Current I_N (A)			Full Load Efficiency η (%)	Full Load Power Factor Cos φ	Full Load Torque T_N (Nm)	Locked Rotor Current I_{LR}/I_n	Locked Rotor Torque T_{LR}/T_N	Break Down Torque T_M/T_N	Moment of Inertia (kgm²)	Weight (kg)
kW			380V	400V	415V								
0.60	80	1620	1.69	1.61	1.55	69.0	0.78	3.54	3.8	2.0	2.0	0.0024	14.5
0.15		852	1.20	1.14	1.10	38.0	0.50	1.68	2.4	1.4	1.4		
0.8	80	1620	2.20	2.09	2.01	70.0	0.79	4.72	3.8	2.0	2.0	0.0026	15.8
0.2		852	1.48	1.41	1.36	38.0	0.54	2.24	2.4	1.4	1.4		
1.2	90S	1620	2.92	2.78	2.68	78.0	0.80	7.07	4.2	1.8	2.3	0.004	19.3
0.3		852	1.61	1.53	1.47	45.0	0.63	3.36	2.4	1.2	1.9		
1.6	90L	1668	3.85	3.66	3.52	78.0	0.81	9.16	4.5	2.2	2.6	0.0056	22.5
0.4		840	1.99	1.89	1.82	51.0	0.60	4.55	2.2	1.5	2.1		
2.20	100L	1668	5.29	5.03	4.84	78.0	0.81	12.6	4.6	1.8	2.4	0.01	30.5
0.55		840	2.40	2.28	2.20	57.0	0.61	6.25	2.7	1.2	1.9		
2.8	100L	1716	6.65	6.32	6.09	79.0	0.81	15.6	4.6	1.8	2.4	0.0121	34.3
0.7		864	2.68	2.55	2.46	61.0	0.65	7.74	2.7	1.2	1.9		
3.8	112M	1716	8.59	8.16	7.86	82.0	0.82	21.1	4.6	1.8	2.4	0.016	42.6
1.0		864	3.54	3.36	3.24	66.0	0.65	11.1	2.7	1.2	1.9		
5.0	132S	1716	11.0	10.5	10.1	83.0	0.83	27.8	6.8	1.6	2.5	0.037	55.5
1.3		864	4.15	3.94	3.80	68.0	0.70	14.4	4.4	1.7	2.7		
7.2	132M	1716	15.7	14.9	14.4	84.0	0.83	40.1	7.6	2.0	2.8	0.047	66.8
1.8		864	5.68	5.39	5.20	73.0	0.66	19.9	3.6	1.4	2.7		
11	160M	1752	22.3	21.2	20.5	88.0	0.85	60.0	6.9	2.0	2.7	0.116	104
3		876	8.34	7.92	7.63	77.0	0.71	32.7	3.7	1.4	2.3		
14.0	160L	1752	28.4	27.0	26.0	88.0	0.85	76.3	6.9	2.2	2.7	0.151	125
3.5		876	9.59	9.11	8.78	77.0	0.72	38.2	3.9	1.5	2.3		
17.0	180M	1752	35.3	33.6	32.4	87.0	0.84	92.7	7.6	2.0	2.8	0.223	152
4.3		876	11.8	11.2	10.8	78.0	0.71	46.9	3.6	1.4	2.7		
20	180L	1752	39.9	38.0	36.6	89.5	0.85	109	6.9	2.0	2.7	0.267	172
5		882	13.2	12.6	12.1	81.0	0.71	54.1	3.7	1.4	2.3		
28.0	200L	1752	55.9	53.1	51.2	89.5	0.85	153	6.9	2.2	2.4	0.421	219
6.5		882	18.5	17.6	17.0	82.0	0.65	70.4	4.2	1.9	1.9		
30	200L	1752	58.9	56.0	54.0	91.0	0.85	164	7.8	2.2	2.7	0.464	219
8		882	22.5	21.4	20.6	83.0	0.65	86.6	4.2	1.5	2.3		
37.0	225S	1764	74.4	70.6	68.1	90.0	0.84	200	7.8	2.5	3.0	0.687	274
9.2		882	22.0	20.9	20.1	83.8	0.76	99.6	5.0	2.2	2.3		
44	225M	1764	86.5	82.2	79.2	92.0	0.84	238	7.8	2.5	3.0	0.725	311
11		882	25.9	24.6	23.7	85.0	0.76	119	5.0	2.2	2.3		
55.0	250M	1764	105	99.7	96.1	91.5	0.87	298	7.9	2.6	2.7	0.95	388
14.7		882	34.8	33.1	31.9	85.5	0.75	159	4.7	2.1	2.0		
68	280S	1764	128	122	117	91.5	0.88	368	7.0	2.0	2.3	1.92	476
17		882	38.7	36.8	35.4	86.7	0.77	184	4.5	1.7	1.9		
80	280M	1764	150	143	137	92.0	0.88	433	7.0	2.0	2.6	2.411	510
20		882	48.6	46.2	44.5	88.0	0.71	217	4.2	1.7	2.3		
110	315S	1770	204	194	187	93.0	0.88	593	7.0	2.0	2.6	5.607	930
27		882	65.9	62.6	60.3	89.0	0.70	292	4.2	1.7	2.3		
130	315M	1770	241	229	221	93.0	0.88	701	7.0	2.2	2.4	6.64	1070
33		882	80.5	76.5	73.7	89.0	0.70	357	4.2	1.9	1.9		
160	315L	1770	297	282	272	93.0	0.88	863	7.5	2.6	2.5	7.332	1170
40		882	97.6	92.7	89.3	89.0	0.70	433	5.0	1.9	1.8		

