

ACTOM ELECTRICAL MOTORS

LS6: Premium Efficiency



Specifications:

Please Download the ACTOM Brochure Attached for all of the Product Specifications

General Data:

Product Information:

Low Voltage TEFC frame electric motors to IEC60034

Ratings From 0,37kW up to 450kW at 400V, 525V and 1000V

Premium Efficiency to IEC 60034-30 (IE3)

Enclosure IP66 and Class H Insulation

Description Premium Efficiency (IE3), Class H Insulation, IP 66 Cast iron squirrel cage motors - 400V or 525V - 3 phase - 50Hz

Typical

Application:

Application Please see attached
Designed for brochure

ACTOM ELECTRICAL MOTORS

LS6: Premium Efficiency

Product Information:

S/Speed, 3000 r/min, 2 Pole

Rated Output (kW)	Frame Size	Shaft Diameter (mm)	Rated Output (kW)	Frame Size	Shaft Diameter (mm)
0.75	80	19	75	250M	60
1.1	80	19	90	280S	65
1.5	90S	24	110	280M	65
2.2	90L	24	132	315S	65
3	100L	28	160	315M	65
4	112M	28	185	315L	70
5.5	132S	38	200	315L	70
7.5	132S	38	225	315LX	70
9.2	132M	38	250	315LX	70
11	160M	42			
15	160M	42			
18.5	160L	42			
22	180M	48			
30	200L	55			
37	200L	55			
45	225M	55			
55	250S	60			

Address: 4 Branch Road, Germiston 1401, P.O. Box 678, Germiston 1400

ACTOM ELECTRICAL MOTORS

LS6: Premium Efficiency

Product Information:

S/Speed, 1500 r/min, 4 Pole

Rated Output (kW)	Frame Size	Shaft Diameter (mm)	Rated Output (kW)	Frame Size	Shaft Diameter (mm)
0.55	80	19	55	250S	70
0.75	80	19	75	250M	70
1.1	90S	24	90	280S	80
1.5	90L	24	110	280M	80
2.2	100L	28	132	315S	85
3	100L	28	160	315M	85
4	112M	28	185	315L	90
5.5	132S	38	200	315L	90
7.5	132M	38	225	315LX	90
9.2	132M	38	250	315LX	90
11	160M	42			
15	160L	42			
18.5	180M	48			
22	180L	48			
30	200L	55			
37	225S	60			
45	225M	60			

Address: 4 Branch Road, Germiston 1401, P.O. Box 678, Germiston 1400

ACTOM ELECTRICAL MOTORS

LS6: Premium Efficiency

Product Information:

S/Speed, 1000 r/min, 6 Pole

Rated Output (kW)	Frame Size	Shaft Diameter (mm)	Rated Output (kW)	Frame Size	Shaft Diameter (mm)
0.37	80	19	55	280S	80
0.55	80	19	75	280M	80
0.75	90S	24	90	315S	85
1.1	90L	24	110	315M	85
1.5	100L	28	132	315L	90
2.2	112M	28	160	315L	90
3	132S	38	185	315LX	90
4	132M	38	200	315LX	90
5.5	132M	38			
7.5	160M	42			
11	160L	42			
15	180L	48			
18.5	200L	55			
22	200L	55			
30	225M	60			
37	250S	70			
45	250M	70			

Address: 4 Branch Road, Germiston 1401, P.O. Box 678, Germiston 1400

ACTOM ELECTRICAL MOTORS

LS6: Premium Efficiency

Product Information:

S/Speed, 750 r/min, 8 Pole

Rated Output (kW)	Frame Size	Shaft Diameter (mm)	Rated Output (kW)	Frame Size	Shaft Diameter (mm)
0.37	90S	24	55	280M	80
0.55	90L	24	75	315S	85
0.75	100L	28	90	315M	85
1.1	100L	28	110	315L	90
1.5	112M	28	132	315L	90
2.2	132S	38	160	315LX	90
3	132M	38			
4	160M	42			
5.5	160M	42			
7.5	160L	42			
11	180L	48			
15	200L	55			
18.5	225S	60			
22	225M	60			
30	250S	70			
37	250M	70			
45	280S	80			

Address: 4 Branch Road, Germiston 1401, P.O. Box 678, Germiston 1400



TECHNICAL PUBLICATION
MARCH 2016

Low Voltage Motors
IE3 Efficiency



ACTOM

GENERAL FEATURES :

1. 3 phase TEFC Cast Iron at 50Hz, 400V and 525V as standard
2. Frame Size 80 to 355 in foot, flange and / or foot / flange combinations.
3. Rated output: 0.55kW to 400kW at 4 pole speed.
4. 2 , 4 , 6 , 8 pole motors available ex stock as standard.
5. Premium efficiency (IE3) to IEC 60034–30, IEC 60034–2–1
6. Efficiency rating quoted to IEC Indirect stray loss measurement method
7. Class H insulation with VPI and class B temperature rise
8. IP 66 degree of enclosure protection. See pg 20.
9. Heavy duty bearings re-greasable in Frame Size 160 and higher. See pg 18.
10. Large volume, 90° rotatable cast iron terminal boxes. See pg 18.
11. Detachable gland plates in Frame Size 160 and higher.
12. Variable Speed Drive compatible. Motor and load must be correctly matched
 - * V peak < 1 640V at motor terminals.
 - * Rise time > 0.3µsec at motor terminals.

The LS6 Motor Range is manufactured in accordance with:

SANS 1804-1	Induction motors Part 1: IEC requirements
SANS 1804-2	Induction motors Part 2: LV 3-phase standard motors
SANS 60034-1	Rotating electrical machines - Rating and performance
SANS 60034-2-1	Standard methods for determining losses & efficiency from tests
SANS 60034-30	Efficiency classes of single-speed, three-phase, cage-induction motors (IE-code)
SANS 60034-5	Rotating electrical machines Part 5: Degrees of protection Provided by the integral design of rotating electrical machines (IP code) – Classification
SANS 60034-14	Rotating electrical machines Part 14: Mechanical vibration of certain machines with shaft heights 56 mm and higher. Measurement, evaluation and limits of vibration severity
SANS 60034-7	Rotating electrical machines Part 7: Classification types of construction, mounting arrangements, terminal box position
SANS 60034-6	Rotating electrical machines Part 6: Methods of cooling



Non-Standard Options
Cast iron squirrel cage motors - 400V or 525V - 3 phase - 50Hz

Frame Size	Winding Thermistors	Heaters	Chemical Paint	Exn
90-100	Not Available	Not Available	R 450	R 1 750
112	Not Available	Not Available	R 500	R 1 810
132	R 1 440	R 2 350	R 520	R 1 870
160	R 1 540	R 2 350	R 650	R 1 900
180	R 1 870	R 2 900	R 650	R 2 220
200	Std	R 3 500	R 900	R 2 220
250	Std	R 3 700	R 1 100	R 5 860
225	Std	R 3 700	R 1 100	R 5 860
280	Std	R 4 100	R 1 500	R 5 900
315	Std	R 4 100	R 1 500	R 7 500

The following are non-standard options with price on application.

