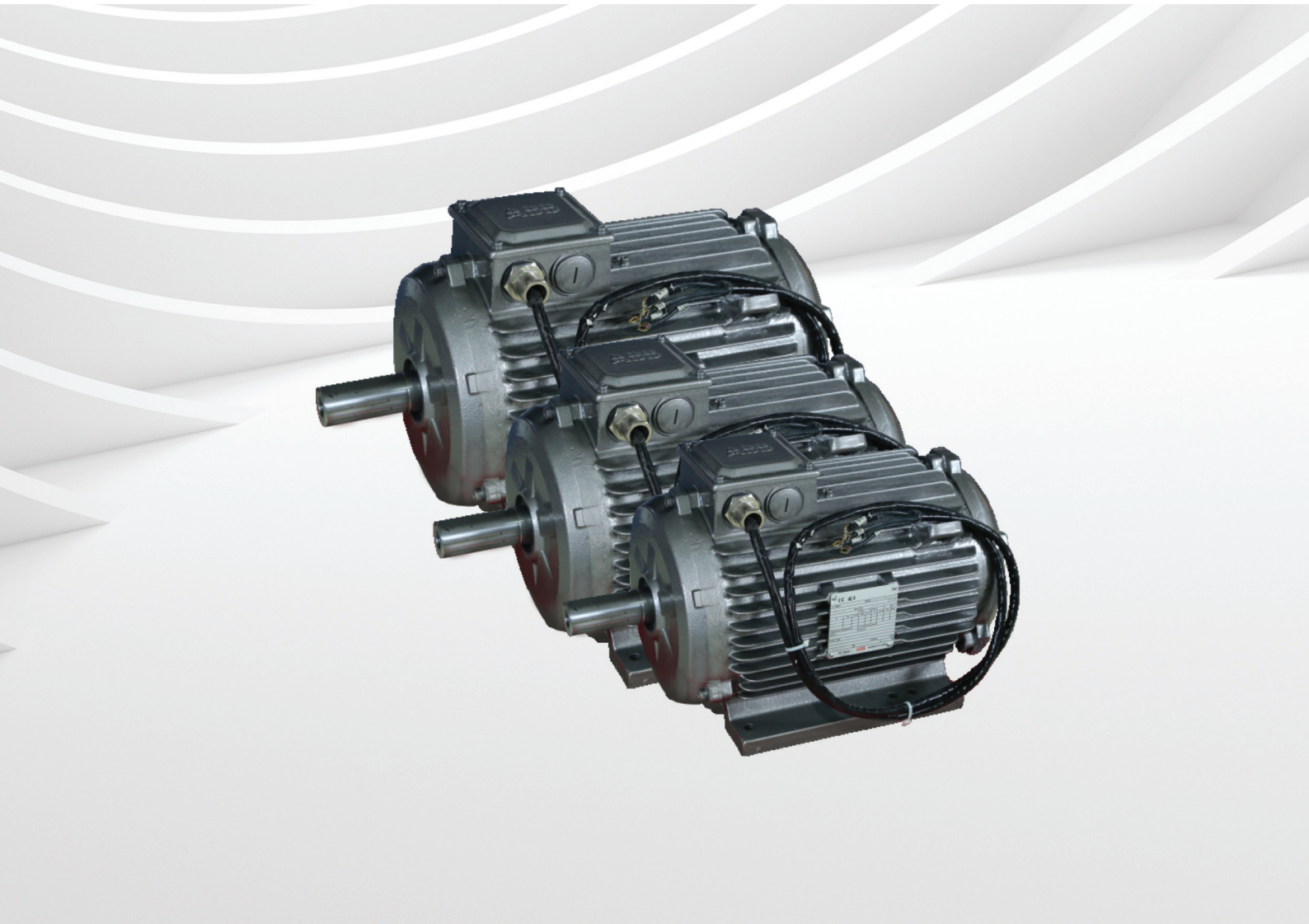
MOTORS AND GENERATORS

Low Voltage

Smoke Extraction
IE2, IE3 efficiency cast iron motors



ABB’s smoke extraction motors comply with the global standards and offer maximum performance in both normal operation and emergency conditions. Designed and certified for direct online starting, the IE2 and IE3 smoke extraction motors meet all challenging demands of end users and serial OEMs.