Note: 1. The data above is based on 400V design, 380V and 415V data is the reference value.
2. Tolerance according to IEC60034-1; Current tolerance: ±3%
3. All technical details are subject to change without prior notice.

SMOKE EXTRACTION MOTORS

DUAL-SPEED MOTORS (300°C / 2 hours or 400°C / 2 hours)

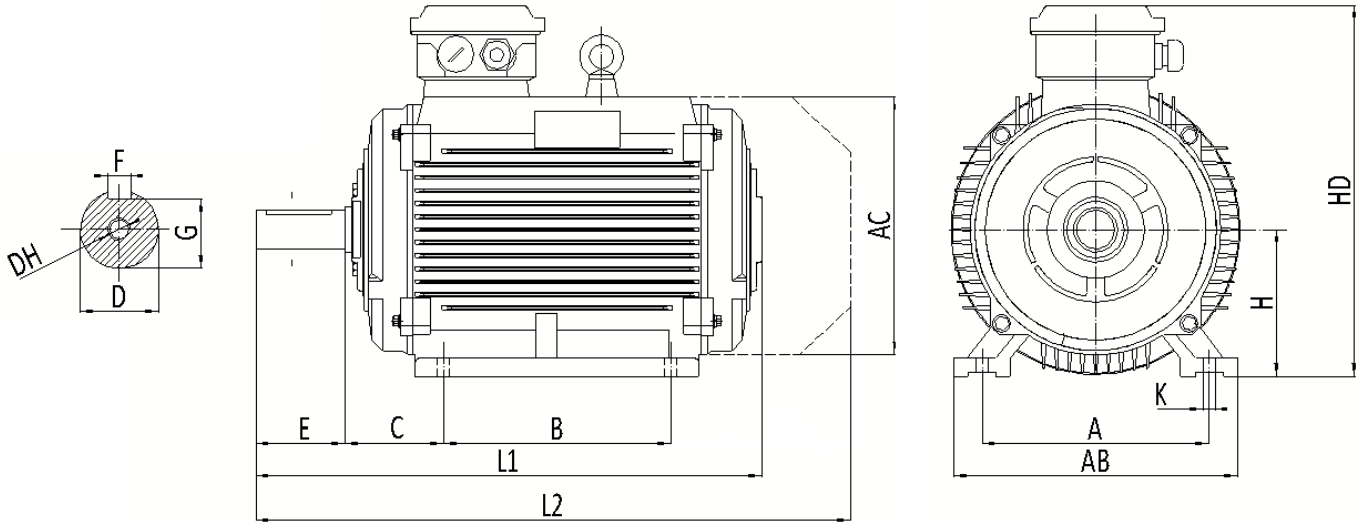
4/6 Pole –1800/1200RPM/60Hz – Y/Y Connection – Separate Winding