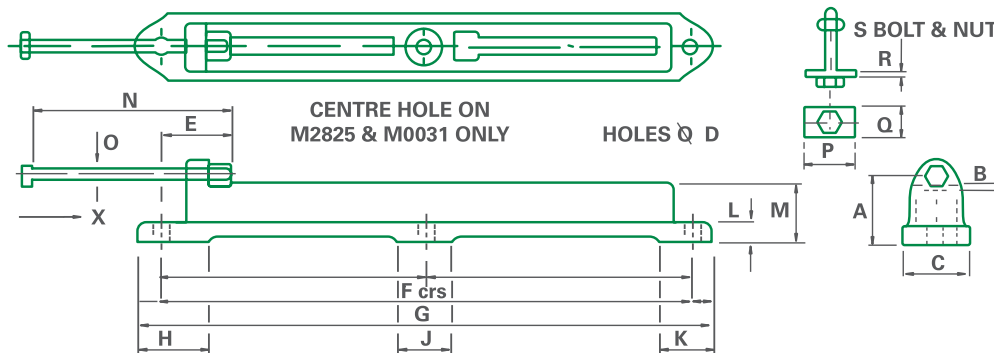
Not all non-standard options may be possible on all motor Frame Sizes

Winding Thermistors -2 / phase	Force Ventilation Units	Special Cable Entries	Application specific bearings
Winding RTD's -1 / phase	Brake Units	Special Shaft Extensions	Regreasing Facility
Winding RTD's -2 / phase	Encoders	Double Shaft Extension	Non Standard Paint
Bearing RTD's -1 / bearing	Canopies		

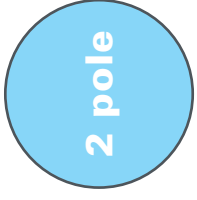
FRAME SIZE	CABLE ENTRIES	TERMINAL SCREW THREAD	DEGREE OF PROTECTION	No. OF TERMINALS	TERMINAL BOX MATERIAL	DETACHABLE GLAND PLATE	METHOD OF STARTING
80	1xM20x1,5	M4	IP66	6	Cast Iron	NO	Direct on line or Star Delta starting subject to the following limitations
90	1xM20x1,5	M4	IP66	6	Cast Iron	NO	
100	1xM20x1,5	M4	IP66	6	Cast Iron	NO	
112	2xM20x1,5	M5	IP66	6	Cast Iron	NO	
132	2xM25x1,5	M5	IP66	6	Cast Iron	NO	Motors rated 3kW and smaller are Star wound for DOL
160	2xM25x1,5	M6	IP66	6	Cast Iron	YES	
180	2xM32x1,5	M6	IP66	6	Cast Iron	YES	
200	2xM32x1,5	M8	IP66	6	Cast Iron	YES	
225	2xM32x1,5	M8	IP66	6	Cast Iron	YES	Motors rated 4kW and above are Delta wound for DOL
250	2xM40x1,5	M10	IP66	6	Cast Iron	YES	
280	2xM50x1,5	M10	IP66	6	Cast Iron	YES	
315	2xM63x1,5	M12	IP66	6	Cast Iron	YES	
315LX	2xM63x1,5	M16	IP66	6	Cast Iron	YES	

Model	Kg Per Pair	Applicable Motor Frame Sizes	Excl. VAT Rands	Incl. VAT Rands
M9080	3	80 , 90	R 2 863	R 3 263.82
M1310	11	100 , 112 , 132	R 3 385	R 3 858.90
M1816	20	160 , 180	R 5 373	R 6 125.22
M2220	63	200 , 225	R 8 169	R 9 312.66
M2825	83	250 , 280	R 9 685	R 11 040.90
M0031	120	315 , 355	R 15 934	R 18 164.76

SLIDE RAIL SIZE	M9080	M1310	M1816	M2220	M2825	M0031
MOTOR FRAME SIZE	80-90	100-112-132	160-180	200-225	250-280	315-355
A	38	52	73.5	93	111	143
B	17	12	16	18	16	25
C	35	51	76	102	102	120
D	11	13	15	19	25	28
E	50	55	86	96	111	125
F	325	430	565	725	885	1115
G	356	470	615	787	965	1175
H	59	59	79	92	113	105
J	-	-	-	-	90	125
K	35	49	64	100	95	90
L	13	16	19	25	30	40
M	30	44	64	82	100	125
N	135	200	210	255	315	420
O	M12	M12	M16	M20	M20	M24
P	19	19	25	28	38	50
Q	16	16	19	25	32	32
R	5	5	6	6	10	10
S	M8X50	M10X50	M12X50	M16X50	M20X50	M24X50
MASS EACH	3	11	20	63	83	120



LS6 Premium Specification Range (IE 3) - Performance Data
 Premium Efficiency (IE 3) - IEC 60034 - 30
 IEC 60034 - 2 - 1: Indirect method, stray loss measurement