Smoke extraction IE2, IE3 efficiency motors Frame sizes 71 to 250

Outstanding features

- IE2 and IE3 efficiency motors, complying with Indian efficiency standard
- High Reliability
- Available in TEFC and TEAO
- Insulation Class H & VPI by default
- Following Operating temperature and functioning period available
  250^{0}C for 120 min
  300^{0}C for 60 min
  300^{0}C for 120 min
- Motors are tested and certified by external agency as per BS EN 12101-3:2002

Technical data

Smoke extraction IE2 efficiency cast iron motors

Technical data for totally enclosed squirrel cage three phase induction motors

IP 55 - IC 418 & IC 411 - Insulation class H, temperature rise class F
IE2 efficiency class according to IS 12615:2018

Output KW	Frame Size	Speed r/min	Efficiency			Power factor cos Ø	Current		Torque			Moment of inertia J=1/4GD² kgm²	Weight kg
			Full load 100%	3/4 load 75%	1/2 load 50%		I_n, A	I_s/I_n	T_n,Nm	T_s/T_n	T_b/T_n		
3000 r/min				415V, 50Hz									
0.37	S2BAX71MA2	2760	72.2	72.9	70.3	0.79	0.90	5.0	1.3	2.0	2.4	0.00033	9
0.55	S2BAX71MB2	2785	74.8	75.5	73	0.79	1.30	5.0	1.9	2.2	2.7	0.00041	10
0.75	S2BAX80MA2	2820	77.4	78.0	75.7	0.79	1.70	6.0	2.5	2.3	2.8	0.00067	13
1.1	S2BAX80MB2	2840	79.6	80.0	77.9	0.77	2.5	6.0	3.7	2.5	3.0	0.00088	14
1.5	S2BAX90SA2	2875	81.3	82.0	80.3	0.83	3.1	6.0	5.0	2.3	3.0	0.00208	20
2.2	S2BAX90LA2	2878	83.2	84.0	82.6	0.84	4.4	7.0	7.3	2.5	3.1	0.00274	23
3.7	S2BAX100LC2	2890	85.5	85.8	84.3	0.87	6.9	7.0	12.2	3.0	3.8	0.00561	34
5.5	S2BAX132SA2	2915	87.0	87.8	86.7	0.84	10.5	7.0	18.0	2.0	3.4	0.01170	54
7.5	S2BAX132SB2	2910	88.1	89.0	88.7	0.86	13.8	7.0	24.6	2.1	3.5	0.01320	58
9.3	S2BAX160MLJ2	2925	88.8	89.1	87.6	0.87	16.7	7.0	30.3	2.1	3.0	0.038	102
11	S2BAX160MLA2	2925	89.4	89.7	88.2	0.88	19.6	7.0	35.9	2.4	3.0	0.0415	105
15	S2BAX160MLB2	2928	90.3	90.7	90.0	0.87	26.5	7.0	48.9	2.1	3.0	0.0544	120
18.5	S2BAX160MLC2	2928	90.9	91.2	90.4	0.87	32.4	7.0	60.3	2.3	3.0	0.0581	131
22	S2BAX180MLA2	2932	91.3	91.7	91.0	0.88	38.0	7.0	71.6	3.0	3.5	0.0679	152
30	S2BAX200MLA2	2935	92.0	92.4	91.5	0.88	51.5	7.0	97.6	2.2	3.2	0.1077	198
37	S2BAX200MLB2	2950	92.5	92.8	91.7	0.87	64.0	7.0	119.7	3.0	3.8	0.1332	232
45	S2BAX225SMA2	2960	92.9	92.6	92.0	0.88	77.0	7.0	145.1	2.2	3.0	0.2443	295
55	S2BAX250SMA2	2965	93.2	93.8	92.8	0.89	92.0	7.0	177.1	2.5	3.0	0.316	344

Output KW	Frame Size	Speed r/min	Efficiency			Power factor cos Ø	Current		Torque			Moment of inertia J=1/4GD² kgm²	Weight kg
			Full load 100%	3/4 load 75%	1/2 load 50%		I_n, A	I_s/I_n	T_n,Nm	T_s/T_n	T_b/T_n		
1500 r/min				415V, 50Hz									
0.37	S2BAX71MB4	1395	72.7	72.0	68.0	0.65	1.10	5.0	2.5	1.9	2.2	0.00076	10
0.55	S2BAX80MA4	1415	77.1	76.0	71.0	0.71	1.40	5.0	3.7	2.2	2.8	0.00156	15
0.75	S2BAX80MB4	1425	79.6	78.5	74.3	0.67	1.97	6.0	5.0	3.0	3.5	0.00247	17
1.1	S2BAX90SA4	1430	81.4	80.6	76.8	0.74	2.55	6.0	7.3	3.0	3.5	0.00372	21
1.5	S2BAX90LA4	1430	82.8	82.2	79.4	0.73	3.47	6.0	10.0	3.0	3.5	0.00462	23
2.2	S2BAX100LA4	1435	84.3	84.2	82.1	0.76	4.8	7.0	14.6	2.6	3.3	0.00759	31
3.7	S2BAX112MA4	1435	86.3	86.9	85.9	0.80	7.5	7.0	24.6	2.8	3.3	0.01200	41
5.5	S2BAX132SA4	1450	87.7	88.4	87.6	0.79	11.1	6.0	36.2	1.7	2.8	0.02570	57
7.5	S2BAX132MA4	1455	88.7	89.2	88.3	0.77	15.3	6.0	49.2	1.7	3.0	0.03200	68
9.3	S2BAX160MLJ4	1455	89.3	89.8	88.0	0.81	17.9	7.0	61.0	2.0	2.9	0.0738	107
11	S2BAX160MLA4	1455	89.8	90.4	89.4	0.81	21.0	7.0	72.2	2.1	2.9	0.084	115
15	S2BAX160MLB4	1463	90.6	91.2	90.2	0.84	27.6	7.0	97.9	2.5	3.0	0.1025	134
18.5	S2BAX180MLA4	1457	91.2	91.8	90.9	0.81	35.0	7.0	121.2	2.7	3.5	0.1217	155
22	S2BAX180MLB4	1460	91.6	92.1	91.2	0.80	42.0	7.0	143.8	2.4	3.2	0.1396	171
30	S2BAX200MLA4	1474	92.3	92.5	91.8	0.81	55.5	7.0	194.3	2.5	3.5	0.2572	229
37	S2BAX225SMA4	1475	92.7	93.1	92.2	0.84	66.5	6.5	239.4	2.1	2.7	0.3605	267
45	S2BAX225SMB4	1478	93.1	93.5	92.6	0.83	81.5	7.0	290.6	2.2	2.9	0.4314	304
55	S2BAX250SMA4	1478	93.5	93.7	92.9	0.85	96.8	7.0	355.2	2.7	3.0	0.5331	342