Output	IEC Frame	Rated Speed (RPM)	Full Load Current I_N (A)			Full Load Efficiency η (%)	Full Load Power Factor Cos φ	Full Load Torque T_N (Nm)	Locked Rotor Current I_{LR}/I_n	Locked Rotor Torque T_{LR}/T_N	Break Down Torque T_M/T_N	Moment of Inertia (kgm²)	Weight (kg)
kW			380V	400V	415V								
0.55	80	1620	1.51	1.44	1.38	70.0	0.79	3.24	2.9	1.4	1.4	0.0016	14.5
0.20		1116	1.03	0.98	0.94	50.0	0.59	1.71	3.1	1.5	1.5		
0.75	80	1620	2.02	1.92	1.85	72.0	0.79	4.42	2.9	1.4	1.4	0.0019	15.8
0.25		1116	1.08	1.03	0.99	55.0	0.64	2.14	3.1	1.5	1.5		
1.1	90S	1620	2.80	2.66	2.57	74.5	0.80	6.48	4.2	1.8	2.2	0.0029	19.3
0.3		1128	1.23	1.17	1.13	57.0	0.65	2.54	2.6	1.0	1.7		
1.50	90L	1668	3.70	3.51	3.39	77.0	0.80	8.59	4.2	1.8	2.2	0.0034	22.5
0.37		1152	1.40	1.33	1.28	70.0	0.67	3.07	2.6	1.0	1.7		
1.7	100L	1668	4.09	3.89	3.75	77.0	0.82	9.73	5.6	1.8	2.2	0.0085	30.5
0.6		1152	2.00	1.90	1.83	67.0	0.68	4.97	3.5	1.0	1.7		
2.2	100L	1668	5.16	4.90	4.72	79.0	0.82	12.6	5.6	1.8	2.2	0.0133	30.5
0.7		1152	2.33	2.22	2.14	67.0	0.68	5.80	3.5	1.0	1.7		
3	112M	1716	7.04	6.68	6.44	79.0	0.82	16.7	6.0	1.3	2.3	0.014	42.6
1		1152	3.06	2.90	2.80	71.0	0.70	8.29	4.0	1.0	2.2		
4.5	132S	1716	9.69	9.21	8.87	84.0	0.84	25.0	6.5	1.5	2.3	0.032	55.5
1.5		1170	4.05	3.85	3.71	76.0	0.74	12.2	4.2	1.0	2.2		
6.0	132M	1752	12.7	12.1	11.6	84.5	0.85	32.7	7.1	1.8	2.5	0.04	66.8
2.2		1152	6.04	5.73	5.53	78.0	0.71	18.2	4.5	1.3	2.0		
5.5	160M	1752	11.6	11.1	10.7	84.5	0.85	30.0	6.4	1.8	2.5	0.101	104
2.5		1152	6.86	6.52	6.28	78.0	0.71	20.7	4.1	1.3	2.0		
10.0	160M	1752	20.4	19.4	18.7	86.5	0.86	54.5	6.4	2.0	2.5	0.121	104
3.3		1158	8.53	8.10	7.81	80.0	0.74	27.2	4.1	1.3	1.7		
7.5	160M	1752	15.1	14.4	13.9	86.5	0.87	40.9	6.4	2.0	2.5	0.101	104
3.5		1158	8.75	8.31	8.01	80.0	0.76	28.9	4.1	1.3	1.7		
14.0	160L	1752	28.1	26.7	25.7	87.0	0.87	76.3	6.9	2.2	2.6	0.127	125
4.5		1158	11.0	10.4	10.1	82.0	0.76	37.1	4.6	1.5	1.9		
11	180M	1764	22.1	21.0	20.2	87.0	0.87	59.5	6.3	2.2	2.6	0.177	152
5		1176	12.2	11.6	11.2	82.0	0.76	40.6	4.6	1.5	1.9		
16.0	180M	1764	31.9	30.3	29.2	87.5	0.87	86.6	6.3	2.2	2.6	0.181	152
6.5		1176	15.4	14.6	14.1	84.5	0.76	52.8	4.6	1.5	1.9		
20.0	180L	1764	38.6	36.7	35.3	89.5	0.88	108	7.2	2.4	2.7	0.192	172
8.5		1176	19.2	18.3	17.6	85.0	0.79	69.0	5.0	1.8	2.0		
26	200L	1764	50.5	47.9	46.2	90.0	0.87	141	7.7	1.6	2.7	0.33	219
9		1176	20.4	19.4	18.7	85.0	0.79	73.1	7.8	1.7	2.9		
34	225M	1764	66.7	63.4	61.1	90.0	0.86	184	7.7	1.7	2.8	0.563	274
12		1176	28.3	26.9	25.9	87.0	0.74	97.4	6.8	1.4	2.9		
40	225M	1770	77.7	73.8	71.1	91.0	0.86	216	7.7	1.7	2.8	0.652	311
14		1182	32.9	31.3	30.2	88.5	0.73	113	6.8	1.4	2.9		
50	250M	1770	93.3	88.6	85.4	91.5	0.89	270	7.5	1.6	2.8	1.051	388
18		1182	36.2	34.4	33.2	88.8	0.85	145	7.3	1.9	2.9		
70	280M	1770	130	123	119	92.0	0.89	378	7.7	1.5	2.7	1.654	476
25		1182	54.6	51.9	50.0	90.3	0.77	202	6.7	1.3	2.3		
80	280M	1770	155	148	142	92.0	0.85	432	7.7	1.5	2.7	1.812	510
28		1182	59.2	56.2	54.2	89.9	0.80	226	6.7	1.3	2.3		
95	315M	1770	183	173	167	92.5	0.86	513	8.4	1.7	3.0	3.247	930
34		1182	68.1	64.7	62.4	90.3	0.84	275	6.8	1.4	2.3		
115	315M	1770	222	211	204	93.0	0.85	620	8.4	1.7	3.0	3.527	1010
40		1182	80.0	76.0	73.2	90.5	0.84	323	6.8	1.4	2.3		
125	315L	1770	239	227	219	93.0	0.86	674	8.4	1.7	3.0	4.087	1070
45		1182	89.5	85.0	81.9	91.0	0.84	364	6.8	1.4	2.3		
145	315L	1770	266	253	244	93.0	0.89	782	8.4	1.7	3.0	4.927	1170
55		1182	108	103	99.6	91.5	0.84	444	6.8	1.4	2.3		