Output kW	Frame Size	Type	Speed r/min	Pole	Current at 400 V		Current at 525 V	FLT Nm	Efficiency (%)			Power Factor			D.O.L		BDT p.u.	LRT (s)		Rotor Inertia kg.m ²	Motor Mass kg
					A	A			4/4	3/4	1/2	4/4	3/4	1/2	Starting Torque	pu Current		Cold	Hot		
0.75	80	080	2840	2	1.63	1.24	2.5	2.5	81.2	81.8	80.1	0.82	0.80	0.72	2.3	7.2	2.3	17	6	0.00100	16
1.1	80	083	2840	2	2.30	1.75	3.7	3.7	83.2	83.6	81.4	0.83	0.81	0.73	2.2	7.5	2.3	13	4	0.0013	17.5
1.5	90S	090	2895	2	3.04	2.32	5.0	5.0	84.7	85.1	83.2	0.84	0.80	0.73	2.2	7.6	2.3	15	8	0.0020	19.5
2.2	90L	093	2895	2	4.32	3.29	7.4	7.4	86.5	86.6	86.0	0.85	0.81	0.74	2.2	7.6	2.3	12	6	0.0024	23.5
3	100L	101	2880	2	5.69	4.33	9.9	9.9	87.5	87.5	86.0	0.87	0.83	0.76	2.2	8.1	2.3	14	5	0.0042	38
4	112M	112	2890	2	7.49	5.71	13.3	13.3	88.6	88.6	88.1	0.87	0.84	0.80	2.2	8.1	2.3	16	5	0.0074	49
5.5	132S	130	2920	2	10.1	7.68	18.1	18.1	89.5	89.5	87.0	0.88	0.85	0.81	2.2	8.0	2.3	25	11	0.0132	63
7.5	132S	131	2925	2	13.6	10.4	24.7	24.7	90.5	90.0	89.0	0.88	0.85	0.81	2.2	8.1	2.3	17	6	0.0164	70
9.2	160M	135	2925	2	16.7	12.7	35.8	35.8	90.4	90.0	90.2	0.88	0.85	0.81	2.2	8.1	2.3	17	6	0.0174	92
11	160M	163	2950	2	19.5	14.8	35.8	35.8	91.6	91.6	90.3	0.89	0.87	0.83	2.1	7.9	2.3	25	8	0.0489	121
15	160M	164	2950	2	26.4	20.1	48.9	48.9	92.2	92.0	91.0	0.89	0.87	0.83	2.1	7.9	2.3	20	9	0.0559	132
18.5	160L	166	2950	2	32.3	24.6	60.3	60.3	92.8	92.4	91.6	0.89	0.87	0.83	2.1	7.9	2.3	18	6	0.0648	149
22	180M	183	2955	2	38.4	29.2	71.4	71.4	93.0	93.0	91.8	0.89	0.87	0.81	2.0	8.2	2.3	10	5	0.0920	191
30	200L	206	2965	2	52.0	39.6	97	97	93.6	93.3	91.9	0.89	0.87	0.79	2.0	7.6	2.3	22	9	0.195	290
37	200L	207	2965	2	63.9	48.7	120	120	93.9	93.5	92.2	0.89	0.87	0.80	2.0	7.6	2.3	18	9	0.203	315
45	225M	223	2970	2	77.3	58.9	145	145	94.4	94.6	94.1	0.89	0.86	0.81	2.0	8.1	2.3	25	11	0.302	340
55	250S	253	2975	2	93.4	71.2	177	177	94.4	94.5	93.7	0.90	0.87	0.79	2.0	7.7	2.3	19	9	0.42	386
75	250M	255	2980	2	127	96.5	241	241	95.0	94.9	94.4	0.90	0.88	0.80	1.8	7.7	2.3	22	10	0.585	406
90	280S	283	2970	2	153	117	289	289	95.3	95.0	94.2	0.89	0.87	0.79	1.8	7.5	2.3	25	13	1.04	560
110	280M	285	2970	2	187	142	354	354	95.5	95.2	94.4	0.89	0.87	0.79	1.8	7.5	2.3	25	12	1.25	640
132	315S	310	2975	2	220	169	423	423	95.7	95.3	94.2	0.90	0.89	0.84	1.8	7.7	2.2	25	11	1.5	1035
160	315M	311	2975	2	270	205	513	513	95.8	95.4	94.4	0.90	0.89	0.84	1.8	7.7	2.2	24	13	1.67	1130
185	315L	312	2975	2	310	235	593	593	95.9	95.4	94.4	0.90	0.89	0.84	1.8	7.7	2.2	25	12	1.78	1180
200	315L	313	2975	2	335	255	641	641	96.0	95.9	95.0	0.90	0.89	0.84	1.8	7.7	2.2	25	12	1.88	1220
225	315LX	314	2975	2	380	290	722	722	96.0	96.0	95.0	0.90	0.90	0.87	1.6	7.2	2.2	25	12	3.2	1563
250	315LX	315	2975	2	420	320	802	802	96.0	96.0	95.0	0.90	0.90	0.87	1.6	7.2	2.2	25	12	3.5	1588

Values indicated are subject to change without prior notice. To obtain guaranteed values, please contact an ACTOM ELECTRICAL MACHINES motor outlet. All values are subject to IEC tolerances. Values given are for 50 Hz supply.

Locked rotor ratios - Pu value

Power factor - Power factor under different conditions

Output - Rated output (kW)

Speed - Motor rated speed(r/min)

Frame - IEC frame size

FLT - Full load torque (Nm)

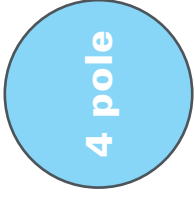
BDT - Break down torque

LRT - Locked rotor time (seconds)

Type - Range type

Efficiency - efficiency under different conditions

LS6 Premium Specification Range (IE 3) - Performance Data
 Premium Efficiency (IE 3) - IEC 60034 - 30
 IEC 60034 - 2 - 1: Indirect method, stray loss measurement



