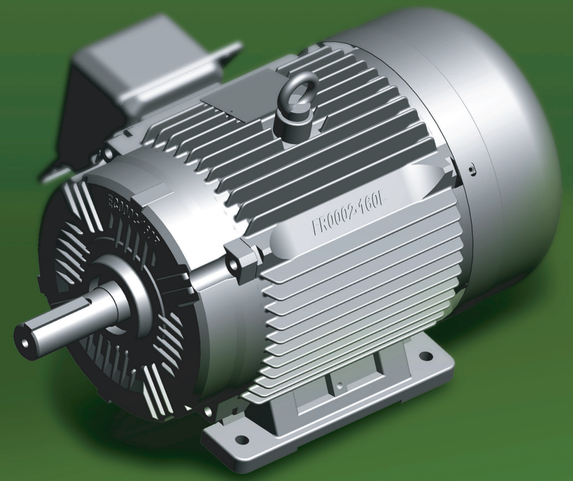
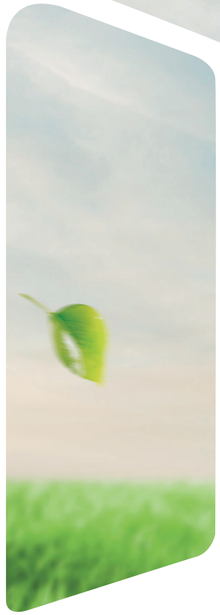
MOTOR SPECICATION
IE5 DOL Synchronous Motor

Max. 20% energy saving through use of

Eff. > IE5, PF. > 92%	1,500$/Year Saving (Operating Time : 7,000hr/y)	Max. 20% energy saving	Max.8[Tons] CO_2 Reduce
	Electricity bill : 9Cents/kwh	Base on 15kw, 4p, 60Hz	



AC 3-Phase DOL PMA Synchronous Motor



We have contributed to the global development of electronics, automobiles, and industrial machinery by developing precise tooling for press, motor core, machine tools, and leadframe and dramatically improving productivity and precision based on high level processing skills.

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Economic Impact of DOL SynRM

Energy saving effects

Up to 20% energy savings compared to IE3 efficiency induction motors (based on 15kW)

Reduce of CO_2

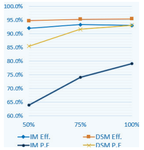
Reduced CO2 emissions by reducing power consumption according to IE5 efficiency

Reduce of maintenance cost

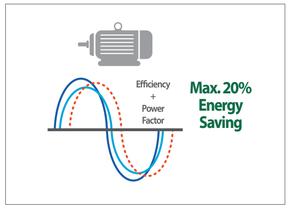
Extending the service life of the motor by the low temperature rise of the motor and the use of a high winding insulation grade improve the winding insulation durability

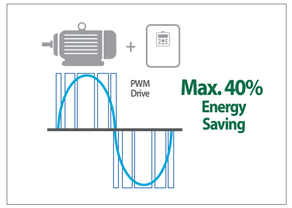
Economic Impact of DOL SynRM

Analysis of the difference between Induction motor(IE3) and DOL Synchronous motor(DSM)								
Rate of Load	25%		50%		75%		100%	
Motor Type	IM(IE3)	DSM	IM(IE3)	DSM	IM(IE3)	DSM	IM(IE3)	DSM
Eff.(%)	87.7%	91.8%	92.0%	94.7%	93.3%	95.3%	93.0%	95.4%
P.F(%)	42.5%	62.3%	64.0%	85.4%	74.0%	91.6%	79.0%	93.1%
System Eff.(%)	37.3%	57.2%	58.9%	76.4%	69.0%	84.9%	73.5%	87.0%
Gap(%)	19.9%		17.5%		15.9%		13.5%	



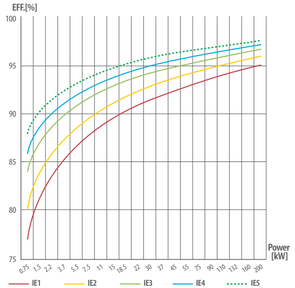
*Bsae on 15kW, 4P, 60Hz





Efficiency level standards

Power [kW]	Efficiency				
	IE1	IE2	IE3	IE4	IE5
0.75	77	78	83.5	85.5	87.7
1.5	81.5	84	86.5	87.5	89.4
2.2	83	87.5	89.5	91	92.4
3.7	85	87.5	89.5	91	92.4
5.5	87	89.5	91.7	92.4	93.5
7.5	87.5	89.5	91.7	92.4	93.5
11	88.5	91	92.4	93.6	94.6
15	89.5	91	93	94.1	95.0
18.5	90.5	92.4	93.6	94.5	95.3
22	91	92.4	93.6	94.5	95.3
30	91.7	93	94.1	95	95.8
37	92.4	93	94.5	95.4	96.1
45	93	93.6	95	95.4	96.1
55	93	94.1	95.4	95.8	96.4
75	93.2	94.5	95.4	96.2	96.8
90	93.2	94.5	95.4	96.2	96.8
110	93.5	95	95.8	96.2	96.8
132	94.5	95	95.8	96.5	97.0
160	94.5	95	96.2	96.5	97.0
200	94.5	95	96.2	96.5	97.0