Note: 1. The data above is based on 400V design, 380V and 415V data is the reference value.
2. Tolerance according to IEC60034-1; Current tolerance: ±3%
3. All technical details are subject to change without prior notice.

SMOKE EXTRACTION MOTORS

DUAL SPEED B3 MOUNTING – MECHANICAL DATA

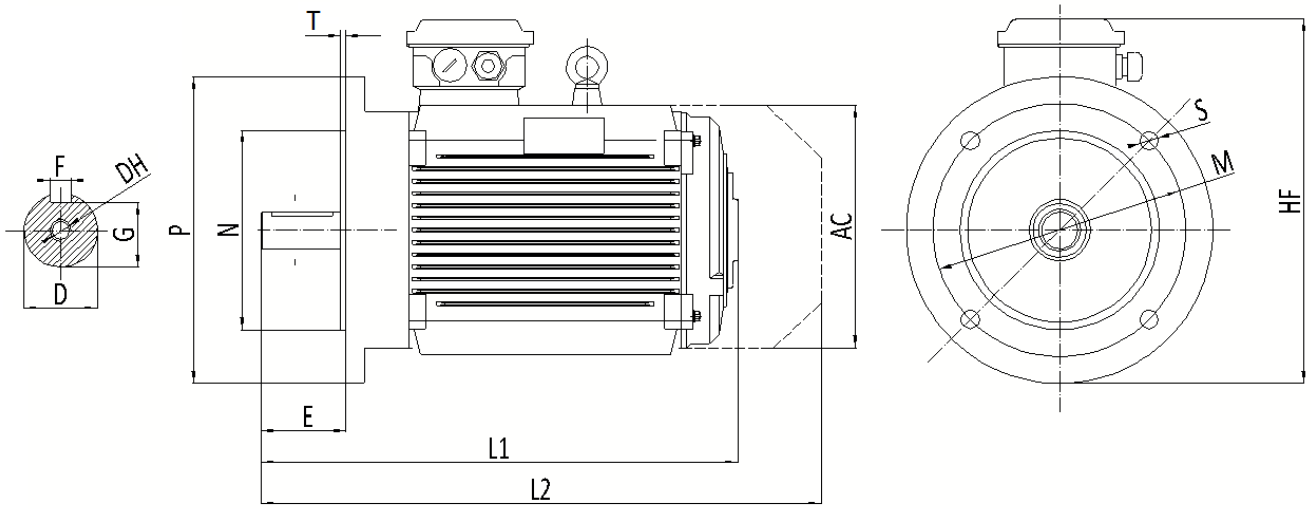


Frame Size	Mounting Dimensions (mm)										Overall Dimensions (mm)				
	A	B	C	D	E	F	G	H	K	DH	AB	AC	HD	L1	L2
71	112	90	45	14	30	5	11	71	7	M5X13	136	139	197	208	247
80	125	100	50	19	40	6	15.5	80	10	M6X16	165	168	225	244	280
90S	140	100	56	24	50	8	20	90	10	M8X20	180	193	248	262	316
90L	140	125	56	24	50	8	20	90	10	M8X20	180	193	248	286	340
100L	160	140	63	28	60	8	24	100	12	M8X20	205	217	270	325	372
112M	190	140	70	28	60	8	24	112	12	M10X25	230	217	292	336	400
132S	216	140	89	38	80	10	33	132	12	M12X30	270	258	331	367	441
132M	216	178	89	38	80	10	33	132	12	M12X30	270	258	331	405	475
160M	254	210	108	42	110	12	37	160	15	M16X36	320	330	414	532	610
160L	254	254	108	42	110	12	37	160	15	M16X36	320	330	414	576	655
180M	279	241	121	48	110	14	42.5	180	15	M16X36	355	380	447	584	690
180L	279	279	121	48	110	14	42.5	180	15	M16X36	355	380	447	622	730
200L	318	305	133	55	110	16	49	200	19	M20X40	395	420	505	668	760
225S	356	286	149	60	140	18	53	225	19	M20X40	435	470	545	703	810
225M	356	311	149	60	140	18	53	225	19	M20X40	435	470	545	728	835
250M	406	349	168	65	140	18	58	250	24	M20X40	490	510	615	805	910
280S	457	368	190	75	140	20	67.5	280	24	M20X40	550	580	665	850	985
280M	457	419	190	75	140	20	67.5	280	24	M20X40	550	580	665	901	1035