Output kW	Frame Size	Type	Speed r/min	Pole	Current at 400V		Current at 525V	FLT Nm	Efficiency (%)			Power Factor			D.O.L.		BDT p.u.	LRT (s)		Rotor Inertia kg.m ²	Motor Mass kg
					A	A			(%)	4/4	3/4	1/2	(%)	4/4	3/4	1/2		Starting Torque	pu Current		
0.37	71	073	1330	4	0.95	0.72	2.7	2.7	77.4	76.5	74.0	0.71	0.73	0.63	2.1	6.0	2.2	26	12	0.0010	16
0.55	80	080	1390	4	1.31	1.00	3.8	3.8	81.0	79.5	78.0	0.72	0.75	0.65	2.3	7.3	2.3	24	8	0.0016	17
0.75	80	083	1390	4	1.75	1.33	5.2	5.2	82.6	82.2	80.5	0.72	0.75	0.65	2.3	7.3	2.3	23	8	0.0020	18.5
1.1	90S	090	1440	4	2.47	1.88	7.3	7.3	84.7	84.7	83.1	0.72	0.76	0.65	2.3	6.8	2.3	18	10	0.0030	24
1.5	90L	093	1440	4	3.28	2.50	9.9	9.9	85.7	86.1	84.3	0.73	0.77	0.66	2.3	7.0	2.3	13	7	0.0040	29.5
2.2	100L	101	1440	4	4.50	3.43	14.6	14.6	87.2	87.0	86.5	0.78	0.81	0.71	2.3	7.5	2.3	16	9	0.0077	39.5
3	100L	102	1440	4	5.99	4.57	19.9	19.9	88.1	88.1	87.1	0.78	0.82	0.72	2.3	7.5	2.3	18	11	0.0093	43.5
4	112M	112	1440	4	7.92	6.03	26.5	26.5	88.9	89.0	88.5	0.77	0.82	0.72	2.3	7.5	2.3	18	6	0.0171	52
5.5	132S	130	1460	4	10.8	8.21	36.0	36.0	89.9	89.8	88.9	0.78	0.82	0.74	2.3	7.5	2.3	25	10	0.0339	66
7.5	132M	133	1465	4	14.6	11.1	48.9	48.9	90.7	90.9	90.3	0.78	0.82	0.74	2.3	7.5	2.3	21	9	0.0448	78
9.2	132M	135	1465	4	17.9	13.6	60.0	60.0	90.7	90.9	90.3	0.78	0.82	0.74	2.3	7.5	2.3	21	9	0.0556	95
11	160M	163	1475	4	20.4	15.5	71.2	71.2	91.7	91.8	90.9	0.81	0.85	0.72	2.0	7.5	2.3	19	6	0.0900	122
15	160L	166	1475	4	27.2	20.8	97.1	97.1	92.4	92.6	92.0	0.82	0.86	0.73	2.0	7.5	2.3	17	6	0.0180	140
18.5	180M	183	1470	4	33.4	25.4	120	120	93.0	92.8	91.7	0.84	0.86	0.78	2.0	7.8	2.1	19	7	0.0148	188
22	180L	186	1470	4	39.6	30.2	143	143	93.3	93.0	92.0	0.84	0.86	0.78	2.0	7.8	2.1	18	6	0.0182	193
30	200L	207	1475	4	53.7	40.9	194	194	93.8	93.7	92.7	0.86	0.86	0.77	2.0	7.3	2.3	25	11	0.321	295
37	225S	220	1480	4	65.9	50.2	239	239	94.2	94.0	93.4	0.86	0.86	0.78	2.2	7.9	2.3	18	9	0.473	308
45	225M	223	1480	4	79.9	60.9	290	290	94.5	94.3	93.9	0.86	0.86	0.78	2.2	7.9	2.3	25	12	0.554	337
55	250S	253	1490	4	97.4	74.2	352	352	94.8	94.5	93.7	0.84	0.86	0.76	2.2	7.4	2.3	21	10	0.751	410
75	250M	255	1495	4	132	101	479	479	95.2	94.8	94.1	0.86	0.86	0.76	2.0	7.4	2.3	22	10	0.91	430
90	280S	283	1480	4	155	118	581	581	95.5	95.3	94.4	0.88	0.88	0.78	2.0	7.5	2.3	26	12	2.32	652
110	280M	285	1480	4	189	144	710	710	95.7	95.5	94.5	0.88	0.88	0.78	2.0	7.5	2.2	25	12	2.83	720
132	315S	310	1480	4	225	170	862	862	95.9	95.7	94.9	0.87	0.89	0.83	2.1	7.6	2.2	25	13	2.58	1055
160	315M	311	1480	4	270	205	1032	1032	96.0	95.8	95.1	0.89	0.89	0.83	2.1	7.6	2.2	24	13	2.96	1155
185	315L	312	1480	4	315	240	1194	1194	96.0	95.9	95.4	0.89	0.89	0.83	2.1	7.6	2.2	24	12	3.21	1200
200	315L	313	1480	4	335	255	1290	1290	96.0	95.9	95.4	0.90	0.87	0.83	2.1	7.6	2.2	25	13	3.46	1230
225	315LX	314	1485	4	385	295	1447	1447	96.2	96.2	95.0	0.88	0.88	0.85	2	7.1	2.2	24	11	6.4	1597
250	315LX	315	1485	4	430	325	1608	1608	96.2	96.2	95.0	0.88	0.88	0.85	2	7.1	2.2	25	11	6.9	1601

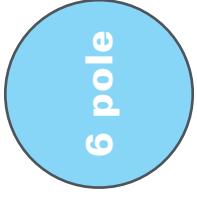
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Locked rotor ratios - Pu value
 Power factor - Power factor under different conditions
 Output - Rated output (kW)
 Speed - Motor rated speed(r/min)

Frame - IEC frame size
 FLT - Full load torque (Nm)
 BDT - Break down torque
 LRT - Locked rotor time (seconds)

Type - Range type
 Efficiency - efficiency under different conditions

LS6 Premium Specification Range (IE 3) - Performance Data
 Premium Efficiency (IE 3) - IEC 60034 - 30
 IEC 60034 - 2 - 1: Indirect method, stray loss measurement



Output kW	Frame Size	Type	Speed r/min	Pole	Current at 400V		FLT Nm	Efficiency (%)			Power Factor			D.O.L		BDT p.u.	LRT (s)		Rotor Inertia kg.m ²	Motor Mass kg
					A	A		4/4	3/4	1/2	4/4	3/4	1/2	Starting Torque	pu Current		Cold	Hot		
0.37	80	080	885	6	1.04	0.79	4.0	73.7	70.0	70.0	0.67	0.70	2.0	6.9	2.0	24	10	0.0016	15	
0.55	80	083	885	6	1.42	1.09	5.9	77.4	75.5	72.0	0.69	0.72	2.0	6.9	2.1	24	11	0.0020	16	
0.75	90S	090	935	6	1.85	1.41	7.7	80.0	80.0	78.0	0.69	0.73	2.0	6.0	2.1	25	12	0.0040	23	
1.1	90L	093	935	6	2.67	2.03	11.2	81.5	81.6	81.0	0.69	0.73	2.0	6.0	2.1	25	13	0.0050	28.5	
1.5	100L	102	950	6	3.54	2.70	15.1	82.7	82.7	81.7	0.68	0.74	2.0	5.9	2.1	20	7	0.0107	37.5	
2.2	112M	112	940	6	5.14	3.92	22.3	84.6	84.6	83.6	0.66	0.73	2.0	6.9	2.1	25	9	0.0192	48	
3	132S	130	970	6	6.81	5.19	29.5	85.9	85.9	85.1	0.67	0.74	2.0	6.9	2.1	23	9	0.0358	65	
4	132M	133	970	6	8.98	6.84	39.4	86.9	86.9	86.1	0.67	0.74	2.0	6.9	2.1	24	8	0.0478	73	
5.5	132M	134	970	6	12.0	9.14	54.1	88.2	88.2	87.0	0.68	0.75	2.0	6.9	2.1	22	8	0.0631	82	
7.5	160M	163	980	6	15.3	11.7	73.1	89.4	89.4	88.5	0.74	0.79	2.0	7.0	2.3	24	10	0.1140	119	
11	160L	166	980	6	21.9	16.7	107	90.6	90.4	89.4	0.75	0.80	2.0	7.0	2.3	22	9	0.1530	139	
15	180L	186	970	6	29.2	22.2	148	91.6	91.6	91.3	0.79	0.81	2.0	7.3	2.1	16	8	0.2180	178	
18.5	200L	206	980	6	35.9	27.4	180	91.8	91.7	91.0	0.78	0.81	2.0	7.3	2.1	17	8	0.357	265	
22	200L	207	980	6	42.4	32.3	214	92.5	92.0	91.5	0.78	0.81	2.0	7.4	2.1	24	7	0.423	280	
30	225M	223	980	6	57.4	43.7	292	93.2	93.4	92.9	0.76	0.81	2.0	7.5	2.1	16	8	0.533	315	
37	250S	253	990	6	67.9	51.8	357	93.6	93.4	91.7	0.84	0.84	2.0	7.1	2.1	16	8	0.877	369	
45	250M	255	990	6	81.4	62.0	434	93.9	93.8	92.2	0.85	0.85	2.0	7.3	2.0	15	8	1.07	390	
55	280S	283	980	6	97.9	74.6	536	94.3	94.2	93.3	0.86	0.86	2.0	7.3	2.1	15	10	2.12	545	
75	280M	285	980	6	136	104	731	94.8	94.6	93.8	0.84	0.84	2.0	7.0	2.2	15	8	2.83	635	
90	315S	310	985	6	161	122	873	95.2	95.2	94.3	0.85	0.85	2.0	7.3	2.1	25	11	4.28	970	
110	315M	311	985	6	196	149	1066	95.4	95.3	94.5	0.85	0.85	2.0	7.3	2.1	24	11	5.47	1155	
132	315L	312	985	6	235	178	1280	95.7	95.7	94.5	0.85	0.85	2.0	7.3	2.1	22	10	6.59	1260	
160	315L	313	985	6	280	215	1551	95.8	95.6	94.4	0.86	0.86	2.0	7.3	2.1	21	9	7.54	1330	
185	315LX	314	983	6	330	250	1797	95.9	95.9	94.5	0.85	0.85	2	6.8	2.0	24	11	9.5	1612	
200	315LX	315	985	6	355	270	1939	96.0	96.0	95.0	0.85	0.85	2	6.8	2.0	22	10	10.1	1619	