Totally Enclosed Motors IP55 f=60Hz

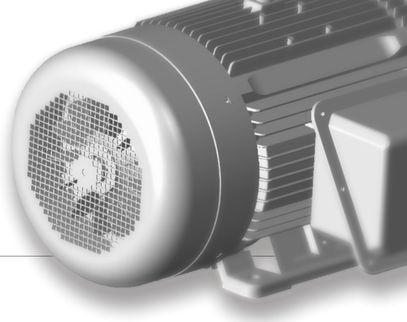
Item	Type	Rated output		Rated speed	Rated torque	Rated voltage	Full load current	Efficiency			Power factor			Locked rotor torque ratio	Locked rotor current ratio	Breakdown torque ratio	Moment of inertia	Weight
		P_N		r/min	Torgue	Volt.	Amp.	Efficiency			Power factor			T_L/T_N	I_L/I_N	T_B/T_N	J	
		kW	HP	min^{-1}	Nm	V	A	50%	75%	100%	50%	75%	100%	%	%	%	kgm^2	kg
4 Pole 1800rpm																		
1	LSLV0110LPS	11	15	1800	59.0	220	32.9	94.3	94.6	95.0	83.5	90.6	92.3	220	750	250	0.50	110
2	LSLV0150LPS	15	20	1800	80.6	220	44.3	94.9	95.3	95.5	87.3	92.1	93.1	220	700	250	0.50	120
3	LSLV0185LPS	18.5	25	1800	99.4	220	55.1	94.7	95.5	95.6	83.0	90.4	92.2	200	700	240	0.87	165
4	LSLV0220LPS	22	30	1800	117.6	220	65.6	95.4	95.9	95.7	84.0	90.7	92.0	200	710	230	0.99	170
5	LSLV0300LPS	30	40	1800	160.7	220	88.6	96.0	96.3	96.1	86.9	92.1	92.5	200	720	240	1.11	190
6	LSLV0370LPS	37	50	1800	198.9	220	110.3	95.6	96.5	96.6	76.4	87.4	91.1	220	750	260	1.40	270
7	LSLV0450LPS	45	60	1800	241.1	220	134.8	95.7	96.4	96.5	77.2	87.4	90.8	190	710	220	1.60	280
8	LSLV0750LPS	75	100	1800	400.8	220	218.2	96.4	96.9	97.0	90.4	91.6	93.0	190	750	240	4.80	470
9	LSLV0900LPS	90	120	1800	481.2	220	261	96.7	97.2	97.2	89.8	91.7	93.1	180	720	230	5.50	510
1	LSLV0110LPS	11	15	1800	59.0	380	19.1	94.3	94.6	95.0	83.5	90.6	92.3	220	800	250	0.50	110
2	LSLV0150LPS	15	20	1800	80.6	380	25.6	94.9	95.3	95.5	87.3	92.1	93.1	200	740	250	0.50	120
3	LSLV0185LPS	18.5	25	1800	99.4	380	31.9	94.7	95.5	95.6	83.0	90.4	92.2	200	700	240	0.87	165
4	LSLV0220LPS	22	30	1800	117.6	380	38.0	95.4	95.9	95.7	84.0	90.7	92.0	200	710	230	0.99	170
5	LSLV0300LPS	30	40	1800	160.7	380	51.3	96.0	96.3	96.1	86.9	92.1	92.5	200	720	240	1.11	190
6	LSLV0370LPS	37	50	1800	198.9	380	63.9	95.6	96.5	96.6	76.4	87.4	91.1	220	750	260	1.40	270
7	LSLV0450LPS	45	60	1800	241.1	380	78.0	95.7	96.4	96.5	77.2	87.4	90.8	190	710	220	1.60	280
8	LSLV0750LPS	75	100	1800	400.8	380	126.3	96.4	96.9	97.0	90.4	91.6	93.0	190	750	240	4.80	470
9	LSLV0900LPS	90	120	1800	481.2	380	151.1	96.7	97.2	97.2	89.8	91.7	93.1	180	720	230	5.50	510
1	LSLV0110LPS	11	15	1800	59.0	440	16.5	94.3	94.6	95.0	83.5	90.6	92.3	220	750	250	0.50	110
2	LSLV0150LPS	15	20	1800	80.6	440	22.1	94.9	95.3	95.5	87.3	92.1	93.1	220	700	250	0.50	120
3	LSLV0185LPS	18.5	25	1800	99.4	440	27.5	94.7	95.5	95.6	83.0	90.4	92.2	200	700	240	0.87	165
4	LSLV0220LPS	22	30	1800	117.6	440	32.8	95.4	95.9	95.7	84.0	90.7	92.0	200	710	230	0.99	170
5	LSLV0300LPS	30	40	1800	160.7	440	44.3	96.0	96.3	96.1	86.9	92.1	92.5	200	720	240	1.11	190
6	LSLV0370LPS	37	50	1800	198.9	440	55.2	95.6	96.5	96.6	76.4	87.4	91.1	220	750	260	1.40	270
7	LSLV0450LPS	45	60	1800	241.1	440	67.4	95.7	96.4	96.5	77.2	87.4	90.8	190	710	220	1.60	280
8	LSLV0750LPS	75	100	1800	400.8	440	109.1	96.4	96.9	97.0	90.4	91.6	93.0	190	750	240	4.80	470
9	LSLV0900LPS	90	120	1800	481.2	440	130.5	96.7	97.2	97.2	89.8	91.7	93.1	180	720	230	5.50	510