315S	508	406	216	80	170	22	71	315	28	M20X40	635	645	845	1058	1220
315M	508	457	216	80	170	22	71	315	28	M20X40	635	645	845	1168	1330
315L	508	508	216	80	170	22	71	315	28	M20X40	635	645	845	1168	1330

All technical details are subject to change without any prior notice.

SMOKE EXTRACTION MOTORS

DUAL SPEED B5 MOUNTING – MECHANICAL DATA



Frame Size	Mounting Dimensions (mm)											Overall Dimensions (mm)			
	E	F	G	H	K	M	N	P	S	T	DH	AC	HF	L1	L2
71	30	5	11	71	7	130	110	160	4-Φ10	3.5	M5X13	139	206	208	247
80	40	6	16	80	10	165	130	200	4-Φ12	3.5	M6X16	157	234	244	280
90S	50	8	20	90	10	165	130	200	4-Φ12	3.5	M8X20	176	243	262	316
90L	50	8	20	90	10	165	130	200	4-Φ12	3.5	M8X20	176	243	286	340
100L	60	8	24	100	12	215	180	250	4-Φ15	4	M8X20	196	285	325	372
112M	60	8	24	112	12	215	180	250	4-Φ15	4	M10X25	220	305	336	400
132S	80	10	33	132	12	265	230	300	4-Φ15	4	M12X30	258	349	367	441
132M	80	10	33	132	12	265	230	300	4-Φ15	4	M12X30	258	349	405	475
160M	110	12	37	160	15	300	250	350	4-Φ19	5	M16X36	330	429	532	610
160L	110	12	37	160	15	300	250	350	4-Φ19	5	M16X36	330	429	576	655
180M	110	14	43	180	15	300	250	350	4-Φ19	5	M16X36	380	442	584	690
180L	110	14	43	180	15	300	250	350	4-Φ19	5	M16X36	380	442	622	730
200L	110	16	49	200	19	350	300	400	4-Φ19	5	M20X40	420	505	668	760
225S	140	18	53	225	19	400	350	450	8-Φ19	5	M20X40	470	545	703	810
225M	140	18	53	225	19	400	350	450	8-Φ19	5	M20X40	470	545	728	835
250M	140	18	58	250	24	500	450	550	8-Φ19	5	M20X40	510	615	805	910
280S	140	20	68	280	24	500	450	550	8-Φ19	5	M20X40	510	615	850	985
280M	140	20	68	280	24	500	450	550	8-Φ19	5	M20X40	580	660	901	1035