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Locked rotor ratios - Pu value

Power factor - Power factor under different conditions

Output - Rated output (kW)

Speed - Motor rated speed(r/min)

Frame - IEC frame size

FLT - Full load torque (Nm)

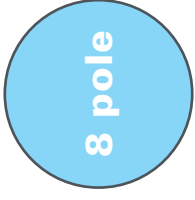
BDT - Break down torque

LRT - Locked rotor time (seconds)

Type - Range type

Efficiency - efficiency under different conditions

LS6 Premium Specification Range (IE 3) - Performance Data
 Premium Efficiency (IE 3) - IEC 60034 - 30
 IEC 60034 - 2 - 1: Indirect method, stray loss measurement



Output kW	Frame Size	Type	Speed r/min	Pole	Current at 400V		Current at 525V	FLT Nm	Efficiency (%)			Power Factor			D.O.L.		BDT p.u.	LRT (s)		Rotor Inertia kg.m ²	Motor Mass kg
					A	A			(%)	4/4	3/4	1/2	(%)	4/4	3/4	1/2		Starting Torque	pu		
0.37	90S	090	670	8	1.26	0.96	0.96	5.3	69.5	67	65	0.61	0.59	0.53	1.8	4.0	2.3	25	15	0.0040	24
0.55	90L	093	670	8	1.78	1.35	1.35	7.8	73.2	70.5	70	0.61	0.59	0.53	1.8	4.0	2.2	25	15	0.0050	26
0.75	100L	101	680	8	2.13	1.62	1.62	10.5	75.8	75.6	74.0	0.67	0.63	0.59	1.8	4.0	2.2	18	13	0.0063	33
1.1	100L	102	680	8	2.95	2.25	2.25	15.4	77.9	76.5	75.0	0.69	0.64	0.6	1.8	5.0	2.2	22	12	0.0097	38
1.5	112M	112	700	8	4.04	3.08	3.08	20.5	79.9	79.5	79.0	0.67	0.59	0.51	1.8	5.5	1.8	25	11	0.0192	45
2.2	132S	130	710	8	5.61	4.27	4.27	29.6	82.1	82.0	81.6	0.69	0.60	0.52	1.8	6.5	1.8	24	11	0.0393	68
3	132M	133	710	8	7.40	5.64	5.64	40.3	83.6	83.5	82.9	0.70	0.61	0.53	1.8	6.5	1.8	25	10	0.0495	70
4	160M	163	730	8	9.21	7.02	7.02	52.3	85.9	85.8	84.7	0.73	0.65	0.52	2.0	6.9	2.2	24	11	0.0771	104
5.5	160M	164	730	8	12.3	9.37	9.37	71.9	87.2	87.1	85.8	0.74	0.66	0.53	2.0	6.9	2.2	25	11	0.0989	114
7.5	160L	166	730	8	16.6	12.6	12.6	98.1	88.3	88.2	86.9	0.74	0.66	0.53	2.0	6.9	2.2	15	10	0.1310	132
11	180L	186	730	8	23.3	17.8	17.8	144	89.5	89.2	88	0.76	0.74	0.68	2.0	6.6	2.2	21	11	0.0218	170
15	200L	207	730	8	32.1	24.5	24.5	196	89.9	89.8	88.5	0.75	0.72	0.65	2.0	6.8	2.0	21	10	0.491	260
18.5	225S	220	730	8	38.9	29.6	29.6	242	90.4	90.4	89.9	0.76	0.71	0.64	1.9	6.6	2.2	25	13	0.481	268
22	225M	223	730	8	46.0	35.0	35.0	288	90.9	90.9	90.4	0.76	0.71	0.65	1.9	6.6	2.2	25	12	0.531	288
30	250S	253	735	8	59.7	45.5	45.5	390	91.8	91.7	91.1	0.79	0.77	0.69	1.9	6.8	2.0	25	12	0.914	372
37	250M	255	740	8	73.3	55.9	55.9	477	92.2	92.2	91.6	0.79	0.77	0.70	1.9	6.9	2.0	25	13	1.12	395
45	280S	283	735	8	89.0	67.8	67.8	585	92.4	92.5	91.6	0.79	0.75	0.69	1.9	6.8	2.0	24	11	2.22	555
55	280M	285	735	8	106	80.6	80.6	715	92.7	92.8	91.9	0.81	0.76	0.71	1.8	6.8	2.0	24	11	2.68	645
75	315S	310	735	8	143	109	109	974	93.3	93.4	92.4	0.81	0.78	0.67	1.8	6.6	2.2	21	9	5.18	1100
90	315M	311	735	8	169	129	129	1169	93.7	93.7	92.7	0.82	0.78	0.67	1.8	6.6	2.2	21	10	6.16	1160
110	315L	312	735	8	215	164	164	1429	90.0	93.8	93.1	0.82	0.78	0.67	1.8	6.6	2.2	22	10	7.22	1230
132	315L	313	735	8	245	188	188	1715	94.3	94.2	93.5	0.82	0.78	0.67	1.8	6.6	2.2	22	10	8.21	1280
132	315LX	315	740	8	295	225	225	2065	94.3	94.0	92.9	0.83	0.8	0.72	1.6	6.5	2.0	23	10	12.2	1620