Technical data

Smoke extraction IE2 efficiency cast iron motors

Technical data for totally enclosed squirrel cage three phase induction motors

IP 55 - IC 418 & IC 411 - Insulation class H, temperature rise class F
IE2 efficiency class according to IS 12615:2018

Output KW	Frame Size	Speed r/min	Efficiency			Power factor cos Ø	Current		Torque			Moment of inertia J=1/4GD² kgm²	Weight kg
			Full load 100%	3/4 load 75%	1/2 load 50%		I_n, A	I_s/I_n	T_n,Nm	T_s/T_n	T_b/T_n		
1000 r/min				415V, 50Hz									
0.37	S2BAX80MA6	910	69.0	68.1	63.1	0.62	1.20	4.0	3.9	2.0	2.4	0.00173	13
0.55	S2BAX80MB6	910	73.1	72.8	69.2	0.66	1.60	4.0	5.8	2.1	2.5	0.00274	15
0.75	S2BAX90SA6	945	75.9	74.3	69.2	0.62	2.2	4.5	7.6	2.4	3.2	0.00438	21
1.1	S2BAX90LA6	935	78.1	77.3	73.3	0.63	3.1	4.5	11.2	2.3	2.9	0.00507	24
1.5	S2BAX100LA6	945	79.8	79.7	77.0	0.67	3.9	4.5	15.2	1.8	2.3	0.00795	31
2.2	S2BAX112MA6	950	81.8	81.7	79.0	0.68	5.5	5.0	22.1	1.8	2.6	0.01160	40
3.7	S2BAX132SB6	960	84.3	84.7	83.4	0.71	8.6	5.0	36.8	1.5	2.3	0.02830	60
5.5	S2BA132MB6	965	86.0	86.0	84.2	0.70	12.7	5.0	54.4	1.5	2.8	0.03970	77
7.5	S2BAX160MLA6	957	87.2	88.0	86.8	0.77	15.6	6.5	74.8	1.7	2.6	0.089	122
9.3	S2BAX160MLJ6	965	88.0	88.6	87.8	0.77	19.1	6.5	92.0	2.0	2.8	0.119	141
11	S2BAX160MLB6	965	88.7	89.2	88.5	0.75	23.0	7.0	108.8	2.1	2.8	0.1293	147
15	S2BAX180MLA6	970	89.7	90.1	89.4	0.76	30.0	7.0	147.6	2.0	3.0	0.1522	173
18.5	S2BAX200MLA6	965	90.4	90.8	90.0	0.77	37.0	6.0	183.0	1.5	2.5	0.198	190
22	S2BAX200MLB6	970	90.9	91.2	90.6	0.77	43.7	6.0	216.5	1.5	2.5	0.2384	212
30	S2BAX225SMA6	981	91.7	92.0	91.2	0.82	55.8	6.5	291.9	2.1	2.8	0.5687	284
37	S2BAX250SMA6	981	92.2	92.4	91.9	0.81	68.9	6.0	360.0	2.0	2.6	0.8042	337

Efficiency values are given according to IEC 60034-2-1: 2007, IS 15999-2-1.
Please note that the values are not comparable without knowing the testing method.
ABB has calculated the efficiency values according to indirect method, stray load losses (additional losses) determined from measuring.