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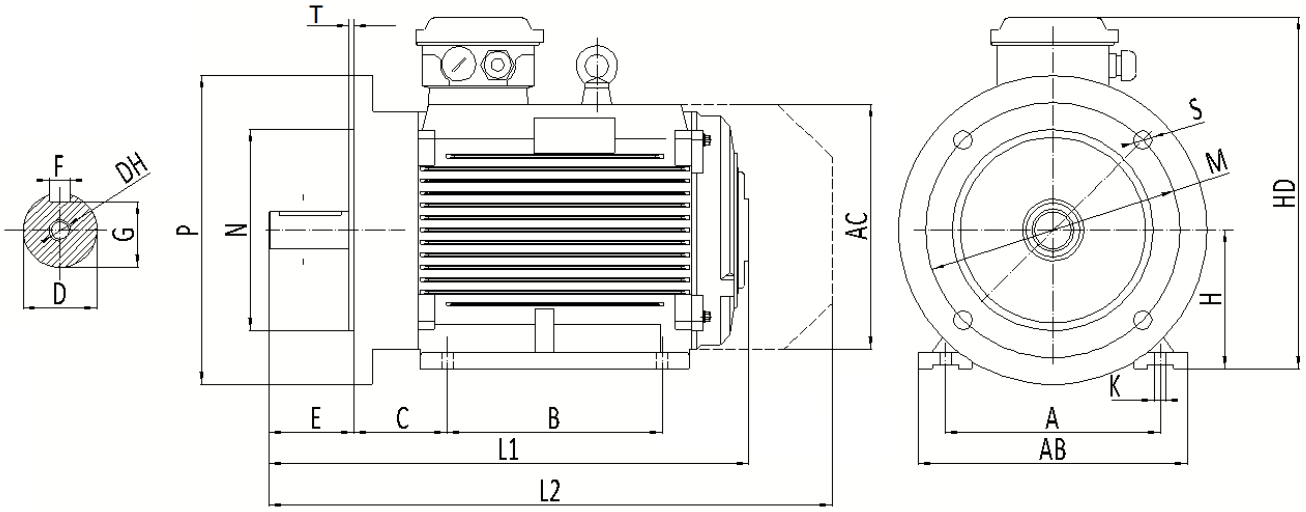
SMOKE EXTRACTION MOTORS