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Locked rotor ratios - Pu value

Power factor - Power factor under different conditions

Frame - IEC frame size

Type - Range type

Efficiency - efficiency under different conditions

FLT - Full load torque (Nm)

BDT - Break down torque

LRT - Locked rotor time (seconds)

LS6 Premium Specification Range (IE 3) - LV Motors Bearing arrangement details



** For increased radial loading (eg. Pulleys), it may be required to change bearing to a roller bearing. Please enquire at time of ordering.

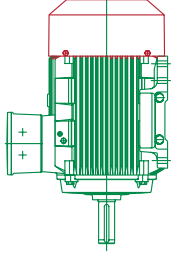
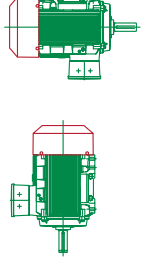
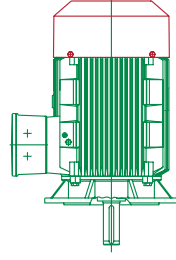
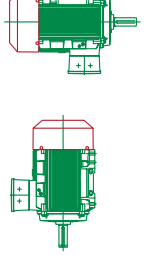
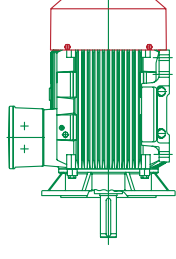
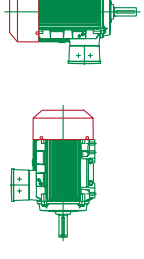
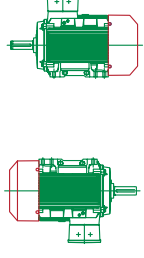
Frame Size	Pole	Drive End Bearing ** (ND)	Non Drive End Bearing (NDE)	Regreasing Quantity (grams)	Regreasing Intervals - Hours			
					2P	4P	6P	8P
71	2 - 8	6202 ZZ C3	6202 ZZ C3	Not Applicable	Sealed Bearings	Sealed Bearings	Sealed Bearings	Sealed Bearings
80	2 - 8	6204 ZZ C3	6204 ZZ C3	Not Applicable	Sealed Bearings	Sealed Bearings	Sealed Bearings	Sealed Bearings
90	2 - 8	6205 ZZ C3	6205 ZZ C3	Not Applicable	Sealed Bearings	Sealed Bearings	Sealed Bearings	Sealed Bearings
100	2 - 8	6206 ZZ C3	6206 ZZ C3	Not Applicable	Sealed Bearings	Sealed Bearings	Sealed Bearings	Sealed Bearings
112	2 - 8	6306 ZZ C3	6306 ZZ C3	Not Applicable	Sealed Bearings	Sealed Bearings	Sealed Bearings	Sealed Bearings
132	2 - 8	6308 ZZ C3	6308 ZZ C3	Not Applicable	Sealed Bearings	Sealed Bearings	Sealed Bearings	Sealed Bearings
160	2 - 8	6309 C3	6309 C3	20	7500	15000	22500	29000
180	2 - 8	6311 C3	6311 C3	30	6000	13000	19500	26500
200	2 - 8	6312 C3	6312 C3	40	5700	11500	17000	23000
225	2	6313 C3	6313 C3	40	5700	-	-	-
	4 - 8	6313 C3	6313 C3	40	-	10000	16000	21000
250	2	6314 C3	6314 C3	50	4000	-	-	-
	4 - 8	6315 C3	6314 C3	50	-	9000	13500	18000
280	2	6314 C3	6314 C3	50	4000	-	-	-
	4 - 8	6317 C3	6317 C3	70	-	8000	12000	16000
315 S/M/L	2	6317 C3	6317 C3	70	3000	-	-	-
	4 - 8	6319 C3	6319 C3	70	-	7000	10000	14500
315 LX	2	6315 C3	6315 C3	70	3000	-	-	-
	4 - 8	6319 C3	6319 C3	70	-	7000	10000	14500



LS6 Premium Specification Range - LV Motors Optional extras

Description	Frame Size													
	80	90	100	112	132	160	180	200	225	250	280	315 S/M/L	315 LX	
Heaters	NO	NO	NO	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	
Thermistor 1/phase (PTC)	NO	NO	NO	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	
Thermistor 2/phase (PTC)	NO	NO	NO	NO	NO	YES	YES	YES	YES	YES	YES	YES	YES	
RTD in bearing (PT100)	NO	NO	NO	NO	NO	NO	NO	YES	YES	YES	YES	YES	YES	
RTD 1/phase (PT100)	NO	NO	NO	NO	NO	YES	YES	YES	YES	YES	YES	YES	YES	
RTD 2/phase (PT100)	NO	NO	NO	NO	NO	YES	YES	YES	YES	YES	YES	YES	YES	
B3 to B35 Top box	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	
B3 to B5 Top box	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	
IP56	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
IP65	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
IP66	STD	STD	STD	STD	STD	STD	STD	STD	STD	STD	STD	STD	STD	
Roller Bearing on Drive End	NO	NO	NO	NO	NO	YES	YES	YES	YES	YES	YES	YES	YES	
Chemical Paint - std ACTOM	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	
Spark Proof	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	
No fan or / and No cowl	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	
Insulated NDE Bearing	NO	NO	NO	NO	YES	YES	YES	YES	YES	YES	YES	YES	YES	
Canopy On Cowl	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	
Angular Contact Bearing - NDE	NO	NO	NO	NO	YES	YES	YES	YES	YES	YES	YES	YES	YES	
Detachable Terminal Box Gland Plate	NO	NO	NO	NO	NO	STD	STD	STD	STD	STD	STD	STD	STD	
Convert Top To Right Hand Side Box	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	
Convert Top To Left Hand Side Box	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	
Re-greasing Facility	NO	NO	NO	NO	NO	STD	STD	STD	STD	STD	STD	STD	STD	
Bearing Location - Inner caps - NDE	NO	NO	NO	NO	NO	STD	STD	STD	STD	STD	STD	STD	STD	
RTD In Bearing + RTD 1/phase	NO	NO	NO	NO	NO	NO	NO	YES	YES	YES	YES	YES	YES	
RTD In Bearing + RTD 2/phase	NO	NO	NO	NO	NO	NO	NO	YES	YES	YES	YES	YES	YES	
Heaters + Thermistors 1 per phase (PTC)	NO	NO	NO	NO	YES	YES	YES	YES	YES	YES	YES	YES	YES	
Heaters + Thermistors 2 per phase (PTC)	NO	NO	NO	NO	NO	YES	YES	YES	YES	YES	YES	YES	YES	
Heaters and RTD in bearing	NO	NO	NO	NO	NO	NO	NO	YES	YES	YES	YES	YES	YES	
Heaters and RTD 1 Per Phase	NO	NO	NO	NO	NO	YES	YES	YES	YES	YES	YES	YES	YES	
Heaters and RTD 2 Per Phase	NO	NO	NO	NO	NO	NO	NO	YES	YES	YES	YES	YES	YES	
Heaters + Therm. 1/phase + RTD in Bearing	NO	NO	NO	NO	NO	NO	NO	YES	YES	YES	YES	YES	YES	
Heaters + Therm. 2/phase + RTD in Bearing	NO	NO	NO	NO	NO	NO	NO	YES	YES	YES	YES	YES	YES	
Heaters + RTD in Bearing + RTD 1 Per Phase	NO	NO	NO	NO	NO	NO	NO	YES	YES	YES	YES	YES	YES	