I_s / I_n = Starting current
T_s / T_n = Locked rotor torque
T_b / T_n = Breakdown torque

Note : All performance figures are subject to IS tolerances

Technical data

Smoke extraction IE3 efficiency cast iron motors

Technical data for totally enclosed squirrel cage three phase induction motors

IP 55 - IC 418 & IC 411 - Insulation class H, temperature rise class F
IE3 efficiency class according to IS 12615:2018

Output KW	Frame Size	Speed r/min	Efficiency			Power factor cos Ø	Current		Torque			Moment of inertia J=1/4GD² kgm²	Weight kg
			Full load 100%	3/4 load 75%	1/2 load 50%		I_n, A	I_s/I_n	T_n,Nm	T_s/T_n	T_b/T_n		
3000 r/min				415V, 50Hz									
0.37	S3BAX71MC2	2790	75.5	75.4	72.7	0.72	0.95	5.5	1.3	2.1	2.5	0.00033	9
0.55	S3BAX71MB2	2782	78.1	78.4	76.4	0.73	1.35	5.5	1.9	2.1	2.6	0.00041	10
0.75	S3BAX80MC2	2870	80.7	80.0	76.7	0.76	1.7	6.5	2.5	2.8	3.6	0.00080	14
1.1	S3BAX80MD2	2865	82.7	83.3	81.9	0.80	2.3	7.0	3.7	2.8	3.6	0.00119	17
1.5	S3BAX90SB2	2882	84.2	84.6	83.0	0.83	3.0	6.0	5.0	2.7	3.3	0.00224	21
2.2	S3BAX90SLA2	2890	85.9	86.7	85.8	0.88	4.4	7.0	7.3	3.0	3.5	0.00304	25
3.7	S3BAX100LKB2	2900	87.8	88.1	86.8	0.85	6.9	7.7	12.2	3.5	3.9	0.00756	42
5.5	S3BAX132SMA2	2900	89.2	89.6	88.9	0.82	10.5	7.0	18.1	2.1	3.3	0.01625	69
7.5	S3BAX132SMB2	2905	90.1	90.5	89.7	0.82	14.2	6.5	24.7	2.2	3.5	0.01821	74
9.3	S3BAX160MLJ2	2935	90.7	90.8	89.7	0.86	16.6	7.7	30.3	2.5	3.5	0.053	115
11	S3BAX160MLA2	2935	91.2	91.5	90.8	0.87	19.2	7.7	35.8	2.4	3.2	0.057	118
15	S3BAX160MLB2	2940	91.9	92.1	91.3	0.86	26.5	7.7	48.7	2.9	4.0	0.063	126
18.5	S3BAX160MLC2	2950	92.4	92.9	92.5	0.90	33.0	7.7	59.9	3.0	3.9	0.076	144
22	S3BAX180MLA2	2950	92.7	93.2	92.7	0.88	37.7	7.7	71.2	2.6	3.3	0.110	181
30	S3BAX200MLA2	2950	93.3	93.6	93.2	0.89	51.0	7.7	97.1	2.4	2.9	0.182	230
37	S3BAX200MLB2	2955	93.7	94.1	93.6	0.88	62.7	7.7	119.5	2.8	3.4	0.222	257
45	S3BAX225SMA2	2965	94.0	94.1	93.3	0.86	77.7	7.7	144.9	2.8	3.4	0.296	287
55	S3BAX250SMA2	2965	94.3	94.3	93.5	0.87	93.5	7.0	177.1	2.7	3.1	0.426	344