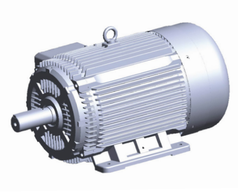
Efficiency is determined acc.To IEC 60034-2-1:2014 To the method of residual loss.
As part of our development program, we reserve the right to alter of amend any of the specifications without giving prior notice.
Ref. standard : IEC60034-1, IEC60034-30-1

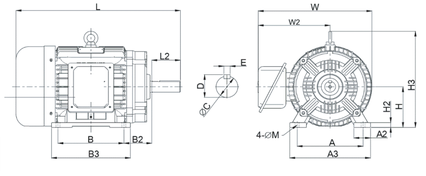
Housing, shields, feet

Frame size	Frame	End covers	Brg(NDE/DE)
160M(11kW)	Casting iron	Casting iron	6308ZZ/6309ZZ
160L(15kW)	Casting iron	Casting iron	6308ZZ/6309ZZ
180M(18.5,22kW)	Casting iron	Casting iron	6310ZZ/6312ZZ
180L(30kW)	Casting iron	Casting iron	6310ZZ/6312ZZ
200L(37,45kW)	Casting iron	Casting iron	6212ZZ/6313ZZ
250S(75kW)	Casting iron	Casting iron	6313C3/6316C3
250M(90kW)	Casting iron	Casting iron	6313C3/6316C3

Dimensions of Foot Mounted Motors - DOL SynRM B3

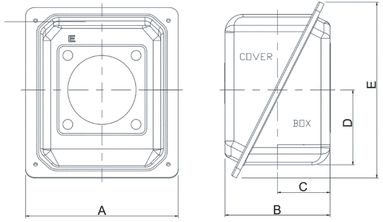






Weight	A	A2	A3	B	B2	B3	H	H2	H3	L	L2	W	W2	ØC	D	E	ØM
LSLV0110LPS	254	64	311	210	108	260	160 $^{0}_{-0.5}$	19	379	589	110	437	277	42 $^{+0.018}_{+0.002}$	45	12	15
LSLV0150LPS	254	64	311	254	108	304	160 $^{0}_{-0.5}$	19	379	633	110	437	277	42 $^{+0.018}_{+0.002}$	45	12	15
LSLV0185LPS	279	64	338	241	121	300	180 $^{0}_{-0.5}$	20	417	667	110	471	294	48 $^{+0.018}_{+0.002}$	51.5	14	15
LSLV0220LPS	279	64	338	241	121	300	180 $^{0}_{-0.5}$	20	417	667	110	471	294	48 $^{+0.018}_{+0.002}$	51.5	14	15
LSLV0300LPS	279	64	338	279	121	338	180 $^{0}_{-0.5}$	20	417	704	110	471	294	55 $^{+0.030}_{+0.011}$	59	16	15
LSLV0370LPS	318	70	382	305	133	370	200 $^{0}_{-0.5}$	22	464	806	140	572	371	60 $^{+0.030}_{+0.011}$	64	18	19
LSLV0450LPS	318	70	382	305	133	370	200 $^{0}_{-0.5}$	22	464	806	140	572	371	60 $^{+0.030}_{+0.011}$	64	18	19
LSLV0750LPS	406	100	500	349	168	380	250 $^{0}_{-0.5}$	28	700	900	140	512	256	75 $^{+0.030}_{+0.011}$	79.5	20	24
LSLV0900LPS	406	100	500	349	168	420	250 $^{0}_{-0.5}$	28	700	930	140	512	256	75 $^{+0.030}_{+0.011}$	79.5	20	24

Terminal Box



Frame	A	B	C	D	E
160	170	118	59	83	195
180	170	118	59	83	195
200	246	159	75	104	250
250	281	184	85	140	310