DUAL SPEED B35 MOUNTING – MECHANICAL DATA



Frame Size	Mounting Dimensions (mm)															Overall Dimensions (mm)				
	A	B	C	D	E	F	G	H	K	M	N	P	S	T	DH	AB	AC	HD	L1	L2
71	112	90	45	14	30	5	11	71	7	130	110	160	4-Φ10	3.5	M5X13	136	139	197	208	247
80	125	100	50	19	40	6	15.5	80	10	165	130	200	4-Φ12	3.5	M6X16	158	157	214	244	280
90S	140	100	56	24	50	8	20	90	10	165	130	200	4-Φ12	3.5	M8X20	180	176	233	262	316
90L	140	125	56	24	50	8	20	90	10	165	130	200	4-Φ12	3.5	M8X20	180	176	233	286	340
100L	160	140	63	28	60	8	24	100	12	215	180	250	4-Φ15	4	M8X20	198	196	260	325	372
112M	190	140	70	28	60	8	24	112	12	215	180	250	4-Φ15	4	M10X25	230	220	292	336	400
132S	216	140	89	38	80	10	33	132	12	265	230	300	4-Φ15	4	M12X30	262	258	331	367	441
132M	216	178	89	38	80	10	33	132	12	265	230	300	4-Φ15	4	M12X30	262	258	331	405	475
160M	254	210	108	42	110	12	37	160	15	300	250	350	4-Φ19	5	M16X36	313	330	414	532	610
160L	254	254	108	42	110	12	37	160	15	300	250	350	4-Φ19	5	M16X36	313	330	414	576	655
180M	279	241	121	48	110	14	42.5	180	15	300	250	350	4-Φ19	5	M16X36	345	380	447	584	690
180L	279	279	121	48	110	14	42.5	180	15	300	250	350	4-Φ19	5	M16X36	345	380	447	622	730
200L	318	305	133	55	110	16	49	200	19	350	300	400	4-Φ19	5	M20X40	386	420	505	668	760
225S	356	286	149	60	140	18	53	225	19	400	350	450	8-Φ19	5	M20X40	423	470	545	703	810
225M	356	311	149	60	140	18	53	225	19	400	350	450	8-Φ19	5	M20X40	423	470	545	728	835
250M	406	349	168	65	140	18	58	250	24	500	450	550	8-Φ19	5	M20X40	490	510	615	805	910
280S	457	368	190	75	140	20	67.5	280	24	500	450	550	8-Φ19	5	M20X40	532	580	670	850	985
280M	457	419	190	75	140	20	67.5	280	24	500	450	550	8-Φ19	5	M20X40	532	580	670	901	1035
315S	508	406	216	80	170	22	71	315	28	600	550	660	8-Φ24	6	M20X40	635	645	845	1058	1220
315M	508	457	216	80	170	22	71	315	28	600	550	660	8-Φ24	6	M20X40	635	645	845	1168	1330
315L	508	508	216	80	170	22	71	315	28	600	550	660	8-Φ24	6	M20X40	635	645	845	1168	1330