Output KW	Frame Size	Speed r/min	Efficiency			Power factor cos Ø	Current		Torque			Moment of inertia J=1/4GD² kgm²	Weight kg
			Full load 100%	3/4 load 75%	1/2 load 50%		I_n, A	I_s/I_n	T_n,Nm	T_s/T_n	T_b/T_n		
1500 r/min				415V, 50Hz									
0.37	S3BAX71MLA4	1415	77.3	76.0	67.0	0.65	1.02	4.6	2.5	2.5	2.8	0.00098	12
0.55	S3BAX80MC4	1435	80.8	80.0	75.0	0.63	1.50	6.0	3.7	2.5	2.8	0.00195	17
0.75	S3BAX80MLA4	1445	82.5	81.1	77.1	0.70	2.05	4.5	5.0	3.5	3.9	0.00309	20
1.1	S3BAX90SB4	1435	84.1	83.7	81.0	0.70	2.60	6.0	7.3	3.0	3.7	0.00397	22
1.5	S3BAX90SLA4	1431	85.3	85.2	82.9	0.75	3.50	6.0	10.0	3.5	3.9	0.00486	25
2.2	S3BAX100LB4	1445	86.7	86.9	85.1	0.74	4.8	7.0	14.5	2.9	3.7	0.00919	34
3.7	S3BAX112MLA4	1450	88.4	88.5	87.0	0.76	7.7	7.5	24.4	3.3	3.9	0.01542	50
5.5	S3BAX132SMA4	1460	89.6	90.6	90.2	0.79	10.8	7.0	36.0	2.0	3.0	0.03505	72
7.5	S3BAX132MLA4	1462	90.4	90.9	90.3	0.75	15.4	7.0	48.8	2.1	3.2	0.04108	84
9.3	S3BAX160MLJ4	1470	91.0	90.9	89.5	0.77	18.5	7.5	60.4	2.7	3.5	0.105	130
11	S3BAX160MLA4	1470	91.4	91.5	90.5	0.78	21.6	7.5	71.5	2.6	3.2	0.11	134
15	S3BAX160MLB4	1470	92.1	92.2	91.3	0.80	28.8	7.5	97.4	2.6	3.4	0.135	159
18.5	S3BAX180MLA4	1475	92.6	93.0	92.5	0.80	34.7	7.5	119.7	2.5	3.3	0.219	192
22	S3BAX180MLB4	1475	93.0	93.5	93.0	0.79	41.5	7.5	142.4	2.9	3.5	0.243	205
30	S3BAX200MLA4	1480	93.6	93.8	93.2	0.83	54.0	7.5	193.5	2.9	3.3	0.385	259
37	S3BAX225SMA4	1480	93.9	94.2	93.8	0.80	68.5	7.5	238.6	2.8	3.2	0.427	274
45	S3BAX225SMB4	1480	94.2	94.6	94.3	0.81	82.5	7.5	290.2	2.5	3.1	0.525	307
55	S3BAX250SMB4	1482	94.6	94.7	94.1	0.82	99.0	7.5	354.2	2.6	3.0	0.694	358

Technical data

Smoke extraction IE3 efficiency cast iron motors

Technical data for totally enclosed squirrel cage three phase induction motors

IP 55 - IC 418 & IC 411 - Insulation class H, temperature rise class F
IE3 efficiency class according to IS 12615:2018

Output KW	Frame Size	Speed r/min	Efficiency			Power factor cos Ø	Current		Torque			Moment of inertia J=1/4GD² kgm²	Weight kg
			Full load 100%	3/4 load 75%	1/2 load 50%		I_n, A	I_s/I_n	T_n,Nm	T_s/T_n	T_b/T_n		
1000 r/min			415V, 50Hz										
0.37	S3BAX80MC6	931	73.5	73.0	67.0	0.65	1.15	3.9	3.8	2.5	2.8	0.00220	15
0.55	S3BAX80MLA6	935	77.2	77.0	71.5	0.59	1.70	4.5	5.6	2.8	3.3	0.00349	19
0.75	S3BAX90SLA6	940	78.9	77.5	73.2	0.63	2.1	4.5	7.6	2.3	3.0	0.00487	25
1.1	S3BAX90LB6	945	81.0	79.7	75.4	0.61	3.1	4.5	11.1	3	3.6	0.00676	30
1.5	S3BAX100LKA6	954	82.5	82.6	80.2	0.67	3.8	4.5	15.0	2.2	2.4	0.00994	37
2.2	S3BAX112MLA6	952	84.3	84.4	82.5	0.66	5.5	5.0	22.1	1.9	2.7	0.01388	47
3.7	S3BAX132SMB6	960	86.5	87.0	86.0	0.68	8.8	5.0	36.8	1.6	2.7	0.03540	72
5.5	S3BAX132MLA6	965	88.0	88.3	87.3	0.68	12.7	5.0	54.4	1.6	2.8	0.05334	97
7.5	S3BAX160MLA6	965	89.1	90.2	90.0	0.72	16.2	6.5	74.2	1.8	3.1	0.089	119
9.3	S3BAX160MLJ6	970	89.8	90.3	89.7	0.70	20.6	6.5	91.5	1.9	3.1	0.128	153
11	S3BAX160MLB6	970	90.3	91.0	90.7	0.74	23.0	6.5	108.2	1.7	2.6	0.138	160
15	S3BAX180MLA6	972	91.2	91.6	91.0	0.75	30.5	6.0	147.3	1.5	2.6	0.212	190
18.5	S3BAX200MLA6	980	91.7	91.8	90.9	0.80	35.0	7.0	180.2	2.2	3.1	0.496	238
22	S3BAX200MLB6	980	92.2	92.2	91.1	0.79	42.2	7.5	214.3	2.3	3.6	0.585	263
30	S3BAX225SMA6	982	92.9	93.0	92.0	0.76	59.0	7.5	291.6	2.3	3.0	0.724	285
37	S3BAX250SMA6	985	93.3	93.7	93.4	0.80	69.3	7.0	358.6	2.1	2.5	1.3	379

Efficiency values are given according to IEC 60034-2-1: 2007, IS 15999-2-1.
Please note that the values are not comparable without knowing the testing method.
ABB has calculated the efficiency values according to indirect method, stray load losses (additional losses) determined from measuring.