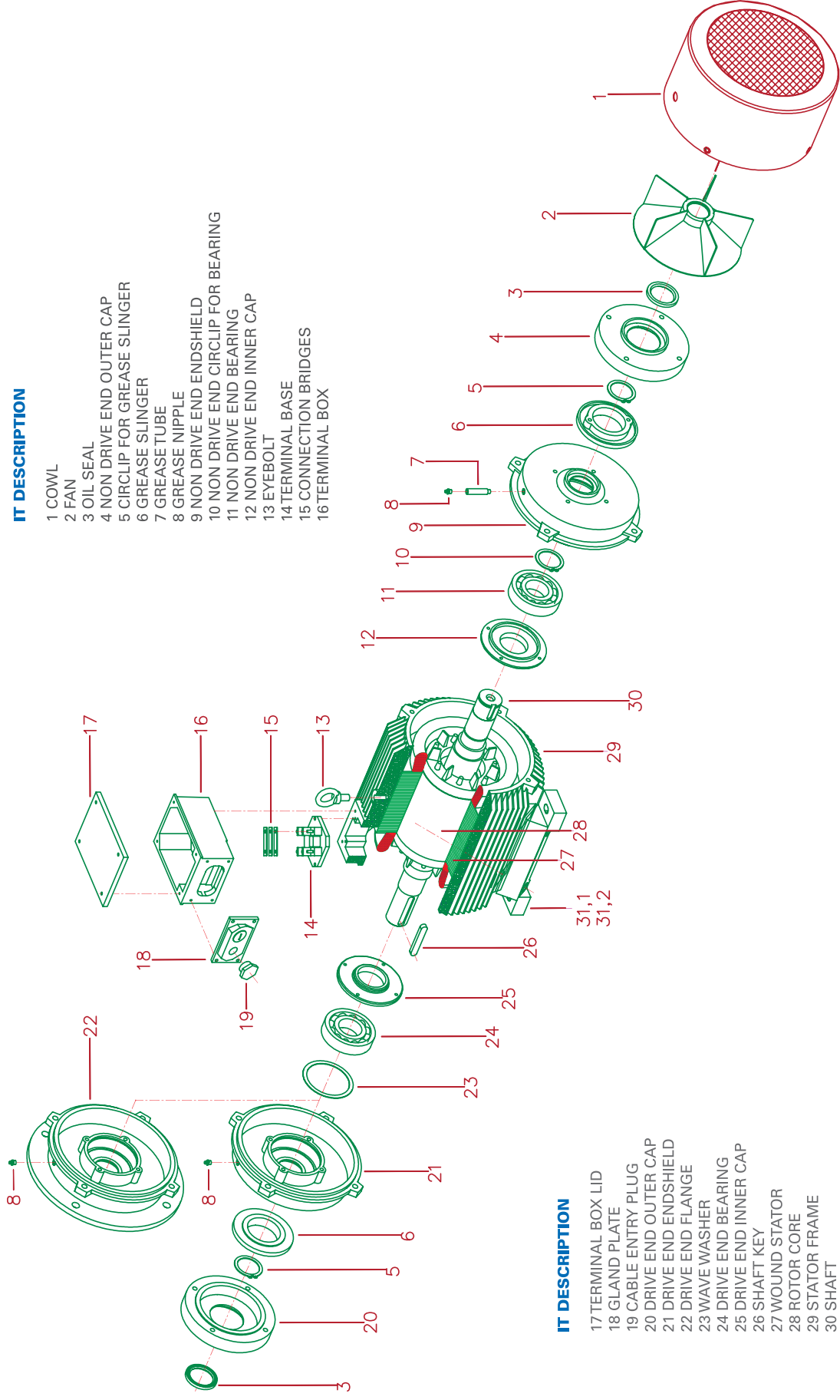
LS6 Premium Specification Range (IE 3) Typical mounting arrangements

FOOT MOUNTED	FLANGE MOUNTED	FOOT & FLANGE MOUNTED
 <p>IM B3 (IM 1001)</p>  <p>IM V5 (IM 1011)</p>	 <p>IM B5 (IM 3001)</p>  <p>IM V1 (IM 3011)</p>	 <p>IM B35 (IM 2001)</p>  <p>IM V15 (IM 2011)</p>  <p>IM V25 (IM 2031)</p>

Electric motor IP ratings explained

Meaning	0	1	2	3	4	5	6	7
Protection against ingress of: Test Means	No Protection	Solid objects larger than $\varnothing 50\text{mm}$ Access probe $\varnothing 50\text{mm}$	Solid objects larger than $\varnothing 12.5\text{mm}$ Object probe $\varnothing 12.5\text{mm}$	Solid objects larger than $\varnothing 2.5\text{mm}$ Object probe $\varnothing 2.5\text{mm}$	Solid objects larger than $\varnothing 1\text{mm}$ Object probe $\varnothing 1\text{mm}$	Dust in a harmful quantity Access probe $\varnothing 1\text{mm}$	Dust (total protection) Access probe $\varnothing 1\text{mm}$	
Personal protection against access with: Test Means	No Protection	Back of hand Access probe $\varnothing 50\text{mm}$	Finger Access probe $\varnothing 12.5\text{mm}$	Tool Access probe $\varnothing 2.5\text{mm}$	Object probe $\varnothing 1\text{mm}$	Access probe $\varnothing 1\text{mm}$		
Protection against effect of: Test Means	No Protection	Virtually falling drops of water	Virtually falling drops of water with maximum inclination of 15°	Rain	Splashing water	Water jet	Powerful Water jet	Temporary immersion