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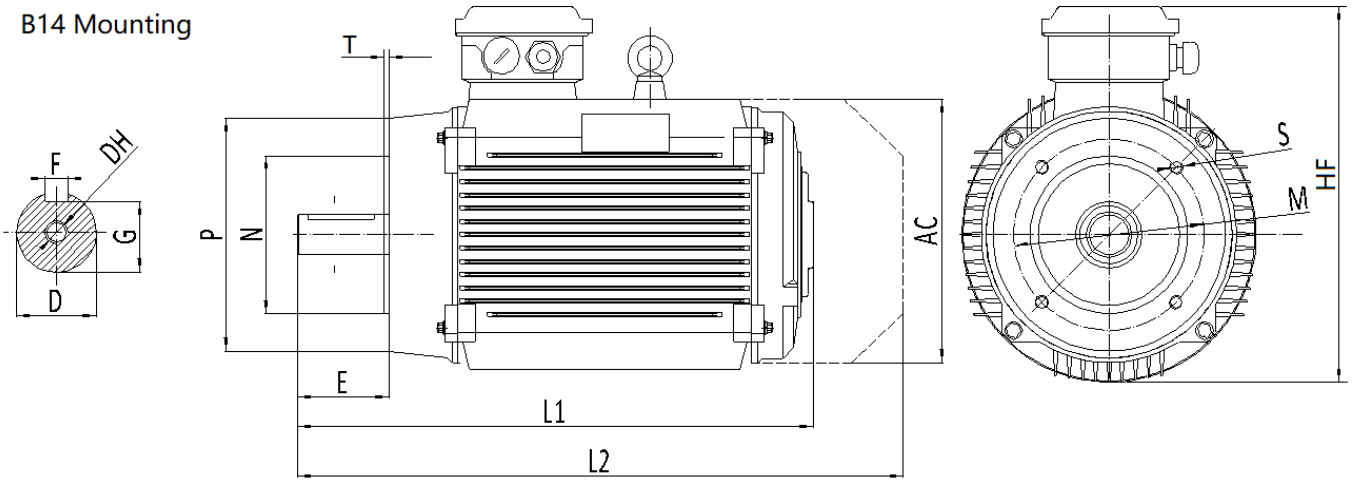
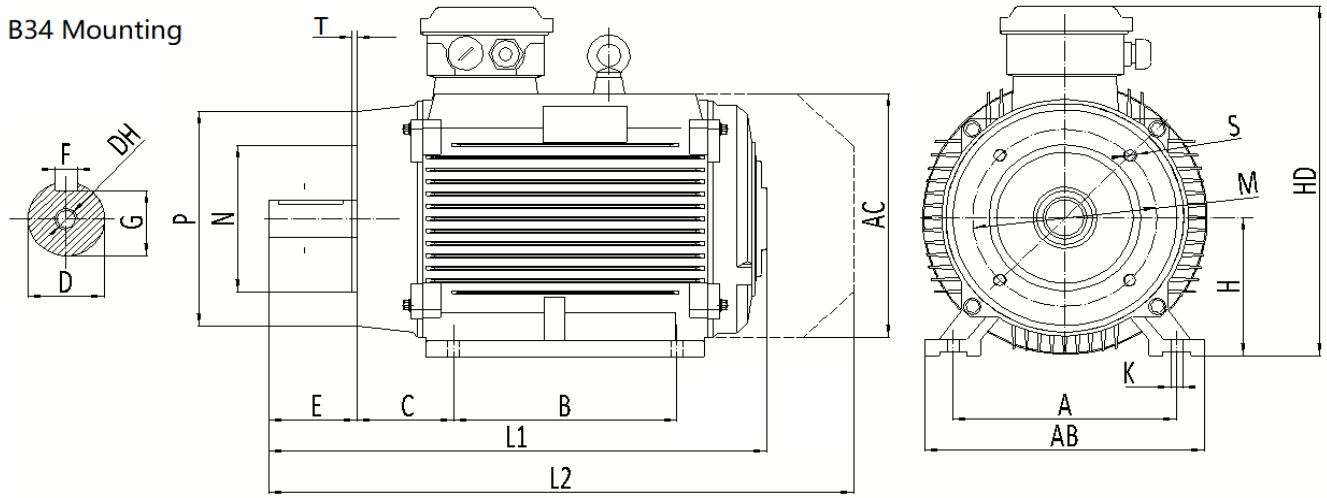
SMOKE EXTRACTION MOTORS

DUAL SPEED B14/B34 MOUNTING – MECHANICAL DATA

B14 Mounting



B34 Mounting



Frame Size	Mounting Dimensions (mm)															Overall Dimensions (mm)					
	A	B	C	D	E	F	G	H	K	M	N	P	S	T	DH	AB	AC	HD	HF	L1	L2
71	112	90	45	14	30	5	11	71	7	85	70	105	4-M6	2.5	M5X13	136	139	197	195	208	247
80	125	100	50	19	40	6	16	80	10	100	80	120	4-M6	3	M6X16	158	157	214	212	244	280
90S	140	100	56	24	50	8	20	90	10	115	95	140	4-M8	3	M8X20	180	176	233	230	262	316
90L	140	125	56	24	50	8	20	90	10	115	95	140	4-M8	3	M8X20	180	176	233	230	286	340
100L	160	140	63	28	60	8	24	100	12	130	110	160	4-M8	3.5	M8X20	198	196	260	258	325	372
112M	190	140	70	28	60	8	24	112	12	130	110	160	4-M8	3.5	M10X25	230	220	292	289	336	400
132S	216	140	89	38	80	10	33	132	12	165	130	200	4-M10	4	M12X30	262	258	331	327	367	441
132M	216	178	89	38	80	10	33	132	12	165	130	200	4-M10	4	M12X30	262	258	331	327	405	475
160M	254	210	108	42	110	12	37	160	15	215	180	250	4-M12	4	M16X30	320	330	414	410	532	610
160L	254	254	108	42	110	12	37	160	15	215	180	250	4-M12	4	M16X30	320	330	414	410	576	655

All technical details are subject to change without any prior notice.


North
Atlantic
Ocean
GREENLAND
Greenland Sea
Barents Sea
RUSSIA
Norwegian Sea
Labrador Sea