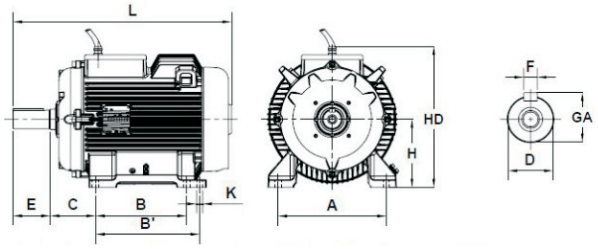
I_s / I_n = Starting current
T_s / T_n = Locked rotor torque
T_b / T_n = Breakdown torque

Note : All performance figures are subject to IS tolerances

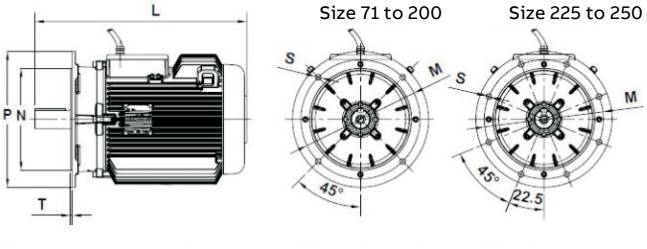
Dimension drawings

Smoke extraction IE2, IE3 efficiency motors size 71-250

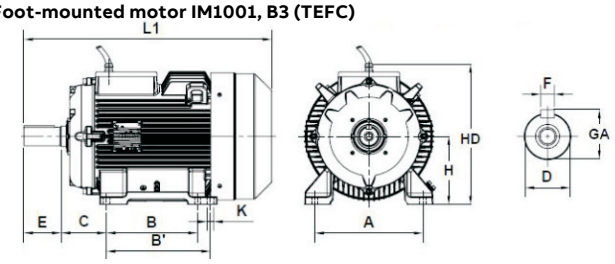
Foot-mounted motor IM1001, B3 (TEAO)



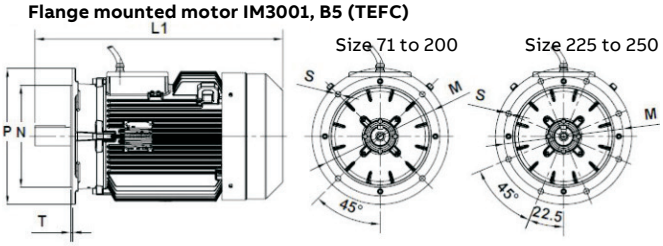
Flange mounted motor IM3001, B5 (TEAO)



Foot-mounted motor IM1001, B3 (TEFC)



Flange mounted motor IM3001, B5 (TEFC)



Motor size	L (TEAO)				L1 (TEFC)								HD								
	D	GA	F	E	IE2	IE3	IE2	IE3	A	B	B'	C	IE2	IE3	K	H	M	N	P	S	T
71M	14	16	5	30	-	222	-	257	112	90	-	45	175		7	71	130	110	160	10	3.5
71ML	14	16	5	30	-	227	-	282	112	90	-	45	175		7	71	130	110	160	10	3.5
80M	19	21.5	6	40	-	269	-	309	125	100	-	50	192		10	80	165	130	200	12	3.5
80ML	19	21.5	6	40	-	294	-	334	125	100	112	50	192		10	80	165	130	200	12	3.5
90S	24	27	8	50	-	292	-	335	140	100	-	56	217		10	90	165	130	200	12	3.5
90SL	24	27	8	50	-	308	-	351	140	100	125	56	217		10	90	165	130	200	12	3.5
90L	24	27	8	50	-	343	-	386	140	-	125	56	217		10	90	165	130	200	12	3.5
100L	28	31	8	60	-	332	-	376	160	140	-	63	240		12	100	215	180	250	14.5	4
100LK	28	31	8	60	-	366	-	410	160	140	160	63	240		12	100	215	180	250	14.5	4
112M	28	31	8	60	367	-	411	-	190	140	-	70	252		12	112	215	180	250	14.5	4
112ML	28	31	8	60	-	411	-	456	190	140	159	70	252		12	112	215	180	250	14.5	4
132S	38	41	10	80	388	-	479	-	216	140	-	89	301		12	132	265	230	300	14.5	4
132SM	38	41	10	80	-	430	-	521	216	140	178	89	301		12	132	265	230	300	14.5	4
132ML	38	41	10	80	-	495	-	586	216	178	203	89	301		12	132	265	230	300	14.5	4
160ML	42	45	12	110	522 1),1')	562 5)	586 1),1')	639 5)	254	210	254	108	365		14.5	160	300	250	350	19	5
180ML	48	51.5	14	110	619 2)	642	683 2)	728	279	241	279	121	385	405	14.5s	180	300	250	350	19	5
200ML	55	59	16	110	642 3)	695	728 3)	809	318	267	305	133	425	455	18.5	200	350	300	400	19	5
225SM 2P	55	59	16	110	735 4)	693	854 4)	812	356	286	311	149	480	500	18.5	225	400	350	450	19	5
225SM 4-8P	60	64	18	140	735 4)	723	854 4)	842	356	286	311	149	480	500	18.5	225	400	350	450	19	5
250SM 2P	60	64	18	140	747	776	882	853	406	311	349	168	525	553	24	250	500	450	550	19	5
250SM 4-8P	65	69	18	140	747	776	882	853	406	311	349	168	525	553	24	250	500	450	550	19	5

Above table gives the main dimensions in mm.

Frame size 71-132 flying leads outlet from side.

Ref.	Motor Size	L (TEAO)	L1 (TEFC)
1)	S2BAX160MLC2, B4, J6	562	626
1')	S2BAX160MLB6	582	646
2)	S2BAX180MLB4, A6	639	703
3)	S2BAX200MLB2, A4, B6	682	768
4)	S2BAX225SMB4, A6	765	884
5)	S3BAX160MLC2, B4, B6	590	696

Motors in brief

Smoke extraction IE2, IE3 efficiency motors size 71-250

Size		71	80	90	100	112	132
Stator	Material	Cast Iron Grade 150:ISO 185					
	Paint colour shade	RAL 9007 (Grey Aluminium)					
	Corrosion class	C3 medium according to ISO/EN 12944-5					
Feet		Fixed feet					
	Material	Cast Iron Grade 150:ISO 185					
	Material	Cast Iron Grade 150:ISO 185					
Bearing end shields	Paint colour shade	RAL 9007 (Grey Aluminium)					
	Corrosion class C3 medium according to ISO/EN 12944-5						
Bearings	D-end	6203-2Z/C3	6204-2Z/C3	6205-2Z/C3	6206-2Z/C3	6206-2Z/C3	6208-2Z/C3
	N-end	6202-2Z/C3	6203-2Z/C3	6204-2Z/C3	6205-2Z/C3	6205-2Z/C3	6208-2Z/C3
Axially-locked	Retaining Ring	**As standard, locked at D-end**					
Bearing seals		Axial seal as standard, radial on request					
Lubrication		Permanently lubricated shielded bearings					
Measuring nipple		Not included					
Rating plate	Material	Aluminium					
Terminal Box	Frame material	Cast Iron, Integral to stator frame					
	Cover material	Sheet of steel, Cold rolled					
	Cover screws material	Steel 8.8					
Connections	Terminals	Flying leads. Separate terminal box and plate as option					
	Cable gland	Suitable opening in terminal box, cable gland as an option					
Fan	Material	Without fan for TEAO. Metal fan for TEFC					
Fan Cover	Material	Without fan cover for TEAO. Sheet of Steel, cold rolled fan cover for TEFC.					
	Paint Colour shade	RAL 9007 (Grey Aluminium)					
	Surface Treatment	C3 medium according to ISO/EN 12944-5					
Stator winding	Material	Copper					
	Insulation	Insulation class H, Temperature rise class F, unless otherwise stated					
	Winding protection	VPI					
Rotor winding	Material	Pressure die cast Aluminium					
Balancing method		Half Key balancing as standard					
Key ways		Open Key Way					
Enclosure		IP 55					
Cooling method		IC 418 & IC 411.					

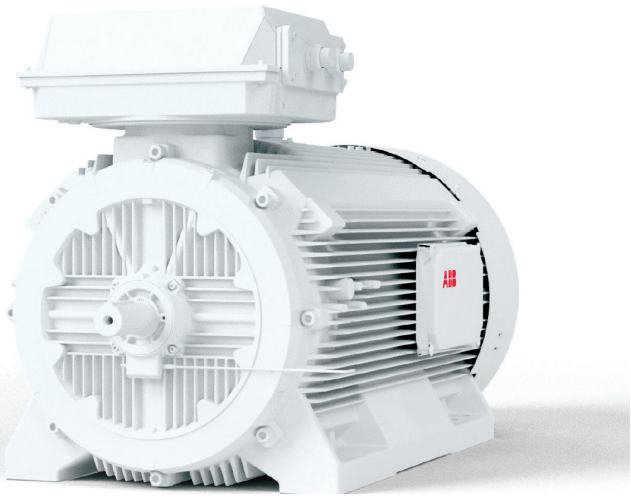
Motors in brief

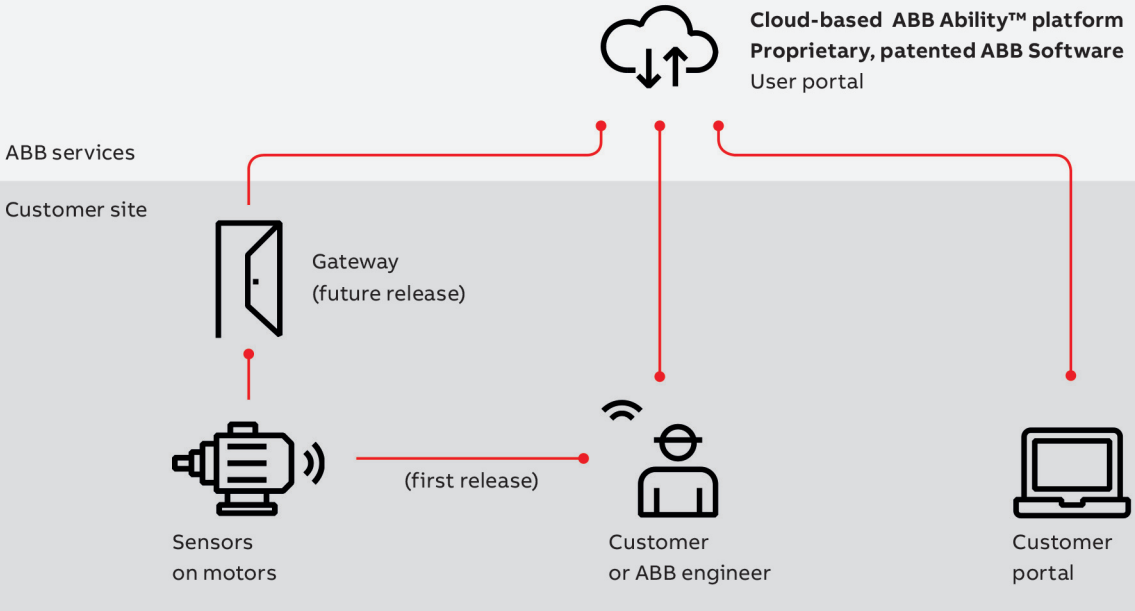
Smoke extraction IE2, IE3 efficiency motors size 71-250

Size		160	180	200	225	250
Stator	Material	Cast Iron Grade 200:ISO 185				
	Paint colour shade	RAL 9007 (Grey Aluminium)				
	Corrosion class	C3 medium according to ISO/EN 12944-5				
Bearing end shields	Material	Cast Iron Grade 200:ISO 185				
	Paint colour shade	RAL 9007 (Grey Aluminium)				
	Surface Treatment	C3 medium according to ISO / EN 12944-5				
Bearings	D-end	6209-2Z/C3	6310-2Z/C3	6310-2Z/C3	6310-2Z/C3	6310-2Z/C3
	N-end	6209-2Z/C3	6209-2Z/C3	6209-2Z/C3	6210-2Z/C3	6212-2Z/C3
Axially-locked	Inner Bearing Cover	As standard, locked at D-end				
Bearing seals		Axial seal standard, radial on request				
Lubrication		Permanently lubricated shielded bearings				
Measuring nipple		Not included				
Rating plate	Material	Aluminium				
Terminal Box	Box Material	Sheet of Steel, cold rolled				
	Cover material	Sheet of steel, Cold rolled				
	Cover screws material	Steel 8.8				
Connections	Terminals	Flying leads. Separate terminal box and plate as option				
	Cable gland	Suitable opening in terminal box, cable gland as an option				
Fan	Material	Without fan for TEAO. Metal fan for TEFC				
Fan Cover	Material	Without fan cover for TEAO. Sheet of Steel, cold rolled fan cover for TEFC				
	Paint Colour shade	RAL 9007 (Grey Aluminium)				
	Surface Treatment	C3 medium according to ISO/EN 12944-5				
Stator winding	Material	Copper				
	Insulation	Insulation class H, Temperature rise class F, unless otherwise stated				
	Winding protection	VPI				
Rotor winding	Material	Pressure die cast aluminium				
Balancing method		Half Key Balancing as Standard				
Key ways		Open Key Way				
Enclosure		IP 55				
Cooling method		IC 418 & IC 411				

ABB Ability™ Smart Sensor
Condition monitoring solution for low voltage motors

ABB Ability™ Smart Sensor is a condition monitoring solution that makes predictive maintenance possible for almost all low voltage motors. By monitoring and analyzing data on motor operating parameters, it enables motor users to optimize their maintenance. The solution helps to reduce downtime by as much as 70 percent, extend motor lifetimes by up to 30 percent and reduce energy consumption by up to 10%.





ABB's condition monitoring solution for LV motors. The ABB Ability™ Smart Sensor transmits data via a smartphone (first release) or gateway to a secure cloud service. Algorithms in the cloud analyze the data and convert it into meaningful information, which is then sent to the user's smartphone and customer portal.

For more information please visit:
www.abb.com/smartsensor
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