LS6 Premium Specification Range (IE 3)
Exploded view - Typical LS6 Motor



IT DESCRIPTION

- 1 COWL
- 2 FAN
- 3 OIL SEAL
- 4 NON DRIVE END OUTER CAP
- 5 CIRCLIP FOR GREASE SLINGER
- 6 GREASE SLINGER
- 7 GREASE TUBE
- 8 GREASE NIPPLE
- 9 NON DRIVE END ENDSHIELD
- 10 NON DRIVE END CIRCLIP FOR BEARING
- 11 NON DRIVE END BEARING
- 12 NON DRIVE END INNER CAP
- 13 EYEBOLT
- 14 TERMINAL BASE
- 15 CONNECTION BRIDGES
- 16 TERMINAL BOX

IT DESCRIPTION

- 17 TERMINAL BOX LID
- 18 GLAND PLATE
- 19 CABLE ENTRY PLUG
- 20 DRIVE END OUTER CAP
- 21 DRIVE END ENDSHIELD
- 22 DRIVE END FLANGE
- 23 WAVE WASHER
- 24 DRIVE END BEARING
- 25 DRIVE END INNER CAP
- 26 SHAFT KEY
- 27 WOUND STATOR
- 28 ROTOR CORE
- 29 STATOR FRAME
- 30 SHAFT
- 31,1
- 31,2

NB: This outline is of a typical motor. Only to be used for illustration purposes.

SABS

Certificate of Registration

This is to certify that the Quality Management System of

ACTOM ELECTRICAL MACHINES (A DIVISION OF ACTOM (PTY) LTD) BENONI

*has been assessed and found to
satisfy the requirements of*

ISO 9001:2008 QUALITY MANAGEMENT SYSTEMS - REQUIREMENTS

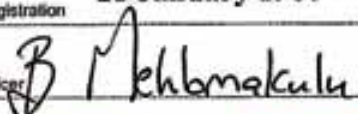
in respect of

- THE SALE AND DISTRIBUTION OF ELECTRIC MOTORS
- THE IN-HOUSE DESIGN AND MANUFACTURING OF HIGH VOLTAGE ELECTRIC MOTORS FROM 350 FRAME SIZE AND UP TO 20 MW, 15 KV
- THE SUPPLY OF STEEL LAMINATIONS OF VARIOUS SHAPES AND SIZES, WITH GRADES OF MILD AND SILICON STEEL SHEETING FOR ELECTRICAL MOTORS AND OTHER ELECTROMAGNETIC DEVICES
- TOOL MANUFACTURING
- THE MODIFICATION OF MOTORS AND AFTER-SALES SERVICE

NO EXCLUSIONS

This certificate, including the schedule which forms an integral part thereof:

- is issued without alteration;
- is identified by the applicable registration number;
- is subject to any condition or limitation contained therein;
- is valid subject to ongoing compliance with certification requirements;
- bears the embossed SABS Commercial seal. In the absence of the seal, the certificate and the schedule shall be invalid; and
- the certificate may be authenticated by referring to the register of "Certified Clients" on the SABS Commercial website (www.sabs.co.za)

Registration Number	LS 26
Effective Date	11 March 2015
Expiry Date	24 March 2018
Date of Original Registration	28 January 1986
Chief Executive Officer	



SABS COMMERCIAL SOC LTD
111 George Rd, Sandown, Pretoria
Republic of South Africa

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SABS

Certificate of Registration

This is to certify that the Occupational Health and Safety Management System of

ACTOM ELECTRICAL MACHINES (A DIVISION OF ACTOM (PTY LTD) BENONI

*has been assessed and found to
satisfy the requirements of*

OHSAS 18001:2007 OCCUPATIONAL HEALTH AND SAFETY MANAGEMENT SYSTEMS

in respect of

**ALL ACTIVITIES, PRODUCTS, SERVICES AND FACILITIES THAT THE
ORGANIZATION CONTROLS OR INFLUENCES THAT CAN RESULT IN
A HEALTH AND/OR SAFETY RISK, RELATED TO:**

**"SALES AND DISTRIBUTION OF ELECTRIC MOTORS,
IN-HOUSE DESIGN AND MANUFACTURE OF HIGH VOLTAGE ELECTRIC
MOTORS FROM 350 FRAME SIZE AND UP TO 20 MW, 15 KV.
SUPPLY STEEL LAMINATIONS OF VARIOUS SHAPES, SIZES, WITH
GRADES OF MILD AND SILICON STEEL SHEETING FOR ELECTRICAL
MOTORS AND OTHER ELECTROMAGNETIC DEVICES.
TOOLING MANUFACTURE.
MODIFICATION OF MOTORS WITH AFTER-SALES SERVICE"**

This certificate, including the schedule which forms an integral part thereof:

- is issued without alteration;
- is identified by the applicable registration number;
- is subject to any condition or limitation contained therein;
- is valid subject to ongoing compliance with certification requirements;
- bears the embossed SABS Commercial seal. In the absence of the seal, the certificate and the schedule shall be invalid; and
- the certificate may be authenticated by referring to the register of "Certified Clients" on the SABS Commercial website (www.sabs.co.za)

Registration Number OHS 180262

Effective Date 21 August 2013

Expiry Date 21 August 2016

Date of Original Registration 21 August 2013

Chief Executive Officer *M Mhlonwaku*



SABS COMMERCIAL SOC LTD
111 George Rd, Sandown, Pretoria
011 444 4444

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Complete your Project:

Please select the items you require and we will be in touch

Cables and Wires:

Indoor
Outdoor
General
Other
Let an ACTOM
Specialist Contact you

Lighting:

Indoor
Outdoor
General
Other
Let an ACTOM
Specialist Contact you

Transformers (Distribution):

Indoor
Outdoor
General
Other
Let an ACTOM
Specialist Contact you

Accessories:

Indoor
Outdoor
General
Other
Let an ACTOM
Specialist Contact you

Specific Information:

Address: 4 Branch Road, Germiston 1401, P.O. Box 678, Germiston 1400

For more Information on this Product Please Send us the Following

Product Information:

Product Name:

Quantity:

Project Name:

Date the Product is required:

Your Contact Information:

Name and Surname:

Company:

Email:

Phone Number:

Province:

Thank You

For having a Look at this Product

Please send this PDF back to us with all your Information

Scan the QR Code to visit our Website:

